

**Proceedings of the 4th Annual
Thompson Rivers University
Undergraduate Conference**

**KAMLOOPS, BC
April 2009**

Thompson Rivers University
900 McGill Road,
Kamloops BC V2C 5N3

© 2009 Thompson Rivers University

ISSN 1915-2213

All rights reserved. No part of this book may be reproduced in any form or by any means without permission of Thompson Rivers University Office of Research, Innovation and Graduate Studies.

Published by Thompson Rivers University Office of Research, Innovation and Graduate Studies.

Proceedings of the 4th Annual Thompson Rivers University Undergraduate Conference. Publisher: Dr. Nancy Van Wagoner, Associate Vice President, Research, Innovation and Graduate Studies. Editors: Dr. Kelly-Anne Maddox, Dr. Mairi MacKay

Design: Mairi Budreau Publishing and Design Kamloops, BC
www.budreau.ca

Cover image: Melanie Perreault (used with permission)
Cover design: terragraphic.ca

Printed in Canada by Wayside Press
June 2009

Dedication

**In memory
of
Dr. Martin Whittles**



Acknowledgments

The 2009 Undergraduate Conference would like to thank the following people and organizations for their contributions and financial assistance:

Editorial Committee: Dr. Kelly-Anne Maddox, Dr. Mairi MacKay and Dr. Mohammad Mahbobi

Organizing Committee: Dr. Martin Whittles (Honorary Chair), Dr. Kelly-Anne Maddox, Dr. Mairi MacKay, Dr. Mohammad Mahbobi, Mr. Donald Lawrence, Ms. Elizabeth Rennie, Ms. Heather Hamilton

Office of Research, Innovation Transfer and Graduate Studies: Dr. Nancy Van Wagoner, Associate Vice-President

Office of the President and Vice Chancellor

Office of the Vice-President Academic and Provost

Dean of Science, Dean of Arts, Dean of Business and Economics, TRU World

Conference Adjudicators: Dr. Larry Prins, Dr. Ken Wagner, Ms. Gillian Watt, Dr. Norman Friesen, Dr. Kelly Ross, Ms. Deb Steele, Dr. Lauchlan Fraser, Dr. Ashok Mathur



Contents

Introduction

Award Winners: Best Written Contributions

Community Connections and Acceptance for Second-
Generation Chinese Canadians in Kamloops and Vancouver:
The Example of the Wing Family

Anna Brace..... 13

In the Company of Women: the Work We Do

Debra Andrews..... 25

Driving “the ‘Silent Majority’ Wedge”: American Political
Polarization and the Conservative Backlash of the 1960s

Judith Zwickel 39

Honourable Mentions:

Reconsidering Donne’s Apprehension: the Unity of Human
and Divine

Alice Dickinson 51

Reinvestigation of Antimicrobial Activity in Previously
Screened Cave Actinomycetes

Vanessa Montagliani 59

Contributions:

Body and Soul: Donne as a Sacramental and Incarnational
Writer

Andrea Faliszewski..... 75

Investigating the $^{23}\text{Mg}(\text{p}\gamma)^{24}\text{Al}$ Reaction at Astrophysically
Relevant Energies with DRAGON

Scott Foubister 81

Scanning Tunneling Microscopy	
Scott Foubister and Samantha Lloyd	89
Art as Social Change	
Harmony Raine	95
Skin Colour and Attractiveness: An Econometric Analysis	
Brant Shapka and Richard Bregoliss.	107
A Comparison of Canadian and Chinese Student Motivations to Visit Japan	
Yumiko Suzuki	119
Medicated Blue	
Beth Walker.....	135
Sex-selective Abortions	
Max Winkelman.....	145

Introduction

Thompson Rivers University offers unique opportunities for undergraduate students to engage in research, and to disseminate their achievements through the annual Undergraduate Conference and its Proceedings. The works in this collection demonstrate the vast diversity and excellence in student research at our institution; coming from a wide array of disciplines, they delve into issues of the historical and the contemporary, of the local and the global, and confront questions of social and cultural change, of innovation, and scientific pursuit. All of the papers in this collection are exemplary of the strength of student research at TRU, a quality that is especially evident in the three award winning papers for best submission: “Community Connections and Acceptance for Second-Generation Chinese Canadians in Kamloops and Vancouver: The Example of the Wing Family,” by Anna Brace; “Driving “the ‘Silent Majority’ Wedge”: American Political Polarization and the Conservative Backlash of the 1960s,” by Judith Zwickel; and “In the Company of Women: the Work We Do,” by Debra Andrews.

Scott Foubister’s article exhibits the fundamental spirit of curiosity at the basis of all research as he details his experiments to measure the beam-to-contaminant ratio with DRAGON. In “Scanning Tunneling Microscopy” Foubister and Samantha Lloyd chronicle the assemblage, testing and operation of a scanning tunneling microscope at TRU with the goal of making this instrument available for other researchers and students at the university. This curiosity is again made obvious in Alice Dickinson’s discussion of the unity of human and divine in John Donne’s works, and, taking another perspective on Donne, Andrea Faliszewski’s article examines Donne’s relationship between the visible and the invisible, the physical and spiritual, as a means of understanding human life, love, and death.

The articles collected in this edition are also a testimony to the strong connection between the local and the global. In her analysis of volunteerism, Debra Andrews explores what motivates women to volunteer, how volunteering benefits them, and the advantages to the communities in which they live and work. Anna Brace's research is focused on the example of the Wing family, and she discusses how this family's experience typifies the divergence in the immigrant experience in urban and rural centres. Yumiko Suzuki explores cross-cultural and transnational movements by examining the Japanese tourism industry, and the different motivations of Chinese and Canadian students to visit Japan. Originating in Wells Gray Provincial Park, Vanessa Montagliani's research examines the effect storage conditions have on the production of antimicrobial activity, a noteworthy project given that the global increase in antimicrobial resistance has made the need for discovery of new and effective antibiotics all the more critical.

Other works ponder the impact of social and cultural issues, both on a collective and on an individual level. Judith Zwickel takes the reader back to the nineteen sixties and the rise of the reactionary conservative right in the United States. Likewise, Harmony Raine delves into twentieth-century social upheaval in her study of the intersection of visual art and social change in Quebec brought about through the works of the radical Automatiste group. Through the lens of economics Brant Shapka and Richard Bregoliss investigate the relationship between skin colour and perceived beauty in the context of the beauty premium, the fact that more attractive people appear to make more money due to their attractiveness. Max Winkelman examines the cognitive dissonance reflected in a 2009 Angus Reid poll in which the majority of respondents voiced strong opposition to sex-selective abortion, while supporting abortion in general. In her work, "Medicated Blue: The Creative Process of Giving Schizophrenia a Voice," Beth Walker reflects on the filmmaking process as an homage to her mother, and as a means of questioning social perceptions of schizophrenia.

Just a few short months after the 2009 undergraduate conference, TRU sadly lost one of its strongest supporters of student research. This edition of the 4th annual conference proceedings is thus dedicated to the memory of Dr. Martin Whittles - friend, colleague, and mentor.

Dr. Kelly-Anne Maddox
Associate Professor
Kamloops
June 1, 2009



**Community Connections and Acceptance
for Second-Generation Chinese Canadians
in Kamloops and Vancouver:
The Example of the Wing Family**

ANNA BRACE - AWARD WINNER

The experience of Chinese families in British Columbia during the first half of the twentieth century could greatly differ depending on the locale in which they chose to settle. While larger centres, such as Vancouver, often segregated Chinese housing and establishments from those of the Euro-Canadian majority, smaller, less segregated rural centres facilitated the creation of personal relationships between members of these two groups. These personal relationships could, in certain examples, assist in the diminishing of the prevailing prejudices of the period and allow for the greater acceptance of Chinese Canadians in the community as a whole. In comparison, Vancouver's Chinese-Canadian community did not integrate until a later period, and often not until residents moved away from Chinatown and left behind their ties to that segregated community. Kamloops has evidence of much earlier acceptance of a higher proportion of Chinese minorities into the community. The main vehicle which allowed for this acceptance were the individual contacts between Chinese and non-Chinese individuals. Kamloops provided a greater opportunity for such connections, primarily because of its smaller size. The experience of the Wing family of Kamloops, BC, provides an interesting example of how Chinese Canadians could find greater acceptance in smaller, rural communities than in larger centres. Peter Wing, a Chinese Canadian born to immigrant parents in Kamloops, B.C., would become the first native-born mayor of Kamloops, as well as the first mayor in North America of Chinese descent.

Between 1923 and 1947, Canadian-born Chinese were able to extend their rights, and establish a place for themselves in the political, social and economic societies of the mainstream Euro-Canadian culture, even in the face of dramatic racism and oppression. But were their experiences similar regardless of geographic location? Extensive research has been done on the experiences of Chinese immigrants and their descendants within British Columbia. As Patricia Roy observes in her historiographical essay, "Active Voices," research on the Chinese in Canada has gone through several 'generations' of historical study. These stages have ranged from "anti-

Asian propaganda pieces and sympathetic first-hand observations by social scientists,"¹ to studies that present Chinese Canadians as inactive subjects in the story of the development of British Columbia.² The most recent stage of literature about Canadian Chinese examines the agency of Canadian Chinese in the development of the province, and the changing attitudes toward the Chinese within British Columbia. The most complete and inclusive of these studies is the set of books written by Patricia Roy, including *A White Man's Province*, *The Oriental Question*, and the *Triumph of Citizenship*. Roy examines the experiences of both Chinese and Japanese immigrants and those born in Canada between 1885 and 1967. Roy's books discuss the successes and challenges those Chinese and Japanese immigrants and Canadians faced and how they actively pursued government policy changes and increased opportunities for education and employment.

While there has been a wealth of study on Chinese Canadians, much of it has focused heavily on the immigration periods of the gold rush and the construction of the Canadian Pacific Railway, and on the renewed immigration that began after the repeal of the *Chinese Immigration Act* in 1947. This Act, established in 1923 and repealed in 1947, all but eliminated Chinese immigration into Canada, and is often referred to as the *Chinese Exclusion Act*.³ During this period a second generation of Chinese Canadians originated, the Canadian-born children of the original immigrants who chose to stay in Canada rather than return to their homeland. Research has also generally focussed on the areas of high Chinese settlement, such as Vancouver and Victoria.⁴ The intervening period, when immigration was halted, has been less thoroughly studied, as have the experiences of those children who were born and raised in the altered environment of the exclusion years.

This paper will draw on the experiences of Chinese Canadians in the two communities of Kamloops and Vancouver and will examine how these individuals were able to gain acceptance into the predominant Euro-Canadian culture while still retaining their unique cultural identity. Such a comparison will show that the

smaller Kamloops community, due in part to the lack of a centralized Chinese population, had many more points of connection between the host Euro-Canadian and Chinese-Canadian communities, and that these points of contact allowed for greater integration for some members of the Chinese-Canadian community. These links could occur in various parts of the community but the most important were to be found within community associations and business contacts. The connections fostered cooperation, and, in some circumstances, understanding and acceptance, by allowing the host communities to view Chinese Canadians as individuals within the community, rather than as members of a segregated ethnic group.

The Wing family of Kamloops exemplifies how certain Chinese Canadians were able to find acceptance in smaller rural communities. Peter Wing, the eldest child of Eng and Ling Wing, was born in 1914. Wing would become a major political force within the Kamloops community. Peter Wing was able to become an influential member of the Kamloops community even before the repeal of the 1947 *Immigration Act*, and therefore before he had any recognized political power. After its repeal, Wing became involved in municipal politics and was able to generate enough community support to gain an alderman position in 1960 and the mayoral seat in 1966. In doing this, Wing became the first mayor in North America of Chinese descent.⁵

Wing's acceptance into and involvement in the Kamloops community were aided by his charismatic nature, his skill base, strong business knowledge, and the legacy of acceptance his father had pioneered for him within the community. Eng Wing, Peter's father, came to Canada in 1901 at the age of sixteen and within nine years had become a successful partner in two local businesses.⁶ A decrease in the anti-Chinese sentiment of the period, and the Wing family's unique blend of Chinese heritage with contemporary western customs and values also assisted Peter Wing in successfully entering civic government. While Wing was proud and knowledgeable of his Chinese heritage, he also held a very strong connection with being Canadian; when asked what it meant to him to be a Canadian, he answered, "I was born here, so I'm a Canadian first [and as a

Canadian] you have to adopt the Canadian lifestyle and also the Canadian way of life. It's hard to explain ... I'm proud to be Chinese, but prouder to be a Canadian ...".⁷

The Wing family were not typical of all, or even most, Chinese Canadians during this period. Peter Wing's experience was exceptional; he benefited from being a member of a comparatively wealthy family and sharing a Christian religion with the Euro-Canadian majority of Kamloops. Most Chinese immigrants had different experiences than Eng Wing. Eng came to Canada with the assistance of family already residing there and he was also able to take advantage of the benefits that sharing the Methodist religion with portions of the Euro-Canadian majority offered. Most of the Chinese people who came to Kamloops during this period were single males employed in manual labour who were never able to generate a large income.⁸ Eng's entrepreneurial skills allowed him to become comparatively wealthy, enough so he was able to pay the \$500 head tax to bring his wife Lin to Canada in 1913.⁹ When Lin, arrived in Kamloops she became only the fifth Chinese woman in the community, and for many years there were no more than five Chinese families in the community. In comparison, the number of single men was estimated to be between 150 and 250.¹⁰ Language and family status appeared to be the major limiting factors for the majority of Chinese within Kamloops in the early twentieth century. Chinese men who had wives, families and an ability to speak English appeared to be more likely to be incorporated into Kamloops society, while those who were single and had language barriers appeared to continue to be segregated from the rest of the community.¹¹ It was this incorporation into the greater Kamloops community that allowed Peter Wing to become a force in local politics.

Based on the example of the Wing family, it seems that the experience of Chinese Canadians in Vancouver differed greatly from those in Kamloops; this difference was due mainly to the relatively large size of the Chinese community in Vancouver in the early part of the twentieth century. In 1921, the Chinese population in Vancouver was 5994, whereas in Kamloops it was 164.¹² Early in

the twentieth century, Vancouver's Chinatown was ghettoized, containing a large majority of Vancouver's Chinese population.¹³ Dock Yip, a resident of early Chinatown, described it as: "I was living in a ghetto ... Pender Street was for Chinese only. White men didn't come down there ... I knew one Chinese living there who had never left Chinatown in his entire life."¹⁴ Vancouver's Chinatown would provide Chinese Canadians with access to social contacts of a similar ethnic background, who could work together to circumvent the institutionalized racism directed toward them during this period.¹⁵ One of the ways first- and second-generation Chinese Canadians would do this was via Chinese organizations. Within Vancouver's Chinatown during the late nineteenth and early twentieth centuries there was a multitude of Chinese organizations to which one could belong. These organizations ranged from surname groups, based on a patriarchal connection through the family name, to political or social groups designed to increase the power of the Chinese within a hostile host nation and to provide community support and connections for those of Chinese ethnicity. These associations often reduced the opportunity for contact with the host community, as they provided social contacts only within the existing Chinese community.

Experiences in the smaller locale of Kamloops were quite different for Chinese Canadians. The population of Chinese in Kamloops in 1921, according to census statistics, was 164.¹⁶ The small Chinese community in Kamloops was in part due to the small population as a whole, and to the absence of a well-defined Chinese neighbourhood. There had been a Chinatown in Kamloops, though never as homogenous as that of Vancouver, but it had been destroyed in the fires of 1892 and 1893; further displacement had occurred when the Canadian Pacific Railway moved its tracks onto the area that had previously housed many Chinese businesses and lodgings.¹⁷ This lack of a centralized Chinese community meant that the self-contained nature of Vancouver's Chinatown could not be replicated and therefore greater interactions occurred between Chinese and non-Chinese townspeople. Another result of the reduced

Chinese population was the relative lack of Chinese associations in Kamloops. The lack of Chinese associations and small Chinese population meant that to feel a part of a social group, integration with the Euro-Canadian host community was required. One of the most important groups that fostered this interaction in Kamloops was the Chinese Methodist Mission. This Mission was run through the United Church and was for Christian Chinese immigrants. The Mission provided opportunities such as English instruction, health care and introduction to the community for new immigrants.¹⁸ The aims of the Mission were to promote ethnocentric Anglo-Christian behaviour to Chinese immigrants, yet for certain members of the Chinese community, such as Eng Wing, this connection provided an important contact point where he was able to interact and make links with non-Chinese members of the community.

In larger Chinese communities, Chinese individuals could be found in a variety of occupations, often serving both Chinese and non-Chinese patrons.¹⁹ Business contacts were one of the most important areas in which personal contacts between Chinese and non-Chinese individuals could be made. As with community associations, the large and centralized nature of Vancouver's Chinatown and Chinese population reduced the opportunity for business interactions. In Vancouver, even though there were contacts between, Chinese business establishments and their non-Chinese clientele, this contact was often within the very constrained role of service/good provider and customer, and had very limited social interaction. The centralized nature of Chinatown meant that there emerged an exclusive Chinese business community, as opposed to one that included Chinese and non-Chinese businessmen, as in Kamloops. An example of this centralized business community is the Chinese vegetable growers of the Vancouver area. In 1936 white vegetable grocers began to voice concerns that the Chinese were developing a monopoly over the availability of fresh produce in the Lower Mainland. The concern was that the Chinese had "organized wholesale companies which controlled the farms and ... [had made] interlocking agreements with the 500 truck farmers of the Lower

Mainland. The wholesale outlets, in turn, controlled the numerous retail outlets.”²⁰ The need for Chinese businessmen to work together to circumvent the legal and political restrictions placed on them often reinforced the internal connections within their community and generated hostile reactions from competing members of the host community.

In the smaller community of Kamloops there was greater occupational segregation, even while there was more frequent contact between Chinese and white community residents. Chinese Canadians were often involved in different types of work than white people; they were often self-employed in businesses such as laundries, Chinese restaurants, and farming. A by-product of this occupational segregation was that it reduced concerns about job competition between white and Chinese workers.²¹ The cooperation amongst business owners within Kamloops has been documented by the willingness of non-Chinese business owners to jointly advertise with Chinese businesses in order to benefit both businesses. This cooperation was evident in the experiences of the Wing family and the Fuoco family of Kamloops. The Fuoco Brother’s Model bakery, a non-Chinese business, agreed to supply bread to sell at a reduced rate of five cents a loaf at the grand opening of the Wing family’s Cut-Rate Self Serve Grocery store.²² According to Peter Wing, “this was a very effective sale item, and the arrangement carried on for many special sales thereafter.”²³

In Kamloops, the increase in personal contacts between members of the Chinese community and the host community allowed for each group to view each other in terms of their individual qualities and less as a result of their race. Those individuals who were seen as having the ability to contribute to the smaller community, which could be argued was more in need of qualified skilled members due to the smaller population that it had to draw from, were more likely to be accepted into the host community. The social connections developed through community organizations that incorporated both Chinese and Euro-Canadians had an important influence on the development of the perceptions of individual qualities. This can be seen by the connections

that Peter Wing made within the United Church in Kamloops. Peter's involvement with the Church allowed him to impress and develop personal links with influential members of the Kamloops community. These links would translate into an invitation to join the Kamloops Board of Trade in 1934.²⁴ In 1923 Peter Wing was only twenty years old and, due to the *Chinese Exclusion Act*, ineligible to vote. Members of the Board of Trade believed that it was important to include a Chinese Board member because the Chinese were required to pay taxes even though they were without representation.²⁵

Both Vancouver and Kamloops saw increasing opportunities and acceptance for Chinese Canadians in the 1930s and 1940s, though it appears to have happened earlier within Kamloops. Post World War II saw opportunities for Chinese Canadians increase in both locales.²⁶ The most significant result of the changing factors was the repeal of the *Chinese Immigration Act* in 1947, which allowed for renewed immigration into Canada from China; this began another phase in the history of Chinese Canadians and would allow Peter Wing to enter the formal political arena.

The smaller rural location of Kamloops provided Chinese Canadians with a very different experience from those in larger centres, such as Vancouver. The smaller population of Kamloops provided many points of connection between Chinese individuals and the host community and it was ultimately these connections which allowed individuals to be seen for their unique qualities rather than their ethnicity. In Vancouver, the second-generation Chinese Canadians began to move away from Chinatown and this increased the contacts with the Euro-Canadian majority.²⁷ As more Chinese residents began to move out of Vancouver's Chinatown, the levels of Chinese Canadian and Euro-Canadian contact began to increase and the small-town nature of contacts in Kamloops began to be mirrored in many of the small suburbs and communities of Vancouver. With the increase in personal connections between Chinese Canadians and the Euro-Canadian majority, many Chinese Canadians began to be viewed in terms of their individual qualities rather than being solely defined by their race.

Works Cited

- "Chinese in Vancouver Survey" in the *Chinese Canadian Research Collection*. UBC Archives.
- Chow, Lily. *Sojourners in the North*. Prince George: Caitlin Press, 1996.
- Government of Canada. 1921 Census Data.
- Huang, Evelyn and Lawrence Jeffery. *Chinese Canadians: Voices from a Community*. Vancouver: Douglas and McIntyre, 1992.
- "He 'Wing'-ed his way to Success." *Kamloops This Week*. 10 January 1993.
- "Interview with Charlie Lee." Chinese Leaders Series. In the *Chinese Canadian Research Collection*. UBC Archives.
- Lai, David Chuenyan. *Chinatowns: Towns within Cities in Canada*. Vancouver: UBC Press, 1988.
- Lee, Norman Kim. Interviewed by Susan Forseille. Kamloops, BC. 13 July 1993.
- Morton, James. *In the Sea of Sterile Mountains: The Chinese in British Columbia*. Vancouver: J.J. Douglas Ltd., 1977.
- Roth, Terrance. *The Peasant's Gold: the Story of Peter Wing*. Kamloops: Goss Publishing, 1998.
- "Active Voices: A Third Generation of Studies of the Chinese and Japanese in British Columbia." *BC Studies* 117 (1998): 51-61.
- . *The Oriental Question: Consolidating a White Man's Province, 1914-41*. Vancouver: UBC Press, 2003.
- . Patricia. *The Triumph of Citizenship: The Japanese and Chinese in Canada, 1941-1967*. Vancouver: UBC Press, 2007.
- Sedgewick, Charles and W.E. Willmott. "External Influences and Emerging Identity: The Evolution of Community Structure Among Chinese Canadians." *Chinese Canadian Research Collection*. University of British Columbia Archives.
- Stewart, John. *Chinatown in Kamloops*. Kamloops Museum and Archives.
- Yee, Paul. *Saltwater City: An Illustrated History of the Chinese in Vancouver*. Vancouver: Douglas and McIntyre, 2006.
- Wickberg, Edgar, et al. *From China to Canada: A History of the Chinese Communities in Canada*. Toronto: McClelland and Stewart, 1982.
- Wing, Peter. Interviewed by Georges Baril. Thompson Rivers University.
- . Interviewed by Susan Forseille. Kamloops, BC. 29 July 1993.

Notes

- 1 Patricia Roy, "Active Voices: A Third Generation of Studies of the Chinese and Japanese in British Columbia," *BC Studies*, 117 (1998): 51.
- 2 Patricia Roy, op.cit. 51.
- 3 Charles Sedgewick and W.E. Willmott, "External Influences and Emerging Identity: The Evolution of Community Structure Among Chinese Canadians." *Chinese Canadian Research Collection*, UBC Archives.
- 4 The few sources that discuss more rural locations include Lily Chow's *Sojourners in the North* and Patricia Roy's *The Oriental Question*.
- 5 "He 'Wing'-ed his way to Success," *Kamloops This Week*, 10 January 1993.
- 6 Terrance Roth, *The Peasant's Gold: the Story of Peter Wing*, (Kamloops, 1998), 6.
- 7 Evelyn Huang and Lawrence Jeffery, "Dock Yip," in *Chinese Canadians: Voices From a Community* (Vancouver, 1992), 57.
- 8 Wing, Peter, Interviewed by Georges Baril, Thompson Rivers University.
- 9 Roth, op. cit., 6.

- 10 1921 Census Statistics for Kamloops and Kamloops Subdistricts; Wing, Peter, Interview by Georges Baril, Thompson Rivers University.
- 11 Norman Kim Lee, Interviewed by Susan Forseille, Kamloops, BC, 13 July 1993.
- 12 Government of Canada, Census Data 1921.
- 13 Paul Yee, *Saltwater City: An Illustrated History of the Chinese in Vancouver*, (Vancouver, 2006), 82.
- 14 Huang and Jeffery, op. cit. 4.
- 15 David Chuenyan Lai, *Chinatowns: Towns within Cities in Canada* (Vancouver, 1988), 34-35.
- 16 Government of Canada, op. cit.
- 17 John Stewart, "Chinatown in Kamloops," Kamloops Museum and Archives.
- 18 Peter Wing Interview by Susan Forseille, Kamloops, BC, 29 July 1993.
- 19 Edgar Wickberg et al., *From China to Canada: A History of the Chinese communities in Canada*, (Toronto, 1982), 92.
- 20 James Morton, *In the Sea of Sterile Mountains: The Chinese in British Columbia*, (Vancouver, 1977), 245.
- 21 Peter Wing, Interview by Susan Forseille, Kamloops, BC, 29 July 1993.
- 22 "He 'Wing'-ed his way to Success," *Kamloops This Week*, 10 January 1993.
- 23 idem.
- 24 Peter Wing, Interview by Susan Forseille, Kamloops, BC, 29 July 1993.
- 25 idem.
- 26 For a thorough understanding of how the war and the political activism of Chinese Canadians was able to increase opportunities and lessen discrimination toward those of Chinese ethnicity, Patricia Roy's *The Triumph of Citizenship* provides a very complete discussion of the factors involved.
- 27 "Chinese in Vancouver Survey," in the *Chinese Canadian Research Collection*, UBC Archives.



In the Company of Women: the Work We Do

DEBRA ANDREWS - AWARD WINNER

The complex inner lives of human beings – what they experience, care about and hope for – are influenced by changes in the surrounding environment (Yourk, 146).

In June 2008, I became part of a Kamloops Women's Resource Group Society (KWRGS) volunteer group of women, each from disparate corners of our small city, focused on the importance of telling the stories of some extraordinary senior women who have made a difference in the social fabric of our community through the early-and mid-20th century. Though many of these senior women are well past 'retirement age,' we discovered that many of them continue to work voluntarily on our behalf today. Our mission was to get the stories, to pick up the threads of the tapestry from the past, and weave them into a cohesive textual and visual form: a book for reading and a DVD for viewing. Organized by the project coordinator, Rose, we eagerly took up the training provided for video camera operation and interview techniques. Armed with our new skills, we worked in groups of three to capture the stories of the chosen senior women: one to conduct the interview, one to operate the video camera, and the third responsible for the audio tape recorder. After each interview, we met at Rose's oak table to debrief: to discuss our experience and to share our new-found insights into story gathering and telling.

At one of these debriefings, I became intrigued by the idea that a group of women, virtually unknown to one another, would embark on such a venture, and would be able to work so well together; we genuinely believed in the importance of the work we were doing, and a sense of camaraderie naturally formed. Few of us had worked together in the past, nor had we belonged to the same churches or social clubs. One of our cohort was a post-secondary instructor, one a local business woman, another a university student, married and the mother of two young children, yet another was a full-time homemaker, and a few had recently retired from social service careers. One of our number was also included in the list of senior women to be interviewed! Our ages, occupations, and lifestyles were distinctly different, yet we all shared the excitement and enjoyment

of the project. We came to the project through different channels: several women responded to an ad in a local newspaper, one woman was attracted by a poster in the window of Volunteer Kamloops on Victoria Street, another was approached by the KWRGS board members, and I was made aware of the project through a TRU faculty member. The common ground appeared to be based on the fact that we are all women, and that we all felt it was important to have the history of women's community work told. And that got me thinking about all the work that women do; thus, I soon found myself immersed in the study of volunteerism. My work with the KWRGS women on the "Untold Story," in effect a feminist writing of the history of our small city, Kamloops, prompted me to explore three questions: What motivates women to volunteer? How does volunteering benefit them? And, ultimately, what are the benefits to the communities in which we live and work?

In their 2003 study of women's voluntary organizations, Meinhard and Foster explain that, historically, women's volunteer work allowed them to participate in the public sphere, especially in the years before the turn of the 20th century when their "domain was almost exclusively in the domestic realm" (369). Early Canada benefited from the work of "women in religious orders" who provided service to the needy through establishments of hospitals and housing for the poor and orphans (369). As early as the mid-1880s, women formed exclusive associations to work for women's rights and social reform; the women's suffrage movement was born out of the need for political representation in Parliament to further social reform agendas (369). In 1972, a federal government grant to the National Action Committee on the Status of Women (NAC) supported a conference "dedicated to 'effecting change in the status of women in Canada'" (369). In 1982, the Canadian Charter of Rights and Freedoms guaranteed equal rights for men and women, and this led to a "proliferation of women's organizations" (370). A 1999 study by Popielarz found that 67% of women volunteers are members of women's organizations and that "in a sample of 233 voluntary groups, 68% were gender segregated, with women's organizations outnumbering men's by two to one"

(qtd. in Meinhard and Foster 370).

In 1975, Mueller's study of volunteer work by women explored the reasons why women "would find it rational to do work for free" (326), especially at a time when women were becoming increasingly part of the paid labour force (325). She determined four reasons: family need for the volunteer organization's service, human capital (skills training), individual prestige, and altruistic motivation (327). She defined a volunteer organization as one that provides a "good or service" to contribute to the public good (326).

The KWRGS women redefine Mueller's findings in that altruistic motivation was at the top of their list as they stepped forward for the "Untold Story" project — something a little different from most other volunteer work, but their intent remained noble. As Rose put it, "I think when you volunteer you have to believe in what you are doing." This sentiment echoed throughout the interviews I had with the eight KWRGS women.

Rachelle responded to the newspaper ad because she believes her personal interest in women in history, "especially women in history in British Columbia," fated her to become involved; she "thought it was important work to do, that women's stories be told so that women of the future can learn the journey that women have traveled."

The ad also motivated Alice to participate. Her interest was that "women that had really contributed to the community would be brought into the light, what these women have done." She felt that "so many times women do things and they're never being really acknowledged for it. And that for [her] was a personal satisfaction to see these women being recognized and being able to tell their story."

Penny also replied to the ad, inspired by the concept of the project and the social aspect of volunteering: "What attracted me was that it was untold stories of women. I've always been interested in the role of women in society and sometimes that's been the focus of my volunteer work. I was going to have a good time; I was going to go and talk to women, and hear their stories, and learn a little bit more about the history of Kamloops and the role of women in volunteering."

Another volunteer spotted a poster in the Volunteer Kamloops

window on Victoria Street and decided “it sounded like a really interesting and important project.” Heather says, “I volunteered because I want to feel useful by contributing to my community; I like the social connection because I have a personal interest in what is going on ... I would also like to gain experience and connections through my volunteer work.”

Mary had worked in the past with the coordinator of the project, and she took on the challenge “to help out a friend.” She believes that volunteering is an “altruistic thing, the value that you get out of it is from your participation.”

Sandra supported the project and was happy to be included because, she says, “I felt I would be of some value because I had been in Kamloops such a long time, and I had a good memory for names, so that was my reason. I nominated seven people.” She volunteered on the steering committee, nominated seven senior women, and was herself one of the women interviewed for the “Untold Story” project. Her motivation for becoming involved was, in her own words: “I went into it looking forward to learning more about these women and certainly my expectations were met; it was fascinating because I got to know so much more about them than I had known before.”

Volunteer Canada tells us that giving and receiving “social support is good for our health. It is good in our day-to-day activity and it has beneficial effects when we are experiencing stress. This is especially so for women, but it is also for men” (“Volunteering and Healthy Aging: What We Know.”). It also notes that “senior volunteers (65+) tended to devote far more of their time to volunteering, making them a highly valuable resource for the voluntary sector.” The senior women interviewed for the “Untold Story project” — and those who volunteered for the project — support that notion.

The benefits of volunteering for the KWRGS women centred on the themes of personal growth and benevolence toward their community. All of these women felt fortunate that they were able to contribute their time and their individual skill sets to the cause or project in which they participated. For example, each of them

brought something to and gained something from their time with the “Untold Story” project. Rachelle found that “we were all learners, none of us had done this before, and we were all willing to learn; it made it very comfortable.” For Alice, her work with the “Untold Story” project gave her affirmation of her interviewing and writing skills, as well as camera work, interests that she has always enjoyed. While Mary came into the project with no predetermined expectations, she says, “As it turned out, I did get something out of this. I got to meet all these neat people and ... to hear a few stories that I was interested in and ... to learn a little bit more about my community, about what it used to be like.” She also enjoyed the challenge of learning to operate a video camera, especially since she considers herself “not a technological kind of person.” Heather was inspired by the senior women she met. She says, “They embody all that I wish to be in terms of my contribution to the community.” She reflects on the idea that, although “this particular project was about honouring these women, it also has made [her] think about the other women that have touched [her] life.” Though she had no predetermined expectations from this project, she hoped that she was “making a contribution and an opportunity to interact with others.” She also appreciated the opportunity to garner experience:

I had some previous experience operating a video camera but this project gave me a chance to practice and improve these skills. It also provided experience on working cooperatively in a team, and communicating with others. Since we all participated in developing interview questions, it also provided experience on doing primary research on someone (and how to get around their modesty).

Rose feels that “volunteering is a great place to learn new things, to discover your strengths and your skills and your abilities, meet new people, without the pressure, if you have a good leader. [She is] a firm believer that a group is as good as its leadership.”

Sarah gains satisfaction from volunteering because she feels that “everyone has something to offer”:

I learned that women cooperate more on volunteer projects than on paid work because there is no competition for job promotions, etc. Volunteers, in my experience, want to work as a team, like community involvement, and are dedicated, or they wouldn't be there in the first place. Also I learned that I still had good interviewing skills and worked with a very bright young woman who often came up with better questions so she helped me look at things from a different perspective.

Penny likes to find volunteer work that is challenging. She states, "I want to push myself to do even more than what I think I'm capable of doing. So I've done that [by working on the 'Untold Story project']." She thought the approach to "the whole project of trying to get as many women in the community involved in the process of putting together the book and the tape and all of that stuff was terrific, and [she thought] it worked out really well. It inspires [her] to look at ways of doing that for other things." She stressed the importance of having "one person in charge and facilitating that whole thing." Rose echoes this sentiment in her belief that "a group is as good as its leadership" in that a good leader will identify a volunteer's strengths, skills and abilities and allow them the opportunity to "figure out what they can do so they can feel good about themselves at the end of the day."

Sandra, one of the KWRGS volunteers as well as one of the senior women being interviewed for the project, felt that "one of the great things for the people being interviewed is that it gives you a chance to review your own life," and in doing so she recognized and acknowledged one of her own mentors from the past. She took on the challenge of learning to do the camera work, admittedly with a lot of help from Heather and Mary; she laughingly confesses, "It would have taken me a lot longer if I'd been left to my own devices and skills." Modesty aside, we must recognize that her devices and skills have contributed to the success of Kamloops community-building over many years, as have those of her contemporaries.

Following World War II, the promotion of social welfare policy created growth in the volunteer sector in Canada, and this sector became "allies of the state, extending specialized services that the government was uninterested in or unable to provide" (Meinhard

and Foster 367). However, since the mid-1980s, Canada has experienced a political shift from social welfare liberalism toward the neoconservative philosophy of small government and market-force competitiveness in all business sectors (367). This has meant the devolution of government “responsibilities onto third parties” (367), thus placing more pressure for more services on voluntary organizations. This, in turn, has created a need to understand the dynamics of volunteerism to enable organizations to recruit and retain volunteers to carry out their mandates (Dreessen 26; Reed and Selbee, “Distinguishing Characteristics” 572).

One theme prevalent in the studies I surveyed was the decline in government funding for many social welfare community agencies. In their discussion about the changing role of government in delivery of “collective [social] benefits,” Reed and Selbee highlight the challenge of the nonprofit and voluntary responsibility to “provide social services in response not only to rising social needs but also to reductions in government-provided social services” (“Distinguishing Characteristics” 572). The Canadian Centre of Philanthropy reported that, in the previous decade, changes in government support to the voluntary sector included funding cutbacks, an increase in purchase-of-service contracts, and the demand for greater accountability from the agencies to the government, which resulted in more result-oriented reports and less advocacy and education for targeted clients (Basok, Ilcan, and Malesevic 2). Volunteer Canada warns that “the partial withdrawal of government responsibility has meant that administrative and financial responsibility for the social safety net for vulnerable persons and groups now falls to the community” (Gordon and Neal, 1997 qtd in. “Volunteering and Healthy Aging”). The “Cornerstones of Community” report suggests that “many organizations may be struggling to provide the public with all of the benefits they have the potential to offer” (12). This report notes that “more than half of all organizations are registered as charities, a privilege conferred only on organizations whose activities are clearly directed to public rather than private benefit” (12). Of major concern is the finding that “between 2000 and 2003, organizations found more difficulty in obtaining government, foundation or corporate

funding; at least 25% reported serious problems to their operations due to decreases in funding, in particular in association with government funding” (14).

There is a general tendency by governments to offload social service delivery onto the nonprofit and voluntary sector. Indeed, Ipsos-Reid released its *British Columbia Network Research (Benchmark)* report in 2004, through the Canada Volunteerism Initiative (CVI) funded by the Government of Canada, an initiative with the stated purpose of “promot[ing] the participation in and contribution of Canadians to society” (1). Ipsos-Reid concludes that its survey “can be used to help the CVI understand the landscape of volunteering [and] guide their efforts in encouraging volunteering in an even greater proportion of the population” (8). If the levels of our social services are to be maintained, these studies need to be heeded and enhanced. Of great concern is that the government is contracting these studies; this raises concerns about its intentions regarding the administration of social welfare programs.

In their 2000 research paper, “Volunteering in Canada in the 1990s: Change and Stasis,” Reed and Selbee undertook a comprehensive study comparing information from two national surveys of volunteer activities in 1987 and 1997, and this study has been instrumental in understanding the changing patterns in volunteerism in Canada. One interesting finding was that, while there has been an overall decrease in volunteer hours relative to community size, the biggest declines were in large urban areas and the smallest declines were in rural areas; however, volunteerism in small urban areas in British Columbia, such as Kamloops, “show[ed] large increases in density [of participation]” and volunteer “hours per person rose markedly” (4). One reason for this is discussed in the introductory article in *The Small Cities Book* by Garrett-Petts and Dubinsky in which they offer Deutschman’s view of the “meager social capital of marginalized groups” (9) in small cities: issues of housing and community services “must inevitably be addressed ... because of closer proximities” (10). Citizens in small urban centres cannot turn a blind eye to the needs of fellow citizens; they see them everyday, unlike in large urban

centres where marginalized groups are inevitably cordoned off into isolated pockets within their boundaries. Small-city volunteers are helping their neighbours, not strangers on the far side of town.

The advantages realized by communities through the work of volunteers are innumerable, perhaps immeasurable on some levels such as emotional health for the volunteer and those receiving the benefits of their work. Reed and Selbee found that “no single characteristic is more consistently associated with volunteering than the level of civic participation (the number of types of organizations a person belonged to)” and they ranked it as the highest form of giving and caring (“Distinguishing Characteristics” 585). Remarkably, the “Cornerstones of Community” paper reported volunteer memberships of 139 million, indicating that Canadians volunteer at a rate of four memberships per person: 2 billion volunteer hours = 1 million full-time jobs = \$8 billion in individual donations [time and money] (12). This report also notes that:

with their broad scope of activities, nonprofit and voluntary organizations work to address the full range of human needs, improving the quality of our lives and providing the essential services on which Canadians have come to depend ... These organizations often extend our social safety net to catch those who are not served by government or private programs and services. (15)

In 2002, the Canadian Centre for Philanthropy funded a study on volunteerism and social justice community agencies. The researchers, Basok, Ilcan and Malesevic, determined that community social justice agencies “sought volunteers who were best suited to working directly with members of disadvantaged groups in need of assistance” (4); however, many other personal skills and interests are important in community-building through volunteerism.

The KWRGS women I interviewed were involved in a myriad of volunteer activities and causes (remember, there were only eight of them):

- Business and Professional Women's Association
- Canvassing for the Heart & Stroke Fund, the March of Dimes, Kidney Foundation, Red Shield Campaign, Cancer Foundation
- Children's sports programs, including swimming, lacrosse, soccer and baseball
- Counseling to assist people living with chronic pain
- Crisis Line
- Kamloops Central Business Improvement Association
- Girl Guides and Brownies
- Japanese Cultural Society
- Kamloops Film Society
- Kamloops Intermediate Orchestra
- Literacy programs for children, youth and adults
- Mentor Coordinator for Women in IT
- Morning Sun Toastmasters
- Out of the Cold shelter project
- Parent Advisory Councils and District PA Councils
- Parents for French
- School activities such as sport days, coaching girls basketball, theatrical productions
- Political campaigns
- Refugees and Friends Together to assist refugee settlement in our community
- School planning councils
- Senior's Outreach Society
- Sporting events such as the 1993 Canada Games, golf tournaments, the Brier curling championship
- Sunday school teacher
- Ushering at the Sagebrush Theatre
- Various religious organizations and their fundraising events and activities
- Women's shelters
- Working in thrift shops
- Working with autistic children

- Kamloops Active Support Against Poverty
- Voice of Women
- High school yearbook editor

Sarah believes it is incumbent on one to participate in volunteering by matching “the best of our abilities [with] a sense of responsibility.” Penny reflects that “people don’t realize how much you can actually do, how you can influence society.” She cites such examples as the Crisis Line, women’s shelters, day care facilities, and the minimum wage, things most of us today take for granted, as successful efforts by individuals, alone or in organizations, to enrich our community. She reminds us that “there’s so many women out there now doing things that they wouldn’t be able to do if it hadn’t been for all of those other pioneer women that went before us; it’s the whole women’s movement that set the stage for all of that.”

Measuring the benefits of volunteering to individuals, both giving and receiving, and to their communities, can be a very complex task. Commenting on the “rich history of volunteering and community involvement” of Canadians, the Ipsos-Reid report recognizes the important role of volunteering in our society, describing it as “the glue that holds all spheres of society together” (4). There is a sense that nonprofit and voluntary organizations are defined by their “connection to community through the participation of individual citizens” (“Cornerstones of Community”12). My work with the “Untold Story” project and my discussions with the KWRGS volunteers support this contention. Through the efforts of civic-minded individuals like them, our own community, this small city of Kamloops, is able to enrich the lives of its citizens through personal involvement in activities as diverse as supporting the Kamloops Film Festival and providing assistance for the indigent among us. Garrett-Petts and Dubinsky speak of the “shadow of large cosmopolitan” centres in which small cities exist and grow, but I believe that rather than occupying a dark place, Kamloops is illuminated by its strength in the “rural histories and traditions” (2) kept alive by the philanthropic work of women such as the KWRGS volunteers. It has been an honour to be associated with all of them.

Works Cited

- "Alice"* AC. Personal interview. 5 November 2008.
- Basok, Tanya, Suzan Ilcan, and Branka Malesevic. *Volunteerism and Social Justice in Community Agencies*. Toronto: Canadian Centre for Philanthropy, 2002.
- "Cornerstones of Community: Highlights from the National Survey of Nonprofit and Voluntary Organizations." *Statistics Canada*. 2005. Catalogue No. 61-533-XIE. <<http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=61-533-X>> Retrieved October 30, 2008.
- Dreessen, Erwin A. "What Do We Know About the Voluntary Sector: An Overview." Research paper. Statistics Canada Catalogue No 75F0048MIE – No. 06. 2000. <<http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?lang=eng&catno=75F0048M2002006>> Retrieved October 30, 2008.
- Dyck, Perry Rand. "The Charter of Rights and Freedoms." *Canadian Politics: Critical Approaches*. 4th Ed. Toronto: Thomson Nelson, 2004.
- Garrett-Petts, W.F., and Lon Dubinsky. "Working Well Together: An Introduction to the Cultural Future of Small Cities." *The Small Cities Book: On the Cultural Future of Small Cities*. W.F. Garrett-Petts, ed. Vancouver: New Star Books, 2005.
- "Heather"* HC. Survey response. 9 November 2008.
- Meinhard, Agnes G. and Mary K. Foster. "Differences in the Response of Women's Voluntary Organizations to Shifts in Canadian Public Policy." *Nonprofit and Voluntary Sector Quarterly* 32.3 (2003): 366-396.
- "Mary"* MR. Personal interview. 6 November 2008.
- Mueller, Marnie W. "Economic Determinants of Volunteer Work by Women." *Signs* 1.2 (1975): 325-334.
- "Penny"* PD. Personal interview. 5 December 2008.
- "Rachelle"* RA. Personal interview. 17 October 2008.
- Reed, Paul B. and L. Kevin Selbee. "Distinguishing Characteristics of Active Volunteers in Canada." *Nonprofit and Voluntary Sector Quarterly*. 29 (4): December 2000. 571-592. Electronic Journal. <<http://nvs.sagepub.com.ezproxy.tru.ca/cgi/reprint/29/4/571>> Retrieved October 30, 2008
- . "Volunteering in Canada in the 1990s: Change and Stasis." Research Paper. *Statistics Canada website*. Catalogue No. 75F0048MIE – No. 04. 2000. <http://bibliocat.statcan.ca/web2/tramp2.exe/see_record/A3vvq936.001?server=1home&item=5&item_source=1home> Retrieved October 30, 2008.
- Report for The Canada Volunteerism Initiative BC Network. "British Columbia Network Research (Benchmark)." Submitted by: Ipsos-Reid Corporation, Vancouver, BC. April 2004. <http://www.volunteervancouver.ca/pdfs/cvi_documents/CVI_Web_Research_Report.pdf> Retrieved December 6, 2008.
- "Rose"* RS. Personal interview. 11 November 2008.
- "Sandra"* SN. Personal interview. 11 November 2008.
- "Sarah"* SF. Survey response. 4 December 2008.
- "Volunteering and Healthy Aging: What We Know." *Volunteer Canada*. <http://volunteer.ca/en/volcan/older-adults/canada_adults_report_printable> Retrieved November 21, 2008.
- Yourk, Bonnie. "Vernacular Landscapes: Sense of Self and Place in the Small City." *The Small Cities Book: On the Cultural Future of Small Cities*. W.F. Garrett-Petts, ed. Vancouver: New Star Books, 2005.

* Pseudonym



**Driving “the ‘Silent Majority’ Wedge”:
American Political Polarization and the
Conservative Backlash of the 1960s**

JUDITH ZWICKEL - AWARD WINNER

In his book, *Revolt on the Campus*, conservative activist M. Stanton Evans predicted that “historians may well record the decade of the 1960s as the era in which conservatism, as a viable political force, finally came into its own.”¹ Although the general academic consensus reflected by scholars as diverse as William Rusher and Lisa McGirr is that historians have until recently neglected the Right in their analysis of sixties political action, the phenomenon of sixties conservatism has re-emerged as an area of historical inquiry. The era of the 1960s has been popularly framed as a period of left-wing radicalism and extreme liberal philosophy, and it was indeed a time of unprecedented leftist protest. However, current scholarship demonstrates that the movement to the Left was in fact met with a fervent conservative reaction, although it has been largely neglected in historiography. This paper will examine the conservative backlash of the 1960s, demonstrating that although the Right was in fact made up of diverse strands of conservatism, these components were able to unite in a unified movement as a result of their common resentment toward the Left. This substantiates the assertion of political scientists Charles Dunn and J. David Woodard that “reaction is the foundation of modern conservatism.”²

In an attempt to explain the relative lack of interest in the conservative movement of the sixties historian Michael Kazin observes that his colleagues have been unenthusiastic about researching “past movements that seem to them either bastions of a crumbling status quo or the domain of puritanical, pathological yahoos.”³ Further, according to historian Lisa McGirr, the psychological paradigm of the decades following the sixties “treated conservatism as a kind of clinical disturbance [and] did nothing to encourage scholars to take the Right seriously as a social and political movement.”⁴ The relegation of the right-wing movement to Kazin’s “domain of yahoos” has been reinforced by the anti-liberal declarations of such rabid conservatives as Patrick M. Garry, who claims “the unrestrained self-expression fostered during the 1960s has spawned a kind of human decadence—including pornography, violence, and incivility—that has undermined the social foundations of democracy.”⁵ The

staunch conservative attack of sixties liberalism may indeed appear to critical thinkers to be a preposterous defence of "a crumbling status quo"; however, the conservative movement that emerged in the 1960s did in fact have a rational political foundation and was able to secure a strong following among various groups in American society, particularly those groups that harboured resentment toward the increasingly radical protests of the liberal Left.

Dunn and Woodard define conservatism as an ideology "based on a belief that established customs, laws and traditions provide continuity and stability in the guidance of society." Accordingly, conservatives seek to defend "the political, economic, religious, and social status quo from the forces of abrupt change."⁶ Although American conservatism encompasses diverse strands of thought, a common set of values provides some unity to the right-wing ideology: Conservatives value order and tradition over precipitous change, personal responsibilities above rights, and liberty above equality. They believe in Christian morality, anti-communism, the decentralisation of power, and the sanctity of private property. However, conservatism was never a monolithic movement; conservatives from diverse socio-economic and political backgrounds certainly saw issues from different perspectives. The conservative movement, like its liberal counterpart, struggled with internal divisions based on the variance of political viewpoints encompassed by the larger right-wing ideology.

George H. Nash declares that conservatism is "in fact a compound of several diverse (and not always consistent) impulses: Libertarianism, traditionalism, [and] Cold War anti-communism ... fortified by a rightward migration of disillusioned liberals."⁷ Although Nash's breakdown of these three main facets has dominated historiographical discourse, recent work suggests that even though conservatism was able to act for a time as a united movement, "neither the conservatives themselves nor the historians who describe them have been able to marshal the three ideological tendencies into logical consistency."⁸

Despite this inconsistency in conservative thought, the sweeping

trend of political polarization which occurred in the 1960s radically undermined the liberal consensus that had dominated politics for decades, providing an opportunity for the diverse strands of conservatism to gain popularity with an increasingly disillusioned population. The war in Vietnam and civil rights issues topped the list of grievances in American public opinion. As the decade wore on, the increasing militancy of the radical Left became apparent as anti-war protests, and university activism reached catastrophic heights. In 1968, a series of related events further polarized public opinion. First, on January 30, the Vietcong launched the massive Tet Offensive which would ultimately be responsible for the deaths of tens of thousands of people, including many South Vietnamese civilians. Tet drew renewed attention to the already unpopular war and reinforced the trend of decreasing public support for the conflict. David Schmitz explains that “support for the war had been eroding for the past year”; meanwhile, the Tet Offensive highlighted that “American objectives and national interest in Vietnam” were becoming “more unclear all the time.”⁹ Furthermore, despite promises of de-escalation in Vietnam, Tet “raised the distinct possibility that even more U.S. troops would be committed to the struggle, with any such commitment likely necessitating calling up the reserves and a general mobilization for war.”¹⁰ The student anti-war movement “went into high gear” as thousands of protests erupted across campuses nationwide.¹¹

President Lyndon Johnson, who had been quietly confident of his reelection in the fall of '68, began to second-guess his administration in the face of an increasingly volatile situation at home and a seemingly impossible conflict overseas. In March, he announced his withdrawal from the presidential race. As outlined by Karen Manners Smith and Tim Koster, “the front-runners for the Democratic presidential nomination became Robert Kennedy and Minnesota senator Eugene McCarthy,” both of whom were opposed to the war and planned to end it.¹² In June, however, Robert Kennedy was killed by an assassin, only months after the death of Martin Luther King, Jr. struck a devastating blow to the civil rights movement. He was replaced in

the running by Johnson's vice president Hubert Humphrey, who was determined to continue Johnson's foreign policies, including the continued American presence in Vietnam. In August, tensions came to a head at the Democratic national convention in Chicago when the convention nominated Humphrey on the first ballot. Violent clashes between protestors and police ended with hundreds of injuries and 668 arrests. Although the nation was shocked at the indiscriminate police brutality, the "majority of U.S. citizens did not sympathise with the protestors."¹³ On the contrary, many citizens were "frightened by the increasing level of militancy and disorder in the country ... [and] sympathized with those who wanted to maintain order."¹⁴ The conservative leadership constructed the events in Chicago as demonstrative of liberal lawlessness, and Republican Richard M. Nixon took the presidency in 1968. The Chicago convention thus marked a turning point in popular American sentiment as the nation further polarized over the issue of Vietnam.

Within the Left movement itself, polarization and fragmentation were occurring, which weakened the movement's response to Right Wing attacks. Internal divisions contributed to a lack of cohesiveness as groups of varying degrees of militancy struggled to be heard amongst the maelstrom of protest. Adam Garfinkle blames increasing factionalism and radical militancy for the collapse of the movement, asserting that the year 1968 "represented the beginning of the self-destruction of the New Left." According to Garfinkle, "New Left tactics adopted in 1968 were politically nihilistic, increasingly violent, and overwhelmingly counterproductive both to the New Left and to stopping the war."¹⁵ The increasing intensity of leftist protests stirred a deep resentment among the various factions of the Right, as conservatives of all stripes found common ground in their hostility to what they called "the banalities of the liberal left."¹⁶ As the Left fragmented, the Right mobilised, manipulating the symbols of its own hostility into a common language and using this language to mobilise support for the movement.

In this way, the conservative movement coalesced as a backlash to the increasingly militant liberalism of the Left. Groups as diverse as

the right-wing elitist John Birch Society joined ideological forces with the 'hardhats,' construction workers whose blue-collar masculinity was later manipulated by Nixon into a symbol of the 'American worker.' However, the majority of conservatives, according to Hijiya, "tended to be people of the middle class: upwardly mobile and determined to stay that way."¹⁷ These people, termed 'suburban warriors' by McGirr, believed that "without the interference of government, the market would evenly distribute its rewards to those who were deserving and punish those who did not make use of their talents."¹⁸

Like the 'suburban warriors,' working-class whites feeling the squeeze of an economic recession began to see Johnson's 'War on Poverty' as a drain on their own income and an unfair redistribution of wealth. "They believed hard work alone should ensure upward social mobility. Consequently, they resented federal programs that seemed to them to aid unworthy blacks."¹⁹ Indeed Hijiya claims that one of the unifying factors of sixties conservatism was "a conviction that Americans, especially in recent years, had gone too far in the pursuit of human equality."²⁰ He quotes Samuel Huntington, who claimed that conservatives agreed that "except in an ultimate moral sense, men are unequal."²¹ Resentment toward 'economically levelling' social policies appeared in popular culture, as demonstrated by the declaration of television's Archie Bunker that "if your Spics and Spades want their rightful share of the American dream, let 'em go and hustle for it just like I done."²² Existing material concerns were only reinforced by the violence of recent political protests. In 1968, Republican presidential candidate Richard M. Nixon emerged with a campaign that exploited the fears of what he labelled the 'silent majority': those Americans who rejected the increasing protests of the Left.

Nixon realised the contempt that many Americans felt for the student protestors and played on the controversy surrounding the increasingly violent anti-war movement to win support. As McGirr testifies, "Movement politicians, leaders, and strategists ... engaged consciously in efforts to broaden their appeal and shore up their social base."²³ The conservative leadership argued that protesters,

New Left activists, and counterculture freaks undermined the traditional American value system. These conservatives framed the disastrous Chicago Democratic Convention as an example of the consequences of challenging authority, arguing that "America's drastic social changes—e.g., the sexual revolution and the anti-establishment rebellion against traditional authority—caused the nation to lose its cultural anchor."²⁴

The deepening resentment of many working-class voters toward radical students intensified along with increasingly militant demonstrations across campuses in the late '70s. In his article "The Silent Majority Speaks: Antiwar Protest and Backlash, 1965–1972," Heineman rationalises the working-class antipathy toward student protestors. According to Heineman, the working class resented the campus culture of protest because it saw university either as a luxury or "an avenue of social mobility" unavailable to their children.²⁵ Student protesters were often seen as spoiled middle class or 'rich kids' who were avoiding the draft themselves while disrupting traditional patterns of authority. Indeed, "the majority of soldiers killed in Vietnam were white, working-class, high-school-educated residents of northern cities." Meanwhile, "draft deferments of college students—of whom just 17% nationally claimed working- and lower-middle class backgrounds—ensured that middle-class males avoided service."²⁶

Adding to the existing hostility toward leftist political protest, the Right utilized the rhetoric of tradition to rally against the protestors, portraying any leftist political action as "un-American." Having won the support of the suburbanites determined to retain their hard-fought social position, Nixon launched an energetic "blue-collar strategy" to exploit the atmosphere of resentment and secure the working-class vote. Historian Jefferson Cowie has analysed Nixon's approach, asserting that he "struggled to find ways ... to drive the 'silent majority' wedge between organized labour and the Democratic Party" without improving conditions for the American working classes or the "fortunes of organized labour."²⁷ In keeping with his exploitation of right-wing hostilities, Nixon contextualised

working-class problems within an ideological framework by “making workers’ economic interests secondary to an appeal to their allegedly superior moral backbone and patriotic rectitude.”²⁸ Nixon courted the working class, finding a convenient ally in northern construction workers who were demonstrative in their bitterness toward anti-war protestors. The ‘hardhat’ thus became a symbol of American blue-collar values: honesty, hard work and tradition.

The conservative leadership under Nixon brilliantly tapped into the resentments of construction workers, culturally formulating their interests and mobilizing “their whiteness and their machismo in the face of the inter-related threats of social decay, racial unrest, and faltering national promise.”²⁹ In the Spring of 1970, the image of the ‘hardhat’ as a symbol of American conservatism was solidified in the national imagination as racial, class, and political tensions came to a head in New York City. An anti-war demonstration, held to protest the deaths of four students killed by indiscriminately violent police officers at Kent State University, was descended upon by “brightly helmeted construction workers ... wielding heavy tools.”³⁰ At least seventy protestors were injured in the episode, which marked the beginning of a month-long counter-protest sponsored by the Building and Construction Trades Council of Greater New York. The ‘hard hats,’ whose hostility toward student protestors found expression in a violent “frenzy of jingoistic joy,” were “particularly enraged about the American flag that had been ordered to be flown at half mast in honor of the four slain protestors in Ohio.”³¹ The depth of the resentment toward students was captured in the comment of one tradesman, who protested, “Here were these kids, rich kids, who could go to college, who didn’t have to fight, they are telling you your son died in vain. It makes you feel your whole life is shit, just nothing.”³² The Nixon administration had succeeded in translating working-class resentment into an ideological struggle as the ‘hard hats’ became not only the physical embodiment of Nixon’s “silent majority.”

The ‘hardhats’ were not only a symbolic ally for the Nixon administration; they also represented the muscle of the northern conservative movement. According to Cowie, the administration

"was certainly ready and willing to exploit the uprisings and, when necessary, foment more," covertly fostering the image of "an administration buoyed by the defensive uprisings of the common man."³³ Conservative correspondence reveals that Nixon approved of using blue-collar workers to shut down subsequent uprisings in the northern cities. His advisor H.R. Haldeman suggested hiring "Murderers. The regular strike buster-types ... [to] beat the shit out of some of these people" and jotted a reminder on his notepad to "Get a goon squad to start roughing up demos."³⁴ Recasting the definition of 'working class' from "economics to culture, from workplace and community to national pride" allowed Nixon to mobilize northern workers, "drafting a powerful emotional pageantry around blue-collar resentments" while at the same time constructing an effective symbol of the hardworking "New Right" with which the larger working class could identify.³⁵

The conservative movement extensively and successfully exploited symbolism and emotion to mobilise diverse strands of thought under an overarching 'conservative' philosophy which lacked ideological cohesion. As James Hijiya explains, "twentieth-century conservatism proclaimed a commitment to individual freedom, a commitment shared by liberals." However, Hijiya asserts, "while liberals advocated such freedom for everybody, conservatives believed that it had been earned only by some, particularly those who were middle class, white, and American." Because openly proclaiming these restrictions on the beneficiaries of 'freedom' would be political suicide, conservatives were forced "to defend 'liberty' in the abstract."³⁶ President Richard Nixon fiercely and convincingly expressed his commitment to the vague concept of 'freedom' in his famous 'silent majority' appeal to the nation in November of 1969. In this formulaic speech, Nixon played on American nationalism in his deprecation of the Left, claiming "If a vocal minority, however fervent its cause, prevails over reason and the will of the majority, this nation has no future as a free society."³⁷ Thus, in the 1960s, conservatives repainted political issues in symbolic terms and drew on the rhetoric of freedom, tradition and Americanism to incite the patriotic reassertion of conservative

values. In doing so, the conservative movement was able to mobilise despite the diversity of conservative opinion.

In conclusion, as contended by Dunn and Woodard, American conservatism indeed arose as a reaction to the increasingly radical liberalism of the sixties New Left movement. Anti-war protests turned violent as police, and then construction workers, attempted to suppress protestors. Class, race and political tensions came to a head at both the Chicago Democratic Convention in 1968 and the 1970 New York City anti-war protests; these episodes were emblematic conservative reactions to the increasingly polarised political climate. Conservatives were able to construct the events as representative of liberal anti-Americanism, claiming that the Left undermined American 'freedom' by supporting economically levelling political initiatives as well as protesting the war in Vietnam. As the post-war liberal consensus waned, conservative leadership took advantage of the hostility of the 'silent majority' toward the liberal Left to create a sense of cohesion within a movement overwhelmingly defined by resentment.

Works Cited

- Braungart, Margaret M. and Richard G Braungart. "The Life-Course Development of Left-and Right-Wing Youth Activist Leaders from the 1960s." *Political Psychology* 11, 2 (June 1990), 243–282.
- Burns, Jennifer. "Godless Capitalism: Ayn Rand and the Conservative Movement." *Modern Intellectual History* 1,3 (2004), 359–385.
- Chambers, Whittaker. "Big Sister is Watching You." 28 Dec 1957: *National Review Online*, <http://www.nationalreview.com/flashback/flashback200501050715.asp>. Accessed 8 Nov 2008.
- Collins, Robert M. "The Economic Crisis of 1968 and the Waning of the 'American Century'." *The American Historical Review* 101, 2 (April 1996), 396–422.
- Cowie, Jefferson. "Nixon's Class Struggle: Romancing the New Right Worker, 1969–1973." *Labor History* 43, 3 (2002), 257–283.
- Culbert, David. "Television's Visual Impact on Decision-Making in the USA, 1968." *Journal of Contemporary History* 33, 3 (July 1998), 419–449.
- Dunn, Charles W. and J. David Woodard. *The Conservative Tradition in America*. Lanham MD: Rowman & Littlefield, 1996.
- Freeman, Joshua B. "Hardhats: Construction Workers, Manliness, and the 1970 Pro-War Demonstrations." *Journal of Social History* 26, 4 (Summer 1993), 725–744.
- Garry, Patrick M. "A Turning Point for Modern Conservatism." *Modern Age*, Winter 2007, 24–36.

- Heineman, Kenneth. "The Silent Majority Speaks: Anti-War Protest and Backlash, 1965–1972." *Peace and Change* 17, 4 (Oct 1992), 402–433.
- Hijiya, James A. "The Conservative 1960s." *Journal of American Studies* 37 (2003), 201–227.
- Manners Smith, Karen and Tim Koster, eds. "Landmark Events: Introduction" in *Time it Was: American Stories from the Sixties*. Upper Saddle River, NJ: Pearson Education Inc, 2008, 315–322.
- McGirr, Lisa. "A History of the Conservative Movement from the Bottom Up." *The Journal of Policy History* 14, 3 (2002), 331–339.
- Nash, George H. "The Historical Roots of Contemporary American Conservatism." *Modern Age* 3 (Summer/Fall 1982), 297–303.
- Nixon, Richard. "Address to the American Public." 3 Nov 1969: *CNN Cold War Historic Documents*, <http://www.cnn.com/SPECIALS/cold.war/episodes/11/documents/nixon>. Accessed 30 Nov 2008.
- Oberdorfer, Don. "News and the Perception of Reality." *Proceedings of the American Philosophical Society* 123, 2 (April 1979), 129–130.
- Poole Jr, Robert W. "Libertarian Awakening" in *Time it Was: American Stories from the sixties*, eds. Tim Koster and Karen Manners Smith. Upper Saddle River, NJ: Pearson Education Inc, 2008, 282–290.
- Schmitz, David F. *The Tet Offensive: Politics, War, and Public Opinion*. Lanham, MD: Rowman and Littlefield, 2005.
- The Ayn Rand Institute. "Essentials of Objectivism." 2008: *Center for the Advancement of Objectivism*, www.aynrand.org. Accessed 6 Nov 2008.

Notes

- 1 As cited in James A. Hijiya, "The Conservative 1960s," *Journal of American Studies* 37 (2003), 202.
- 2 Charles W. Dunn and J. David Woodard, *The Conservative Tradition in America* (Lanham MD: Rowman & Littlefield, 1996), 79.
- 3 As cited in Lisa McGirr, "A History of the Conservative Movement from the Bottom Up," *The Journal of Policy History*, 14, 3 (2002), 332.
- 4 McGirr, op.cit. 332.
- 5 Patrick M. Garry, "A Turning Point for Modern Conservatism," 30–31.
- 6 Dunn and Woodard, op.cit. 30.
- 7 George H. Nash, "The Historical Roots of Contemporary American Conservatism," *Modern Age* 3 (Summer/Fall 1982), 299.
- 8 Hijiya, op.cit. 214.
- 9 David F. Schmitz, *The Tet Offensive: Politics, War, and Public Opinion*, (Lanham, MD: Rowman and Littlefield, 2005), 158.
- 10 Robert M. Collins, "The Economic Crisis of 1968 and the Waning of the 'American Century'," *The American Historical Review* 101, 2 (April 1996), 407.
- 11 Karen Manners Smith and Tim Koster, eds. "Landmark Events: Introduction" in *Time it Was: American Stories from the Sixties*, 317.
- 12 idem.
- 13 ibid, 318
- 14 idem.
- 15 As cited in David Culbert, "Television's Visual Impact on Decision-Making in the USA, 1968," *Journal of Contemporary History* 33, 3 (July 1998), 445.
- 16 Margaret M. Braungart and Richard G Braungart, "The Life-Course Development of Left-and Right-Wing Youth Activist Leaders from the 1960s." *Political Psychology* 11, 2 (June 1990), 24op. cit.
- 17 Hijiya, op.cit.219.
- 18 Jennifer Burns, "Godless Capitalism: Ayn Rand and the Conservative

Movement" *Modern Intellectual History* 1,3 (2004), 370.

19 Kenneth Heineman, "The Silent Majority Speaks: Anti-War Protest and Backlash, 1965–1972," *Peace and Change* 17, 4 (Oct 1992), 402.

20 Hijiya, op. cit. 219.

21 As cited in Hijiya, op. cit. 219.

22 As cited in Jefferson Cowie, "Nixon's Class Struggle: Romancing the New Right Worker, 1969–1973," *Labor History* 43, 3 (2002), 263.

23 McGirr, op. cit. 336.

24 Garry, op. cit. 29.

25 Heineman, op. cit. 402.

26 Heineman, *ibid*, 405.

27 Cowie, op. cit. 258.

28 *idem*.

29 *idem*.

30 *ibid*, 264.

31 *idem*.

32 As cited in Joshua B. Freeman, "Hardhats: Construction Workers, Manliness, and the 1970 Pro-War Demonstrations," *Journal of Social History* 26, 4 (Summer 1993), 735.

33 Cowie, op. cit. 265.

34 As cited in Cowie, op. cit. 266.

35 Cowie, op. cit. 282.

36 Hijiya, op. cit. 226.

37 Richard Nixon, "Address to the American Public," 3 Nov 1969: *CNN Cold War Historic Documents*, <http://www.cnn.com/SPECIALS/cold.war/episodes/11/documents/nixon.speech/>.

Reconsidering Donne's Apprehension: The Unity of Human and Divine

ALICE DICKINSON - HONOURABLE MENTION

Despite a theological shift some three hundred years prior, John Donne holds firm in his belief that it is the body rather than the soul which is the “determining feature of the resurrected self,” as Ramie Targoff notes in *John Donne: Body and Soul* (172). While not heretical by the Church of England’s standards, Donne’s notion of bodily importance in resurrection was nevertheless dated by the seventeenth century, suggesting that he had a greater affinity to a Latin church father than a Protestant preacher (Targoff, *Body* 172). While many have speculated that Donne’s emphasis on the bodily component of life creates conflict between faith and reason (and that he fears death and bodily decay), what Donne is most afraid of is not death, but the possibility of losing his identity after he dies. In his final sermon, “Death’s Duel,” Donne attempts to quell this fear by advocating a divine connection, mirroring that which occurs between Christ and God, as a means of retaining one’s individuality despite bodily death, and of resurrecting the individual.

The sermon, like many of its kind, opens with a single Biblical verse and is constructed around three interpretations of Psalm 68:20: “And unto God the Lord belong the issues of death.” God delivers one from death, in death and by death, and the consideration of each portion brings Donne to his ultimate example of the connection between the bodily and spiritual: the bodily Christ, which he graphically describes to his audience in an attempt to further his exhortation.

The first interpretation Donne presents is most vital to the discussion of the “bodily” because it addresses human existence and mortality; it will, therefore, be the most thoroughly examined of the three components. Donne begins by arguing that one is delivered from death, since God allows an individual to be born: it is a deliverance from the “prison ... of the womb” (157). In this primary segment, Donne emphasizes the ephemeral nature of life, describing it as a series of deaths which prepare one for authentic life (after death). The womb itself is described as a fateful, unsavoury place: it should be “the house of life, [but] becomes death itself if God leaves us there” (158); the placenta is a “winding sheet” which “grows with us from our conception” (159), highlighting the nature

by which death is inextricable from each stage of life. In perhaps his most damning statement, Donne announces to his parishioners that by "this deliverance [from the womb] ... we come to seek a grave" (159). Not even by exiting the womb and coming into the world is an individual free of death. Rather, one enters a place where death colours every moment of existence, with the result being that happiness is unattainable in such a mutable world.

Apart from this rather grim introduction to the state of life on earth, Donne introduces a pivotal idea from the standpoint of the dual human being: the notion that something is lacking in the connection between body and soul on an earthly plane which distances one from God. This notion is exemplified by Donne's incorporation of II Cor 5:6, that " ... whilst we are at home in the body, we are absent from the Lord." He suggests that bodily life is itself a pilgrimage, which takes one closer to God if one lives it correctly, and moreover, if one follows Christ's example. Indeed, most apparent in this first segment is Donne's discussion of Christ's preservation as a means of questioning the link between body and soul. Man exists as "a hypostatical union of both natures, God and man" (162), and it is this union which appears to preserve Christ at his time of death. This union is not severed when Christ dies, however, because he is "embalmed with the divine Nature itself, even in his body as well as in his soul" (162).

What follows is a remarkable, traditional piece of rhetorical strategy in which Donne postulates three possibilities for Christ's preservation after death while simultaneously refuting each option. Christ is not preserved because of Joseph of Arimathea's embalming, nor does his "exemption and freedom from original sin preserve him from this corruption and incineration" (162). The third and greatest argument that Donne builds toward is the aforementioned hypostatic union, but he seemingly rejects this after considering that despite "all [Christ's] union which made him God and man," "he did die" (163), drawing attention to the mortal nature of Christ's person. However, it is out of necessity that Christ suffers and dies; He "died voluntarily ... there was ... a kind of necessity upon him: all this

Christ ought to suffer” (172). So while the hypostatic union does not necessarily preserve Christ, while Christ’s body does not decay “because God has decreed that it should not” (163), this inextricable connection between the human body of Christ and the divine power of His Father renders him “embalmed with [divinity],” and it is with this in mind that Donne pursues the Passion of Christ as an exemplar for himself and his congregation (162).

Like Christ, each individual is, in Donne’s mind, a mixture of the human and the divine, and by following His example, one can be ensured of “a holy certitude and a modest infallibility of [one’s] adoption” when “the word of God” and “the execution of [His] decree [that one’s body should not suffer corruption] ... concur and meet” (164). Donne firmly believes that it is this same physical body that God reconstructs: He will “[recompact] this dust into the same body ... the same body with the same soul” (167), and the individual will be restored, everlastingly perfected, “not simply resurrected, but ... with the same body and soul that he currently has” (Targoff, *Body* 173).

In the second portion of his sermon, regarding deliverance in death, Donne’s outlook is similarly individualistic and personal. He argues that both judgment of and salvation for an individual depend on God alone; it “belongs to God, and not to man, to pass a judgment upon us at our death” (167). Using the metaphor of a tree being toppled, he argues that it “is not the last stroke that fells the tree, nor the last word nor gasp that qualifies the soul” (168). Expanding upon this idea in “facing death,” Targoff brings to light Donne’s idea of a life lived actively, in which “death [becomes] a form of active struggle between two agents” (219). This can be most easily achieved by pursuing a meaningful life. Donne himself claims that he “thank[s] him that prays for [Donne] when the bell tolls, but [he] thanks [one] much more that catechizes [Donne], or preaches to [him], or instructs [him] how to live” (169), emphasizing the active, teaching component of religious life. Christ’s teachings are not merely meant to be read, but also practically applied to one’s life on a daily basis. Such a person—willing not only to pray but also to actively incorporate

doctrine into his or her life—is offered “a gate into heaven,” regardless of the manner of his or her death, and will “live forever” (169). Again, it is individual judgment which takes precedence over one's soul rather than earthly rules or restrictions. It is not the world of man which matters, or which will ultimately redeem one, but the immortal and unchanging which is his salvation. One's greatest duty on earth, then, is to attempt to apply the teachings of the divine to both body and soul if one desires resurrection.

In the third portion of his sermon, deliverance by death, Donne launches into an explicit and intricate exhortation, returning to his first segment in a graphic description of the Passion Play and urging his parishioners in *imitatio Christi*, to follow Christ's example because it is by the death of Christ that humankind has been allowed to survive. He tells them to seek reconciliation with friends, family and others around them, to prepare themselves by praying, to be vigilant and aware of their sins, to consider past and current sins and, finally, to redeem themselves, not by prayer or fasting, but by “crucify[ing] the sin that governs” them (176). Until this moment, Donne has rejected each step as insufficient as a means of redemption. All the elements of an attempt to live piously and be cleansed, regardless of their chastity and restraint “will not serve, [they are] not the right way” (176). Only a crucifixion of the “sin that governs” the individual will truly redeem him or her. This cannot be anything other than original sin, which afflicts even the purest person.

Initially, however, it would seem that baptism would grant exemption from original sin. Baptism is meant to seal “a believer's union with Christ through repentance and faith; the removal of his sins by Christ's death and the Spirit's operation in him”; it seems that Donne is advocating a more violent and somehow more thorough attachment to God through a kind of spiritual crucifixion which mirrors the physical crucifixion of Christ (“Baptism”). A mere bathing in holy water is insufficient for Donne, and the bloody Passion Play which he evokes before the eyes of his Protestant audience serves as a reminder of the bodily component of spiritual life, not only in Christ, but also in the body of the individual. It is, after

all, the mortal body which suffers, and as Tertullian argues, it is

...absurd, to suppose that the same soul as has gone through the whole course of life in this flesh, as has learned of God in this flesh and has 'put on Christ' and has sown the hope of salvation, should reap the fruit in some other flesh! (qtd. in Targoff, *Body* 170)

The parallel drawn between the sermon's content and its message is done ingeniously; Donne emphasizes the importance of the body and the reconnection of both body and soul by using the most perfect example of human and divine: Christ. It is Christ's suffering which best exemplifies the bodily because of the crucifixion, but also the divine when He is resurrected. Moreover, the logic of Donne's sermon parallels its rhetorical structure. His attempt to lead his congregation through his kaleidoscopic patterns of thought results in the continual contrast of the rejection and acceptance of ideas, which are analogous to the individual's acceptance of Christ. Donne views this constant tension and duality as an active part of religious life, which one sees in so many of his Holy Sonnets. More often than not, faith is a fight which involves violent denial before acceptance. When Donne asks his "three-personed God" to "batter [his] heart" in Sonnet XIV, the violence in spiritual life is apparently inextricable. God becomes a warrior, a lover, who, in His attempts to win the individual's heart, will "break, blow, burn, and make [one] new" (4). That is what Donne asks of his congregation in *Death's Duel*: to be willing, in a spiritual and possibly physical manner (through physical self-deprecation), to crucify their sins as a means of paralleling Christ's sacrifice.

When *Death's Duel* closes, it is not a threnody, but an exaltation; both a personal and general attempt to quash the fear of death, to be absolved and to be as Christ is, to follow a path as far as ephemeral bounds will allow, and then extend oneself beyond, into the realm of faith in order to render oneself free of sin. Only then can one

lie down in peace in [Christ's] grave, till He vouchsafe
you a resurrection, and an ascension into that kingdom
which He hath prepared for you with the inestimable
price of His incorruptible blood. (177)

It is perhaps only by these means that one can reach the divine; not to be like Christ, but to be Christ-like and to become both human and divine in the manner of God's Son. This idea borders on heresy and reaches past the rational limits of theological thought to encompass Donne's ultimate intent: a mingling of the human and divine, so that the physical body partakes in spiritual enlightenment, and the individual remains whole despite death.

Works Cited

- "Baptism." *The New Westminster Dictionary of the Bible*. 1970.
 Donne, John. *Devotions upon Emergent Occasions and Death's
 Duel*. New York: Vintage, 1999.
 ---. "Sonnet XIV." *John Donne: The Complete English Poems*. Ed. A.J. Smith.
 London: Penguin, 1996. 314-15.
Holy Bible. Nashville: Thomas Nelson, 1977.
 Targoff, Ramie. *John Donne: Body and Soul*. Chicago: Chicago Press: 2008.
 ---. "Facing Death." *The Cambridge Companion to John Donne*. Ed. Achsah
 Guibbory. Cambridge: Cambridge UP, 2006. 217-31.



Reinvestigation of Antimicrobial Activity in Previously Screened Cave Actinomycetes

VANESSA MONTAGLIANI - HONOURABLE MENTION

Introduction

The prevalence of antibiotic-resistant bacteria is continuously increasing in both the community and in hospitals, making it more difficult to treat infections that were easily curable only a few years ago. Furthermore, this trend is seen globally, affecting countries of all socioeconomic statuses (Pillar et al., 2008; Zhanel et al., 2008; Raghunath, 2008). This phenomenon is in part due to the innate and evolutionary ability of bacteria to become resistant to current drugs, and also to the inappropriate use of antibiotics (WHO, 1996; Raghunath, 2008). In either case, the increase in antimicrobial resistance has made the need for discovery of new and effective antibiotics more and more critical.

Methicillin resistant *Staphylococcus aureus* (MRSA) is a particularly prevalent strain of antibiotic resistant bacteria. *S. aureus* is the most common pathogen in nosocomial infections, especially in the immunocompromised (WHO, 2009). In American hospitals, 53% of *S. aureus* infections in 2004-2005 were MRSA, including both inpatients and outpatients (Pillar et al., 2008). In Canadian intensive care units in 2005-2006, 22.3% of *S. aureus* isolates were methicillin resistant (Zhanel et al., 2008). Unfortunately, many strains of MRSA have also become multidrug resistant (MDR-MRSA), showing resistance to fluoroquinolones, erythromycin, tetracycline, gentamycin, clindamycin and many other antibiotics (Rice, 2006; Pillar et al., 2008; Zhanel et al., 2008; Raghunath, 2008).

Paenibacillus larvae is a pervasive and destructive pathogen causing American Foulbrood (AFB) disease in honeybees. *P. larvae* is a gram-positive spore-forming bacterium that can infect the larvae of all types of honeybees; adult bees are unaffected. The spore is the infectious agent, which will germinate in the gut upon ingestion and multiply there, causing death of the larvae (Gende et al., 2008). AFB disease is very contagious and can be spread through contaminated bees, clothing, hives, pollen or honey. The spores are hardy and long lasting and this disease has the ability to kill a whole colony (Allipi et al., 2002). The only effective antibiotic used by beekeepers has been oxytetracycline, but recently resistance to this drug has become a

problem (Alippi et al., 2007; Evans, 2003).

Actinomycetes are gram-positive bacteria but were originally classified as fungi because of their filamentous morphology. This group of bacteria are very good producers of antimicrobial agents. They produce an enormous variety of biologically active secondary metabolites, including the majority of antibiotic products in use today (Basillio et al., 2003; Singh et al., 2006).

In 2006, actinomycetes were collected from caves at Helmcken Falls in Wells Gray Park, B.C. by Dr. Naowarat Cheeptham, and TRU students Kent Colville and Laura Muraca (Figure 1). These were tested for antimicrobial activity. Three strains, E9, NC18 and SK33, were found to have antimicrobial capabilities against either MRSA or *P. larvae*. However, these strains have since been stored in the fridge at 4°C. Since bacteria may lose metabolic capabilities after storage in such conditions, the purpose of this study was to determine whether these strains can retain the ability to show antimicrobial activity after three years in storage at 4°C.



Figure 1. The cave at Helmcken falls from which the strains E9, NC18, and SK33 were collected. The lighter area on the top left shows the entrance to the cave.
L-R: Dr. Cheeptham, Kent Colville, and Laura Muraca.

The paper disc agar diffusion method was used to test for antimicrobial activity of the actinomycetes. Paper discs were impregnated with the fermentation broth and placed on agar plates seeded with either MRSA or *P. larvae*. If an antimicrobial agent is present, one sees a clear "halo" surrounding the disc where bacteria are unable to grow (Figure 6). The diameter of the "inhibitory zone" is measured and antimicrobial activity is expressed in millimeters.

Methods

Bacterial Fermentation

Actinomycete strains E9 and SK33 were stored in V-8 juice liquid medium which had been left to air-dry for three years at 4°C while strain NC18 was stored on Hickey Tresner (HT) agar plates at 4°C for three years. E9 and SK33 were revived in 50 ml of liquid HT medium by incubating overnight with agitation at 25°C. Then a loopful of the culture broth was transferred to HT agar plates and streaked for isolated colonies, which were then re-cultured to obtain pure cultures. The plates were prepared as in Table 1, with the addition of 1.5% agar. The strain NC18 was revived directly from the plate on which it was stored by taking an isolated colony and streaking it on HT agar plates.

One colony of each strain was transferred to Erlenmeyer flasks containing 50 ml of liquid fermentation medium. The plate with SK33 showed colonies of two different morphologies, so one sample of each was used. The broths used for E9, NC18 and SK33 were V8 juice, HT and Yeast Malt Glucose (YMG), respectively (Table 1). The flasks were incubated at 25°C with shaking at 250 rpm for 14 days. Samples of 1 ml were taken at each day of fermentation. The procedure was then repeated in a second experiment with E9. All parameters were the same, except that this time 100 ml of V8 medium were used and 5 ml samples were taken each day. The samples were stored at 4°C for further tests, including %Packed Cell Volume (%PCV) to monitor growth of the bacteria, pH measurement, and paper disc diffusion assays to screen for antimicrobial activity.

V8 Juice (pH 7.2)		Hickey Tresner (pH 7.0)		Yeast Malt Glucose (pH 7.3)	
V8 Juice	20%	Dextrin	10.0 g/L	Yeast Extract	4.0 g/L
CaCO ₃	3.0 g/L	Yeast Extract	1.0 g/L	Malt Extract	10.0 g/L
Yeast Extract	0.01 g/L	Beef Extract	1.0 g/L	Glucose	4.0g/L
		CaCl ₂	0.02 g/L		
		N-Z Amine	2.0 g/L		

Table 1. Composition of Fermentation Media

Antimicrobial Testing (Paper disc diffusion assays)

The antimicrobial activity of the fermentation broth was tested using the paper disc agar diffusion method. Paper discs 6 mm in diameter were dipped into each sample and left to dry in a fumehood. Discs containing antibiotics known to inhibit growth of the two pathogens were used as positive controls (Table 2). The pathogens used as screening targets in the tests, MRSA ATCC43300 (kindly donated for use by Dr. Cynthia Ross Friedman of TRU) and *P. larvae* ATCC 13537 (previously purchased from ATCC), were cultured overnight in nutrient broth at 37°C. Bioassay plates (size 500 cm² Square Cell Culture Dish from Corning Inc. NY) were first sterilized with 70% ethanol and left overnight under UV light. Test plates were made by adding 0.5 ml of culture broth containing each target organism to 300 ml of molten nutrient agar. The paper discs were placed on the plates after the agar had solidified and then the plates were incubated overnight at 30°C. Inhibitory activity was quantified by measuring the diameter of the zone of inhibition of pathogen growth (the clear zone) around the discs.

Antibiotic	Amount used per disc
Ampicillin	10 µg
Clindamycin	2 µg
Erythromycin	15 µg
Tetracycline	30 µg

Table 2. Antibiotics used as positive controls in the paper disc agar diffusion method of testing antimicrobial inhibitory activity.

Percent Cell Volume and pH

The 5 ml samples of E9 were also tested for pH and percent packed cell volume (%PCV). The pH was measured using a pH meter, with results expressed as the average of three replicates \pm the standard deviation (SD). To calculate %PCV, the samples were centrifuged for five minutes at 6,000 rpm. Then the packed cell volume was measured as a percent of the total sample volume.

Results

Growth of Actinomycetes in the Fermentation Media

All three strains grew in colonies on the agar plates, showing the typical macroscopic morphology of actinomycetes (Figure 2). Strain NC18 changed the colour of the medium to purple when grown on HT agar.

The fermentation broths were examined daily. The actinomycetes grew as pellets, rather than growing evenly throughout the solution, and the media became cloudier with each day of fermentation. Also, the broth from strain NC18 changed to a purple colour throughout the fermentation and this colour change coincided with the production of antimicrobial activity.

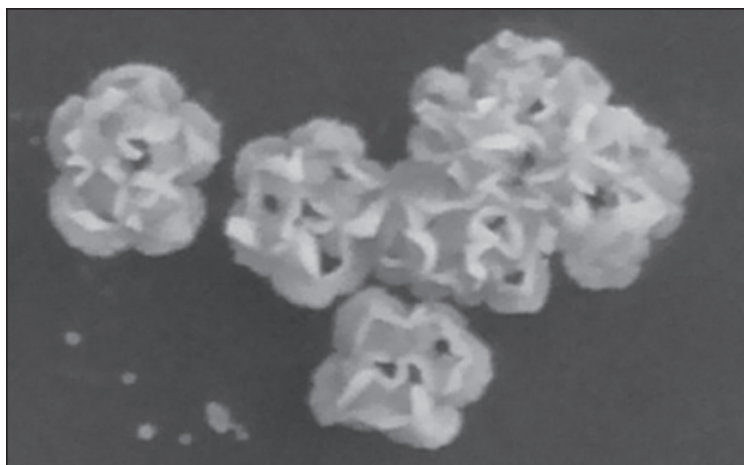


Figure 2. Macroscopic morphology of actinomycete strain E9 grown on Hickey Tresner agar.

Antimicrobial Activity Against MRSA

The inhibitory zones against MRSA from the fermentation broths of all three strains were measured throughout the fermentation (Figure 3). The most activity was seen for E9 fermentation broth, with a maximum activity of 16 mm on day 7 of incubation. There was also some activity from strain NC18. The colour change of the medium occurred at the same time as the antimicrobial activity appeared, indicating a possible link between the production of antimicrobial activity and the production of pigment. NC18 produced a maximum activity of 8 mm on day 13 of fermentation. No activity was seen from the broth of either sample of SK33.

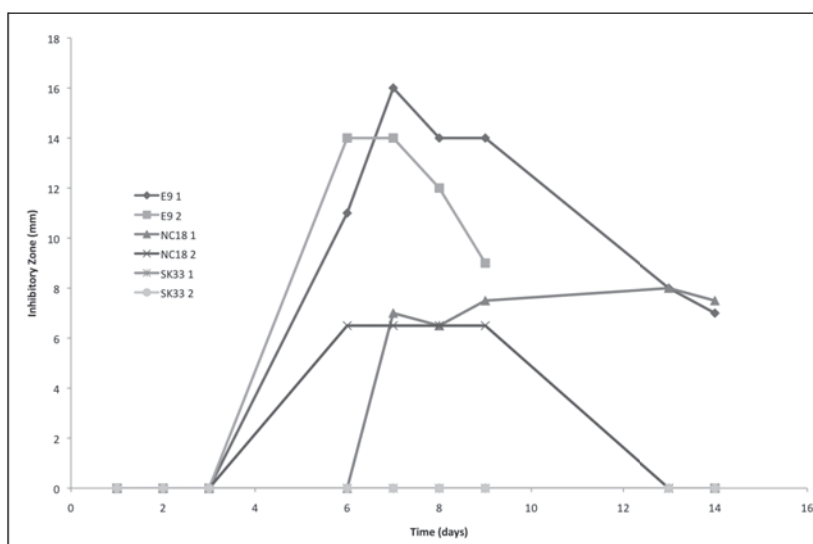


Figure 3. Antimicrobial activity against MRSA measured as zones of inhibition (mm) produced by fermentation broth of actinomycete strains E9, NC18, and SK33. Samples of fermentation broth for testing were taken at times indicated (days) and applied to 6 mm paper discs.

Antimicrobial Activity against *P. larvae*

The antimicrobial activities of E9, NC18 and SK33 fermentation broths were also measured against *P. larvae* throughout fermentation (Figure 4). The zones of inhibition were larger against *P. larvae* than they were against MRSA. The strongest activity was from the

fermentation broth of E9 on days 6 - 8 of fermentation, with a zone 17 mm in diameter. NC18 also showed activity, with a maximum diameter of 9 mm on the 9th day of incubation. The fermentation broth of SK33 had no activity against *P. larvae*.

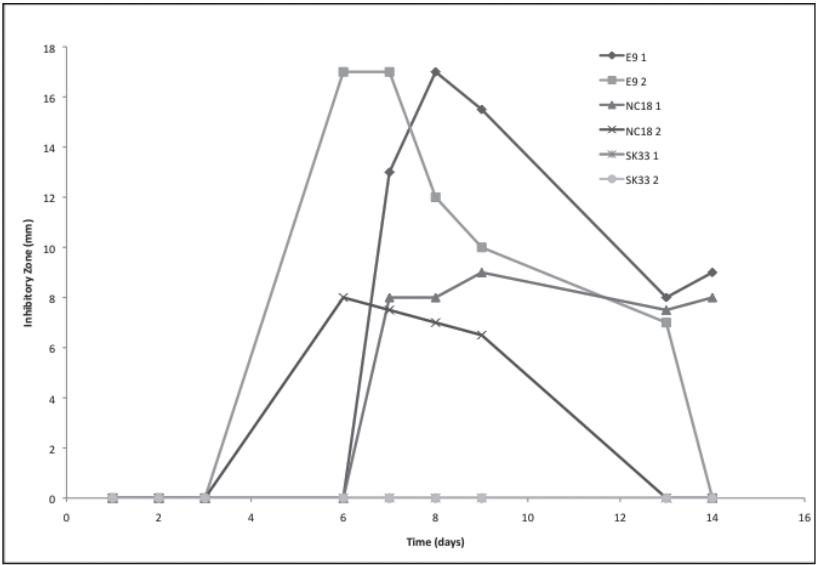


Figure 4. Antimicrobial activity against *P. larvae* measured as zones of inhibition (mm) produced by fermentation broth of actinomycete strains E9, NC18, and SK33. Samples of fermentation broth for testing were taken at times indicated (days) and applied to 6 mm paper discs.

The positive controls also produced inhibitory zones against either *P. larvae* or MRSA (Figure 5). The pathogens showed variable susceptibility to each of the antibiotics used. *P. larvae* showed the most susceptibility to clindamycin and erythromycin, with inhibitory zones of 16 mm and 18 mm respectively. This bacterium showed less susceptibility to tetracycline and ampicillin, with inhibitory zones of 6 mm and 8 mm. Kochansky et al. (2001) also found that strains of *P. larvae* that are resistant to tetracyclines were susceptible to clindamycin and erythromycin. The MRSA showed resistance to ampicillin, clindamycin and erythromycin, but was susceptible to tetracycline.

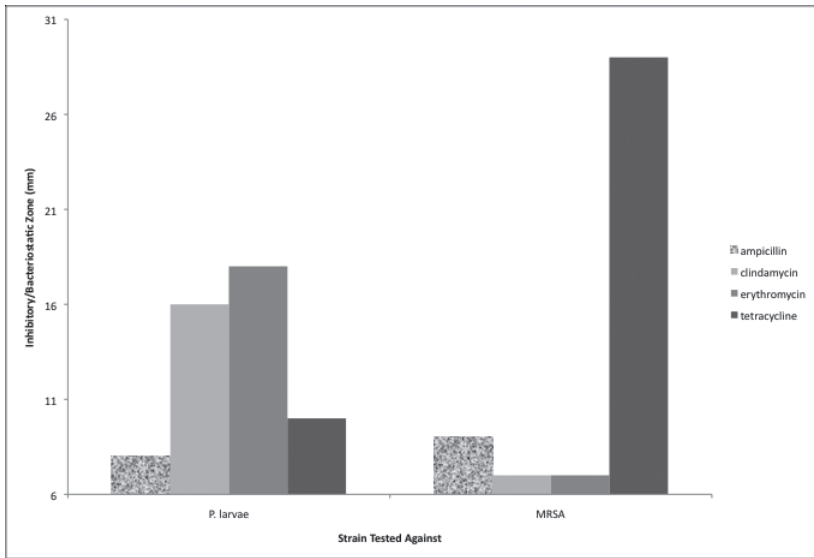


Figure 5. The inhibitory zones produced by 6 mm discs inoculated with known antibiotics used as positive controls.

Replicate Fermentation of E9

The fermentation was repeated with strain E9 using two duplicate flasks. As the fermentation proceeded, flask two showed growth of bacteria in many pellets, but flask one showed fewer pellets and a more cloudy fermentation broth.

The pH and antimicrobial activity of the fermentation broth were measured throughout the fermentation period. E9 from flask two produced activity against both MRSA and *P. larvae*, with maximum activity 17 mm and 21 mm respectively on day 10 of fermentation (Figures 6 & 7). The maximum activity was higher than in the previous fermentation and occurred about three days later during the fermentation. Flask one did not show any activity against either pathogen.

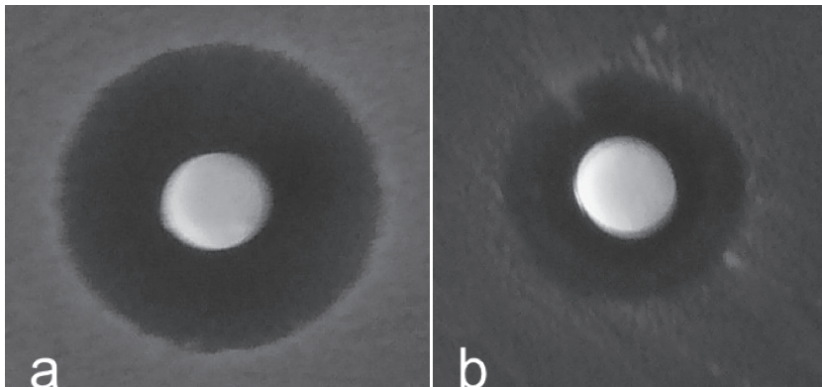


Figure 6. Inhibitory zones produced by E9 fermentation broth (flask 2) at day 10 against (a) *P. larvae* and (b) MRSA.

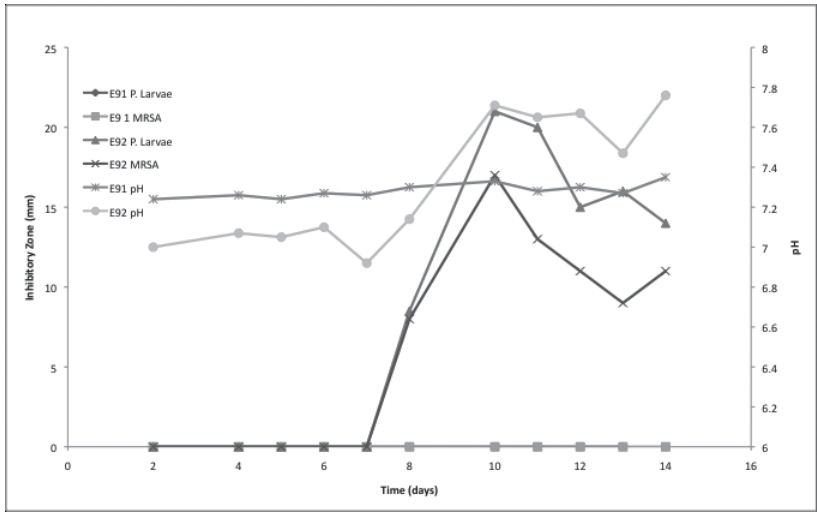


Figure 7. Antimicrobial activity of fermentation broth from strain E9 against *P. larvae* and MRSA, measured as zones of inhibition (mm). Samples of fermentation broth for testing were taken at times indicated (days) and applied to 6 mm paper discs. pH of the fermentation broth at times indicated is also shown.

The pH during the fermentation of E9 was different in each flask (Figure 7). In flask one, the average pH at days 2-7, before the onset of antimicrobial activity, was 7.05 (SD = 0.07). After the onset of antimicrobial activity the pH increased to 7.57 (SD = 0.23).

In flask two, which did not have any activity, the pH throughout the fermentation stayed constant at 7.28 (SD = 0.03).

The %PCV of each sample of this fermentation was also measured. However the packed cell volumes were all <100 μ L and therefore too small to estimate by eye.

Discussion

Production of Antimicrobial Activity

Strains E9 and NC18 showed antimicrobial activity against both MRSA and *P. larvae*. Therefore, strains E9 and NC18 can be stored for at least three years at 4°C and still retain the ability to produce antimicrobial activity. No samples of SK33 showed any activity against either of the test bacteria. In preliminary studies on this strain (S. Kay, Directed Studies Report, TRU Biological Sciences, 2005), the original activity found in the first fermentation was not replicated in the three further fermentations. It could be that SK33 does not produce any antimicrobial secondary metabolites or that this activity was lost upon further culturing. The strain of SK33 may have been contaminated, which could affect its ability to show antimicrobial activity. Plates made from the original culture showed mixed morphology, indicating that this was not a pure culture.

The fermentation broths of E9 and NC18 showed inhibitory activity, indicating that these strains may produce compounds that could be used as effective antibiotics. However, negative controls in which no bacteria were added to the fermentation broth are needed to ensure that it is the actinomycetes that are producing the antimicrobial activity.

Strain NC18 produced a pigment, turning the agar and the fermentation broth purple. Since the production of pigment occurred at the same time as the production of antimicrobial activity, there may be a relationship between the two compounds. In addition, the pH of the fermentation broth from E9 flask two increased by 0.52 right before the production of antimicrobial activity. This could represent a change in biochemical pathways, leading to the production of

the active secondary metabolite. If so, an increase in pH during fermentation could signify the beginning of production of the antimicrobial compound. Flask one, which showed no antimicrobial activity, did not show this change in pH during fermentation.

Strain E9 produced the most active fermentation broth, with maximum inhibitory zones of 17 mm and 21 mm against MRSA and *P. larvae*, respectively. The maximum activity was seen at day 10 in the second fermentation, in which the original volume of medium in the flask was 100 ml. In the first fermentation, where the original volume was 50 ml, the maximum activity was seen around day 7. Since this was the only difference in procedure, volume of broth in the flask may affect the time during fermentation at which antimicrobial activity is produced. It may be that a larger volume of fermentation broth causes antimicrobial activity to occur later in fermentation. In another study with similar procedures but different bacteria, 10 ml of fermentation broth were used, and a maximum activity was seen at day four (S. Richards, Directed Studies Report, TRU Biological Sciences, 2004). Since many antibiotics are secondary metabolites (Basilio et al., 2003; Singh et al., 2006), this trend could be due to the time it takes the cultures to reach the stationary phase of growth under various conditions. Larger volumes of fermentation broth provide more space for the bacteria to occupy, so it could take longer for them to conclude the logarithmic stage and enter the stationary phase.

Unfortunately, attempts to measure the %PCV of the E9 fermentation broth did not give a clear estimate of bacterial growth throughout the fermentation. Because actinomycetes grow in clumps, it was difficult to pick up a consistent amount of bacteria and broth with a micropipette. Pipette tips with a wider mouth could be useful in collecting samples with a more representative ratio of bacteria to broth. This could result in more accurate results when measuring %PCV.

The lack of antimicrobial activity in the E9 fermentation broth in flask one was probably due to contamination with other bacteria. Although there were some bacteria growing as pellets, there were fewer pellets in this flask than in the other flask. Also, the

broth was much cloudier than that of the other flask, indicative of contamination. Bacterial contaminants could have decreased the amount of viable actinomycetes, which would explain the absence of antimicrobial activity in this sample.

MRSA ATCC 43300 has the *mecA* gene, which encodes a penicillin-binding protein, therefore allowing resistance to β -lactam antibiotics (Deurenger et al., 2007; ATCC 2009). The control experiments showed that this strain of MRSA is also resistant to clindamycin and erythromycin. Since this strain of MRSA was susceptible to both the E9 and NC18 fermentation broths, we can assume the antimicrobial compound produced is not structurally related to methicillin, clindamycin or erythromycin. Also, since the broths are active against *P. larvae*, which shows resistance to tetracycline, we can assume that the antimicrobials produced by E9 and NC18 are not related to tetracycline either. Further studies to determine the structure of the antimicrobial compounds are needed to confirm these assumptions.

Future Work

Both E9 and NC18 showed antimicrobial activity against MRSA and *P. larvae* under the conditions tested here. Both of these pathogens are gram-positive bacteria, so further testing is needed on a broad range of pathogens, including gram-negative bacteria, viruses and fungi, to determine the spectrum of these antimicrobial activities. Also, further studies could involve changing the fermentation parameters to maximize the activity of each strain. Trials could be performed at different temperatures to determine the optimal temperature for fermentation. One study of marine algae-associated bacteria found that antimicrobial activity was maximized when bacteria were grown under static conditions (Bruhn et al., 2007). Fermentations at different levels of agitation could reveal whether the same is true for E9 and NC18. After optimizing growth conditions, the antimicrobial compounds must be isolated, purified and structurally identified. Hopefully, the compounds produced by strains E9 and NC18 could eventually be used to fight infections of harmful, resistant bacteria.

Acknowledgements

I would like to thank Dr. Naowarat Cheeptham and Dr. Ken Wagner for their instruction and enthusiasm throughout this project and Carolynne Fardy for her continuous guidance in the lab. I would also like to thank Dr. Cynthia Ross Friedman for providing us with the strain of MRSA ATCC 43300 and Kent Watson of TRU NRS for his expertise in cave mapping and for the pictures of the caves. My thanks also go to Dr. Ken Wagner, the project's co-supervisor, for his guidance.

Works Cited

- Alippi, A.M., Lopez, A.C., Aquilar, O.M. (2002). Differentiation of *Paenibacillus larvae* subsp. *larvae*, the cause of American Foulbrood of honeybees, by using PCR and restriction fragment analysis of genes encoding 16S rRNA. *Appl. Environ. Microb.* 68(7):3655-3660.
- Alippi, A.M., Lopez, A.C., Reynaldi, F.J., Grasso, D.H., Aguilar, O.M. (2007). Evidence for plasmid-mediated tetracycline resistance in *Paenibacillus larvae*, the causal agent of American Foulbrood (AFB) disease in honeybees. *Vet. Microbiol.* 125(3-4):290-303.
- ATCC Catalog (2009). ATCC The Global Bioresource Centre. Available at: <http://www.atcc.org/ATCCAdvancedCatalogSearch/ProductDetails/tabid/452/Default.aspx?ATCCNum=43300&Template=bacteria>
- Basilio, A. Gonzales, I., Vicente, M.F., Gorrochategui, J., Cabelle, A., Gonzalez, A., Genilloud, O. (2003). Patterns of antimicrobial activities from soil actinomycetes isolated under different conditions of pH and salinity. *J. Appl. Microbiol.* 95(4):814-823.
- Bruhn, J.B., Gram, L., Belas, R. (2007). Production of antibacterial compounds and biofilm formation by *Roseobacter* species are influenced by culture conditions. *Appl. Environ. Microbiol.* 73(2):442-450.
- Deurenger, R.H., Vink, C., Kalenic, S., Friedrich, A.W., Bruggeman, C.A., Stobberingh, E.E. (2007). The molecular evolution of methicillin-resistant *Staphylococcus aureus*. *Clin Microbiol Infect.* 13(3):222-235.
- Evans, D.J. (2003). Diverse origin of tetracycline resistance in the honeybee bacterial pathogen *Paenibacillus larvae*. *J. Invert. Pathol.* 83(1):46-50.
- Gende, L.B., Eguaras, M.J., Fritz, R. (2008). Evaluation of culture media for *Paenibacillus larvae* applied to studies of antimicrobial activity. *Rev. Argent. Microbiol.* 40(3):147-150.
- Kochansky, J., Knox, D.A., Feldlaufer, M., Pettis, J.S. (2001). Screening alternative antibiotics against oxytetracycline-susceptible and-resistant *Paenibacillus larvae*. *Apidologie.* 32(3):215-222.
- Pillar, C.M., Draghi, D.C., Sheehan, D.J., Sahm, D.F. (2008). Prevalence of multidrug-resistant methicillin-resistant *Staphylococcus aureus* in the United States: findings of the stratified analysis of the 2004-2005 LEADER Surveillance programs. *Diagn. Microb. Infect. Dis.* 60(2):221-224.
- Raghunath, D. (2008). Emerging antibiotic resistance in bacteria with special reference to India. *J. Biosci.* 33(4):593-603.
- Rice, L.B. (2006). Antimicrobial resistance in gram-positive bacteria. *Am. J. Infect. Control.* 34(5):S11-S19.

- Singh, L. Baruah, I., Bora, T.C. (2006). Actinomycetes of Loktak habitat: Isolation and screening for antimicrobial activities. *Biotechnol.* 5(2):217–221.
- Woodford, N. (2005). Biological counterstrike: antibiotic resistance mechanisms of Gram-positive cocci. *Clin. Microbiol. Infect.* 11(S3):2–21.
- World Health Organization (1996). Antibiotic Resistance. (in *The World Health Report 1996 Press Kit*). Available at: http://www.who.int/whr/1996/media_centre/press_release/en/index4.html
- . (2009). Bacterial infections: *Staphylococcus aureus*. (in Initiative for Vaccine Research). Available at: http://www.who.int/vaccine_research/diseases/soa_bacterial/en/index4.html
- Zhanel, G., Decorboy, M., Laing, N., Weshnoweski, B., Vashisht, R., Tailor, F., Nichol, K., Wierzbowski, A., Baudy, P.J., Karlowsky, J.A., Lagace-Wiens P., Walkty, A., McCracken, M., Mulvey, M.R., Johnson, J., The Canadian Antimicrobial Resistance Alliance (CARA), Hoban, D.J. (2008). Antimicrobial-resistant pathogens in intensive care units in Canada: Results of the Canadian National Intensive Care Unit (CAN-ICU) study, 2005–2006. *Antimicrob. Agents Chemother.* 52(4): 1430–1437.



Body and Soul: Donne as a Sacramental and Incarnational Writer

ANDREA FALISZEWSKI

Much attention has been given to examining John Donne's religious convictions. The extent of his Protestant beliefs is a fascinating subject to explore, and of the many theological elements that scholars examine in this discussion, the means of receiving grace from God is a central topic. According to Jeffrey Johnson, for instance, Donne feels that "the Word and Sacraments together provide the effectual means of God's grace" (137). This is an important point because it shows that the physical world is just as important to Donne as the spiritual world. Sacraments, as "visible sign[s] of the hidden reality of salvation" (CCC 774), show a deep connection between the physical and the spiritual, and it is important to remember that "the Word" is not only the spiritual word of the Bible, but is Jesus, the "Word made flesh" (John 1:14). These ideas are evident in W. T. Stace's description of an "extrovertive mystic," who, "using his physical senses, perceives the multiplicity of external material objects" (qtd. in Clements 6). For Donne, Sacraments and the Incarnation are not simply theological issues; they are part of the way he perceives the world, and a sacramental mentality pervades all his writings, both religious and secular. Donne is a sacramental and incarnational writer, always aware of the correlation between the visible and the invisible. To make a subtle distinction, Donne's prose is primarily sacramental because it tends to focus on the physical world as a sign of spiritual realities while his poetry is primarily incarnational because it emphasizes the unity of the body and the soul.

Donne's sacramental mentality is most easily discernible in his prose, where he discusses the relationship between the physical and spiritual most directly. An excellent example is Donne's sermon, "Preached at St. Pauls, for Easter-day," which focuses on the ways that people can see God. Recognizing that the truest and most perfect sight of God can only be obtained in "the actuall possession of the next life" (219), Donne stresses that sight of God in this earthly life is "in a glasse, that is, by reflexion" (220). This shows that God, who is ultimately hidden in this life, must be found through visible signs. For instance, Donne says that "There is not so poore a creature but may be thy glasse to see God in," and he sees God in everything from

a snake to a worm, from a cedar to a branch of hyssop (224). This sacramental attitude is also evident in the metaphor of the world as a theatre in which “every creature [is] the stage, the medium, the glasse in which we may see God” (224). This explains why Donne thought that images and art were important components of worship because they help “to aid one’s spiritual vision” (Johnson 63). If everything that exists “is by that very beeing, a glasse in which we see God” (Donne 224), then every visual experience, like a Sacrament, is an opportunity to move beyond the physical and into the spiritual realm.

Donne’s sacramental outlook is also clear in his “Devotions Upon Emergent Occasions.” In these, it is useful to recall Clements’s point about the “multiplicity of external objects”; for instance, the thirteenth Devotion focuses on the spots that appear on the sick body and the correspondence between these and the spiritual spots of sin, recalling that God will “accept no spotted sacrifice” (Donne 80). As the physical spots reveal the illness and show the nature of the disease in order for it to be effectively treated, so confession of sins makes spiritual healing possible by bringing the problem to light (81). In this instance, Donne is demonstrating his idea that things in the perceivable, physical world point to spiritual realities. The same mentality is apparent in the twentieth Devotion, in the reflection on the paradox of purging, which “[provides] strength by increasing weakness” (126). The connection here is between the physical purging of the body to heal it from illness and the spiritual purging of the soul by confession to heal the soul of sin. Donne also points out the unpleasantness of both kinds of purging, saying, “purgative physic is violent and contrary to nature. O Lord, I decline not this potion of confession, however it may be contrary to natural man” (129). In each case, the pain is a necessary path to healing. This is a clear demonstration of the close relationship between the physical and spiritual realms; again, every outward thing corresponds to an inward reality.

In all of Donne’s writings, the physical and the spiritual are closely related, but his poetry demonstrates not only a relationship between body and soul, but a union between them to the point where they

are inseparable. This mentality of incarnation is obvious in Donne's "Holy Sonnet 5," in which the speaker describes himself as "a little world made cunningly/ Of elements, and an angelic sprite" (1-2). The image of the world shows that the two parts, "elements" and "sprite," are united as one, and sin affects the whole self, both body and soul (3-4). The speaker tells of the need to be cleansed, so he asks for tears (7-9), which have both a physical and spiritual component; Donne thinks of "tears of contrition as a second baptism" (Johnson 106), which cleanses both the body and the soul. In addition, the image of a cleansing fire "which doth in eating heal" (14) portrays the process of spiritual healing in physical terms, again emphasizing the union of the physical and spiritual.

The "incarnation, the paradox of two-in-one" (Clements 27), is an important aspect of Donne's secular poetry as well as his religious works. The paradox that Clements speaks of is that of the person, Jesus; in Him, God takes on a body, and the human body becomes the means through which the divine is united with humanity. "The Ecstasy," which describes the union of two lovers (Clements 39), demonstrates this paradox by showing how the bodies and souls of the lovers are inseparable and have become one. The poem begins with the lovers' souls uniting outside of their bodies (Donne 15-16), and while this shows the purity of their love, the speaker is quick to show the necessity of the body as part of the experience of love because "soul into soul may flow,/ Though it to body first repair" (59-60). This presents the body as the vessel through which the souls of lovers can unite. Also, the speaker makes it clear that "Love's mysteries in souls do grow,/ But yet the body is his book" (71-72). Again, this demonstrates that love is not simply an emotion or a movement of the soul. On the contrary, it happens in the flesh and cannot be held back from bodily experience. At the same time, the unity of the body and soul is clearly not only applicable to each separate lover, but the lovers together make one soul (36), and if their souls are one, their bodies must be united as well:

And if some lover, such as we,
Have heard this dialogue of one,
Let him still mark us, he shall see
Small change, when we're to bodies gone (73-76).

In this passage, Donne applies the idea of the Incarnation to the sexual union of lovers, showing that, in his mind, the unity of the physical and spiritual is an intrinsic part of life itself.

The same mentality is at work in "The Canonization," in which the lovers are to be held up as an example of love for all lovers. The speaker claims that the two lovers are united, and "to one neutral thing both sexes fit/ [They] die and rise the same"(Donne 25-26). Even though the poem focuses on the physical and sexual aspect of the lovers' union, this poem also draws attention to the spiritual union of the lovers because their death and immortalization in verse bear witness to the union of their souls. This idea of verse being the means through which the lovers will be "canonized" reveals another dimension of Donne's incarnation mentality because now the union of body and soul explicitly includes the "word." The immortalizing verse is to "build in sonnets pretty rooms" (32), and this physical image of a building shows the written or spoken word as a physical, tangible structure. There is a greater significance to Donne's focus on the "word" of language because the same term is used for Christ, the "Word made flesh," the joining of God and humanity in the Incarnation. This emphasis on the union of the physical and spiritual exemplifies Donne's incarnational frame of mind.

Donne's writings are characterized by a focus on the physical world; it is as if Donne consciously decided to model his writing career on the phrase, "the Word became flesh." As Clements states, "Donne's writings clearly indicate that we exist not as a soul or a body but as a union of soul and body" (39). This idea is the foundation of the Sacraments, which also revolve around a profound connection between the physical and the spiritual. The sacramental and incarnational nature of Donne's prose and poetry is evident throughout his writings even though some works do not take the religious depths of these mysteries into account. For John Donne,

the Incarnation and the Sacraments are not simply issues of doctrine or religious affiliation; they are the foundations for understanding human love, life, and death.

Works Cited

- Clements, Arthur L. *Poetry of Contemplation: John Donne, George Herbert, Henry Vaughan and the Modern Period*. Albany, NY: SUNY Press, 1990.
- Donne, John. *Devotions Upon Emergent Occasions and Death's Duel*. Ed. Andrew Motion. New York: Vintage Spiritual Classics, 1999.
- Donne, John. "Preached at St. Pauls, for Easter-day." Class handout.
- Holy Bible: New Revised Standard Version: Catholic Edition*. Nashville: Catholic Bible Press, 1991.
- Johnson, Jeffrey. *The Theology of John Donne*. Woodbridge, Suffolk, England: D.S. Brewer, 1999.
- Smith, A.J. ed. *John Donne: The Complete English Poems*. London: Penguin Books, 1971.
- The Holy See. *Catechism of the Catholic Church*. New York: Doubleday, 1994.

Investigating the $^{23}\text{Mg}(p,\gamma)^{24}\text{Al}$ Reaction at Astrophysically Relevant Energies with DRAGON

SCOTT FOUBISTER

Introduction

The $^{23}\text{Mg}(p,\gamma)^{24}\text{Al}$ Reaction

The $^{23}\text{Mg}(p,\gamma)^{24}\text{Al}$ reaction is an astrophysically important reaction that links the Ne-Na and Mg-Al reaction cycles which occur in classical novae at temperatures of 0.1 – 0.4 GK. Its reaction rate affects the abundance of ^{22}Na and ^{26}Al , two important astrophysical observables. The purpose of this experiment is to obtain the first experimental measurement of the strength of the important resonance predicted to be at $E_{\text{cm}} = 473 \pm 3$ keV (Visser et al., 2007; Lotay et al., 2008). In order to calculate the resonance strength, it is required to measure the thick-target reaction yield. This is given by Eqn. (1), where $n_{^{24}\text{Al}}$ is the number of detected ^{24}Al recoils, $n_{^{23}\text{Mg}}$ is the number of incident ^{23}Mg particles, and eff is a factor accounting for various detection efficiencies. Based on shell model predictions, the expected yield for this reaction is approximately 6×10^{-11} reactions per incident ^{23}Mg [Herd et al., 1998].

$$\text{Yield} = \frac{n_{^{24}\text{Al}}}{n_{^{23}\text{Mg}} \text{eff}} \quad \text{Eqn. (1)}$$

The DRAGON Facility

This experiment is taking place at the DRAGON facility at the TRIUMF-ISAC high intensity radioactive beam facility in Vancouver, BC. I took part in this experiment in the summer of 2008 while on a physics co-op work term. The DRAGON (Fig. 1) is a recoil mass spectrometer that uses inverse kinematics to measure resonance strengths of radiative capture reactions involving short-lived radioactive nuclei. A more detailed description can be found elsewhere [Hutcheon et al., 2003]. At the start of the DRAGON, stable or radioactive ion beams from the ISAC target/ion source enter the windowless re-circulating gas target. In this particular experiment, incident ^{23}Mg beam underwent radiative proton capture reactions with the H_2 gas in the target. Unreacted beam particles (called “leaky

beam”) and reaction products (called “recoils”) continue through the gas target into the two-stage electromagnetic separator (EMS), which features two magnetic and two electrostatic dipoles. At the end of the DRAGON, recoil detectors (an ionization chamber (IC) and two microchannel plate (MCP) detectors) distinguish leaky beam from recoils. For increased background rejection, a cut is placed on recoils that are detected in coincidence with prompt gamma detection by the BGO detector array surrounding the gas target and their time-of-flight through the separator. Beta monitors, NaI detectors, and an HPGe detector are used to quantify the beam contamination, a value that is required to accurately calculate the yield and in turn the resonance strength of the reaction. This paper describes how we measure this beam-to-contaminant ratio at DRAGON.

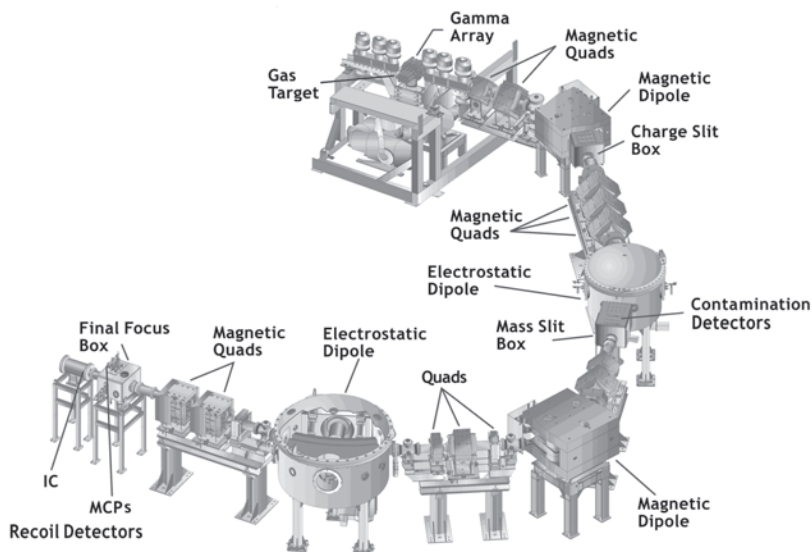


Fig. 1. The DRAGON recoil mass spectrometer features a windowless gas target, a two-stage electromagnetic separator (main components are two magnetic and two electrostatic dipoles), contamination detectors (beta monitors, NaI detectors, HPGe detector), and recoil detectors (ionization chamber and microchannel plate detectors).

Beam Contamination

In this experiment, the radioactive ^{23}Mg beam (half-life 11.3s) was produced in a SiC target irradiated with an intense 500MeV proton

beam (up to 70mA) and resonant laser ionization (TRILIS). Because stable ^{23}Na is easily ionized at hot surfaces, the incoming mass 23 beam was a mixture of ^{23}Na and ^{23}Mg , with a ratio varying from 1:1 to as high as 500:1. As a result, two different reactions occurred in the gas target and there were four nuclides to separate after the gas target (Fig. 2).

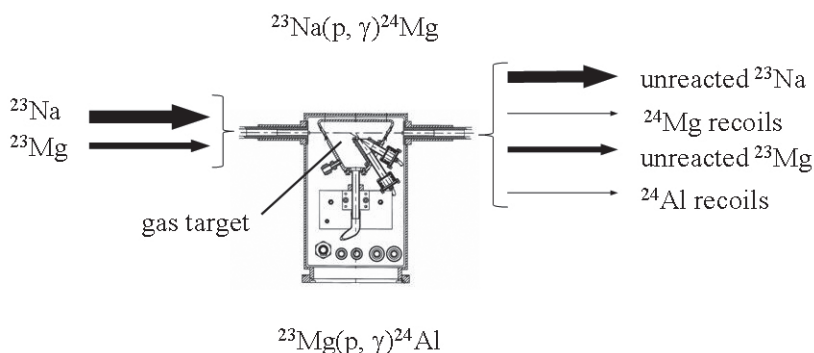


Fig. 2. The incoming beam from the ISAC target / ion source contained ^{23}Na and ^{23}Mg . As a result, two reactions occurred in the gas target and there were four nuclides to separate in order to measure the amount of the desired ^{24}Al recoils. Arrow widths correspond to approximate intensities.

Contamination Detectors

To measure the amount of ^{23}Mg in the incoming beam, we detected the radioactive decay of ^{23}Mg . When the separator was tuned to transmit mass 24 recoils, ^{23}Mg and ^{23}Na were both stopped on the left slit of the mass-dispersed focus (mass slit). Stable ^{23}Na simply stopped, but ^{23}Mg stopped and underwent β^+ decay, emitting positrons and 440keV gamma rays. We used three types of detectors to measure the rate of ^{23}Mg particles striking the left mass slit, $\text{rate}_{23\text{Mg}}$. The number of incident ^{23}Mg particles, $n_{23\text{Mg}}$ (see Eqn. 1), was calculated from $\text{rate}_{23\text{Mg}}$ and the measurement time.

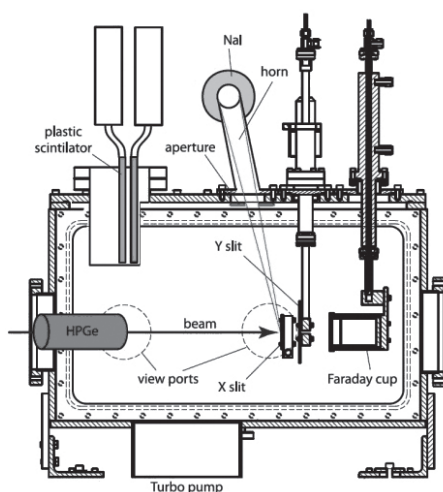


Fig. 3. Contamination detectors at the DRAGON mass slit box. The beta monitors comprise photomultiplier tubes and plastic scintillators mounted inside an insertion in the box. The two NaI detectors were placed about the horn, at 180° to each other. The HPGe detector was placed outside the box and aimed through a viewport at the slit where ^{23}Mg is deposited (reproduction of Fig. 3 from C. Vockenhuber et al., (2008), obtained with permission from Elsevier).

Beta Monitors

Two beta monitors were positioned inside an insertion in the mass slit box (Fig. 3). These detectors efficiently counted the number of positrons striking the detectors using plastic scintillators and photomultiplier tubes. This gave a relative rate of ^{23}Mg which was then calibrated to give an accurate value of $n^{23}\text{Mg}$.

NaI Detectors

A specially designed metal “horn” was installed at the top of the mass slit box (Fig. 3). A small fraction of the positrons emitted during the β^+ decay of ^{23}Mg entered this horn and annihilate with electrons in the metal. Two NaI detectors, oriented at 180° to each other, were aimed at the top of the horn in order to detect the coincident 511keV gamma rays released during positron annihilation.

HPGe Detector

An HPGe (High Purity Germanium) detector was placed outside the mass slit box and aimed at the left mass slit through a viewport in the box (Fig. 3). The HPGe detected the 440keV gamma rays emitted during the β^+ decay of ^{23}Mg .

The beta monitors were used as the primary method to calculate the amount of ^{23}Mg in the beam. The NaI detectors were used to check these results, and the HPGe detector data were ignored because electronics problems made them unreliable.

Beam Normalization

Contamination Ratio Calculation

To find the ratio of ^{23}Na to ^{23}Mg in the beam, we directed an attenuated beam into an ionization chamber (IC) containing a segmented anode. This setup allowed nuclides to be separated based on their energy-loss rates. The best separation was found in the third anode segment. This spectrum was fitted with a double Gaussian (Fig. 4), and the ratio of the integrals was calculated. The identification of the peaks was verified by blocking the laser ionization of ^{23}Mg .

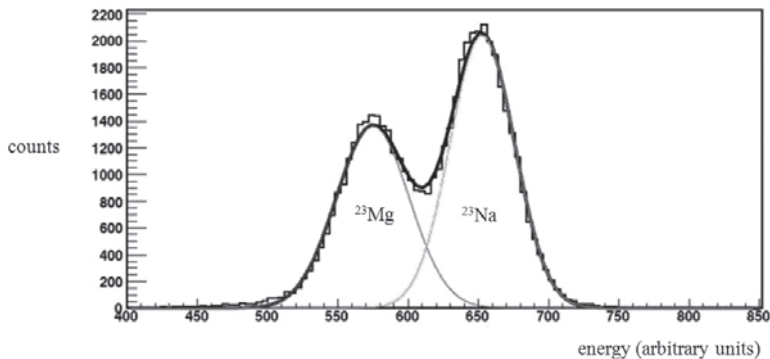


Fig. 4. Separation of ^{23}Mg and ^{23}Na in the ionization chamber with laser ionization (TRILIS) (figure from Erikson, 2008).

Beta Monitor Efficiency Calibration and rate ^{23}Mg Calculation

We calculated the total number of incident beam particles using the current reading from a Faraday cup upstream of the gas target. From this we found rate ^{23}Mg , accounting for the contamination ratio and the charge state fraction of ^{23}Mg . The efficiency was then simply the

beta monitor trigger rate divided by rate ^{23}Mg (Eqn. 2).

$$\epsilon = \frac{\text{rate}_{\text{trigger}}}{\text{rate}_{^{23}\text{Mg}}} \quad \text{Eqn. (2)}$$

Once the beta monitors were calibrated, we determined rate ^{23}Mg by simply rearranging Eqn. (2).

Recoil Detection

Mass 23 leaky beam particles that made it through the separator were separated from mass 24 recoils using the time-of-flight between the MCP detectors (MCP-TOF). The desired ^{24}Al recoils were separated from ^{24}Mg “contaminant recoils” based on the way they deposited energy in the IC (similar to Fig. 4).

To distinguish between ^{23}Mg leaky beam and ^{24}Al recoils, we graphed MCP TOF vs. energy lost in the IC. We confirmed the ability to separate recoils from leaky beam by looking at a similar reaction – $^{23}\text{Na}(p,\gamma)^{24}\text{Mg}$ (Fig. 5). Based on this histogram, we established a cut in which we expected to find the ^{24}Al recoils in the current experiment.

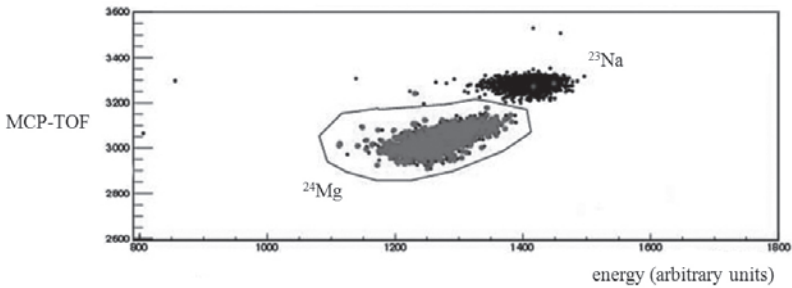


Fig. 5 – ^{24}Mg recoils were successfully separated from stable ^{23}Na leaky beam for the $^{23}\text{Na}(p,\gamma)^{24}\text{Mg}$ calibration reaction at $E_{\text{cm}} = 489.7$ keV (black points – all events reaching the recoil detectors, grey points – events in coincidence with a gamma signal at the gas target) (figure from Erikson, 2008).

Conclusions and Future Experiments

The first phase of this experiment was able to place a preliminary upper limit on the strength of the $^{23}\text{Mg}(p,\gamma)^{24}\text{Al}$ resonance based on the measured yield. The measurement covered the energy range $E_{\text{cm}} = 450 - 477\text{keV}$ (the predicted resonance energy of $E_{\text{cm}} = 473 \pm 3\text{keV}$ [Visser et al., 2007; Lotay et al., 2008] is within that range). We verified that our setup was sufficiently sensitive to recoils by switching back to stable ^{23}Na beam under the same separator settings and detecting ^{24}Mg recoils as in the calibration reaction (Fig. 5).

The results of this analysis will be published in a full paper following a re-measurement at higher beam intensity. However, early indications are that the resonance strength is much less than the predicted value of 28meV [Herndl et al., 1998] or that the energy of the resonance is outside the covered energy range. This has important consequences for the astrophysical reaction rate. In the following phase of the experiment, we will also measure the strength of the other two predicted resonances at $E_{\text{cm}} = 652$ and 733keV [Visser et al., 2007; Lotay et al., 2008; Zegers et al., 2008].

Acknowledgments

This work was performed in collaboration with:

L. Erickson, C. Vockenhuber, L. Buchmann, A.A. Chen, B. Davids, U. Greife, U. Hager, A. Hussein, D.A. Hutcheon, P. Machule, D. Ottewell, C. Ruiz, G. Ruprecht, A. Shotter, C. Wrede, A. Wallner.

This experiment was supported in part by grants from the Natural Science and Engineering Research Council of Canada (NSERC) and the United States Department of Energy (DOE).

Works Cited

- Erikson, Luke, "Experimental developments for the study of explosive nucleosynthesis in stars", Ph.D. Thesis, Colorado School of Mines (2008).
 Herndl, H. et al., *Phys. Rev. C* 58, 1798 (1998).
 Hutcheon, D. A. et al., *Nucl. Instrum. Methods A* 498, 190 (2003).
 Lotay, G. et al., *Phys. Rev. C* 77, 042802 (2008).
 Visser, D. W. et al., *Phys. Rev. C* 76, 065803 (2007).
 Vockenhuber, C. et al., *Nucl. Instrum. Methods B* 266, 4169 (2008), Fig. 3.
 Zegers, R.G.T. et al., *Phys. Rev. C* 78, 014314 (2008).

Scanning Tunneling Microscopy

SCOTT FOUBISTER AND SAMANTHA LLOYD

Introduction

The first scanning tunneling microscope (STM) was developed in 1981 in Switzerland by IBM's Gerd Binnig and Heinrich Rohrer. The device, which makes practical use of quantum tunneling, won them the 1986 Nobel Prize in Physics and set the stage for the development of other scanning probe techniques [Brukman and Bonnell, 2008]. A probing tip, only a few atoms wide, is brought within electron tunneling range of a metallic or conducting surface. When the separating distance is small enough, a tunneling current can be measured between the sample surface and the tip. Because the tunneling current has an exponential dependence on the height of the tip over the sample, it is extremely sensitive to small depth changes in the sample surface. Changes in the current can be used as part of a feedback loop to maintain constant height of the tip over the sample and also to produce an extremely accurate map of the sample topography with 1Å lateral and 0.1Å depth resolution.

Plans for simple STMs are now available from a number of websites, and as a Directed Study Project, undergraduates at Thompson Rivers University have selected one design to assemble, test and operate. If successful, the STM will be made available for use in future experiments at the university. For simplicity, the project has been divided into three main components: tip production, X-Y and Z motion control, mounting and computer interfacing. The project is anticipated to be completed by the end of the Summer 2009 semester.

Quantum Tunneling

STM exploits the quantum property of electron tunneling. By the uncertainty principle, it is impossible to simultaneously know the position and momentum of a quantum object such as an electron; one can only predict the probability of finding an electron in any particular state or position at a given time. In addition, there is a non-zero probability of finding electrons in classically forbidden regions due to the tunneling that occurs at these potential barriers. If the barrier is thin enough, an electron may tunnel all the way

through it and remain on the other side [Griffiths, 2005]. By classical comparison, this is much like throwing a baseball at a brick wall and observing part of the ball go through the wall.

In STM, electrons from biased samples tunnel through an air or vacuum media to an oppositely biased tip where the tunneling current can be measured. The tunneling current depends exponentially on the height of the tip above the surface so the magnitude of the current can be used to create a topographical image of the atomic surface as well as control a vertical feedback motor to maintain a constant gap between the tip and the sample.

Tip Production

The overall resolution of the digital image obtained from scanning tunneling microscopy is dependant on the width of the tip used. The aim in this project is to create tips which are only a few atoms wide by chemically etching 0.12mm tungsten wire.

The wire anode is immersed in a 1.5M NaOH solution suspended in a stainless-steel loop. The wire extends through the steel loop and 3.0 volts are applied across the terminals. As surface atoms are etched away, the etching current decreases, reaching zero when the end of the wire drops off into the solution. At this point, the wire is removed from the solution, ideally with a tip only a few atoms wide. A residual oxide film formed on the tungsten is removed by heating the tip under high-vacuum conditions. The sharpness of tips will be tested either by electron microscope imaging or by comparing the resolution of the STM images.

X-Y & Z Motor Control

In order to scan the sample surface, the tungsten tip is attached to two piezoelectric discs, one responsible for vertical Z motion and another for X-Y raster scanning. The discs are taken from a simple piezoelectric buzzer (Soberton Inc., PT-2404 5.5kHz buzzer, 1-30V 90dB), and consist of a brass backing plate, piezoelectric material, and a silver coating for the top electrode. When a voltage is applied across the piezoelectric material, it expands or contracts. Attaching

the scanning tip perpendicularly to the surface of the disc allows for easy control of the vertical Z position. The X-Y position of the tip can be controlled if a second disc is divided into four electrically isolated quadrants and the tip holder is centred at the origin. By applying opposite polarity voltages to diagonal quadrants, the tip can be scanned across the sample surface. Use of both discs allows for three-dimensional control of the tip position.

The discs have been characterized by using them as mounts for an interferometer mirror. As the voltage applied to the disc varies, peaks in the interference pattern move up or down and the change in height of the disc can be found by counting the number of peaks that pass a marked point. A graph demonstrating the characterization of the Z motion disc is shown in Figure 1.

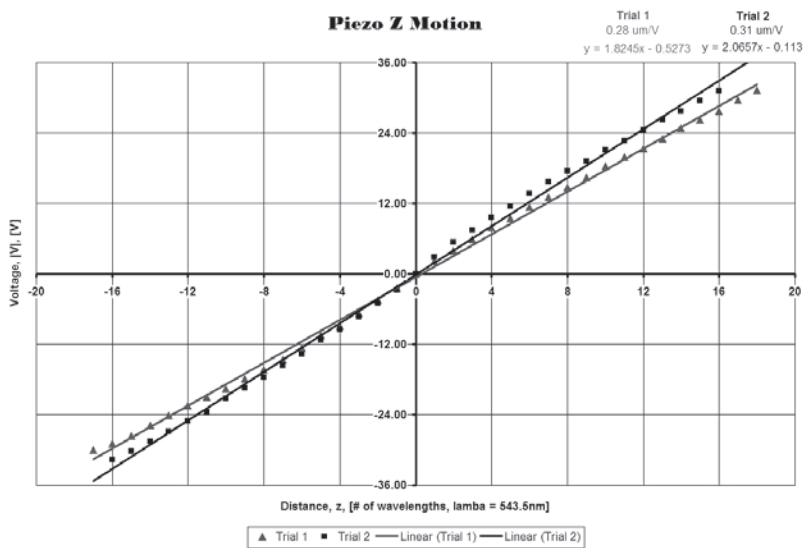


Figure 1. Characterization of Z motion of a piezoelectric applied voltage. The motion (measured in wavelengths of the laser, $\lambda=543.3\text{nm}$) is plotted against the applied voltage. The behaviour shows a sensitivity of 0.29mm/V .

This particular STM project makes use of a circuit design from an STM project website [Alexander, 2009]. The circuit, which has been

modified to allow for control of two discs instead of one, includes a power source, sample biasing stage, tunneling current preamp and feedback loop and scanning motion controls. As noted before, the tunneling current feedback loop is used to control the Z position of the scanning tip and the Z position voltage is read by a computer to create a digital image. Since the voltage supply is $\pm 18\text{V}$, based on the electric response characterization of the discs, Z motion will range $\sim 2.5\mu\text{m}$ with a scanning region of $2\mu\text{m} \times 2\mu\text{m}$. The tested, completed circuits have been transferred to printed circuit boards and mounted in a single control unit.

Mounting and Computer Interface

The control circuits and piezoelectric disc components have been wired and mounted on a temporary approach system for control verification and initial imaging. A permanent structure will be designed and assembled over the Summer 2009 semester to minimize mechanical disturbances and electrical noise.

The X-Y motor component is monitored and controlled by a LabVIEW program and although the Z motor component is monitored using LabVIEW, its height is still set by an analog potentiometer. All three components have been exported as coordinates and used to plot 3D images of sample surfaces, as seen below. Eventually, the tip height, as well as the time integral components of the control circuit, will be controlled by computer interface. As well, a user interface will be designed to maximize ease of microscope use for individuals with little knowledge of the working components of the microscope.

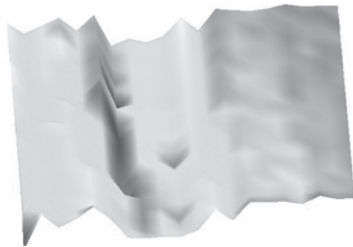


Figure 2. Image produced by scanning the surface of an aluminum film sample.

Verification and Future Work

Once complete, the microscope's performance will be verified by mapping the surface of Highly Oriented Pyrolytic Graphite (HOPG), which has an exceptionally regular topography. When this is done, progress can be focused on improvements in image construction using software such as Matlab and user interface development and testing. A record of progress is being kept on a public Wiki [Foubister, 2009] and a proposed schedule for the entire project is shown below, citing a completion date of July 2009.

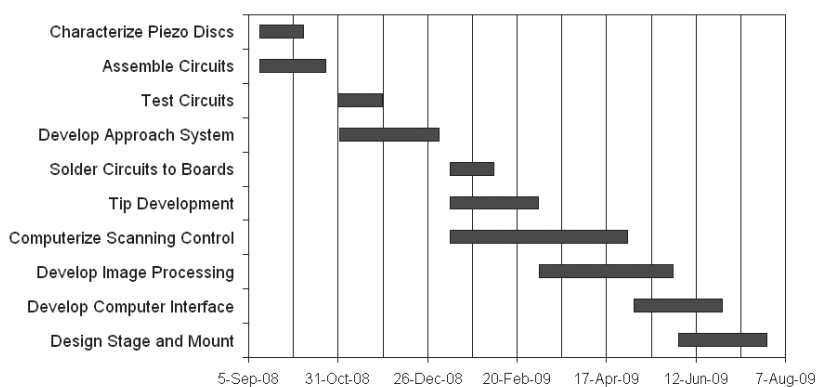


Figure 3. Proposed schedule for completion of the STM project.

Acknowledgement

The authors thank Dr. Mark Paetkau for his contributions and supervision of this project.

Works Cited

- Alexander, J.D. *Simple STM Design Page*. http://geocities.com/spm_stm/index.html Available April 1, 2009.
- Brukman, M.J. and D.A. Bonnell. Probing physical properties at the nanoscale. *Phys.Today* 61, 36 (2008).
- Foubister, S., S. Lloyd, M. Paetkau. *TRU-STM*. <http://tru-stm.wikispaces.com> Available April 1, 2009.
- Griffiths, D.J. *Introduction to Quantum Mechanics*. Pearson Prentice Hall: Upper Saddle River, 2005. p. 26.

Art as Social Change

HARMONY RÁINE

Although “artists alone can’t change the world,” (Lippard in Wallis, 344) art plays a vital role, acting as a “powerful partner to the didactic statement, speaking its own language and ... sneaking subversively into interstices where didacticism and rhetoric can’t pass” (idem.).

A small group of Canadian avant-garde artists known as Les Automatistes, active in Quebec during the late 1940s, was not only instrumental in priming the province for sweeping social reform through their bold artistic innovation, but also served, according to substantial evidence, as pioneers of the postmodern movement in Quebec and Canada. Theirs was a canon of total refusal, which was later echoed in their manifesto, *Refus global*. The group openly rejected traditional ideals and social mores and embraced freedom of expression in the form of automatism, non-referential abstraction of subject matter, and self-expression without censorship—artistic, ethical, or moral.¹ The introduction of automatism and non-representation thus posed a challenge to a society previously guided by strict religious dogma and a rigid political structure, and helped to create an environment ripe for the great social upheavals and radical secularization of the province in the 1960s known as The Quiet Revolution. According to social historians, “the stage for the Quiet Revolution was prepared for with a slow and laborious putting into question of ideas, ideologies, attitudes, and mentalities” (Coleman in Dickinson and Young, 298).

Although much of the content of *Refus global* was politically charged and later became the group’s manifesto, the manuscript was not originally written as a leading document, but rather to support the philosophy that linked non-figuration to the power of the imagination and feelings of liberation in the visual sense (Harper, 339). Accordingly, this paper contends that it was primarily the nonfigurative aesthetic developed by Les Automatistes that was their mode of communication and form of social action.

The second purpose of this study is to undertake a critical reading of Québécois Automatism as an early form of postmodernism, and thus as a catalyst for social change. In this regard, the

Automatistes' deliberate refusal to submit to a traditional art aesthetic may be interpreted as their symbolic rejection of authority and as a postmodern challenge to the metanarratives of pre-Quiet Revolution Quebec.

Quebec's History of Oppression

By the 1940s, Quebec citizens had endured a difficult and paradoxical relationship with the Roman Catholic Church that spanned more than three centuries. Cleric authority was notoriously oppressive—dominating and controlling virtually every aspect of the individual's daily life by convincing French Canadians “that their cultural survival in an English-speaking continent lay in unquestioning obedience to the faith” (Reid, 211). Tyranny in Quebec took place on two of the most powerful levels of authority: religious and governmental. Maurice Duplessis, the premier of Quebec from the mid-1930s to the end of the 1950s, permitted the Catholic Church to remain the province's “ideological guide” in exchange for its continued political support (Baum, 18). This alliance also granted the Church control of the province's education, health care and public welfare systems. Duplessis' Union Nationale also prohibited the formation of unions and completely failed to “curb the exploitative practices of foreign corporations” (idem.). These measures kept French-speaking individuals undereducated, underemployed, and in relative poverty as compared to their Anglophone counterparts (Posgate and McRoberts, 37–41).

Additionally, between the Depression of the 1930s and the Quiet Revolution of the 1960s, there existed a bleak period in Quebec's intellectual history known as *La Grande noirceur*. This era is characterized by the widespread censorship of popular literature and films and the Padlock Act² of 1949 (Dickinson and Young, 293). The cumulative effects of the extreme governmental and religious oppression exerted upon Quebec citizens drove them toward radical social change.

Les Automatistes and Refus Global

Led by painter Paul-Émile Borduas, Les Automatistes developed an unprecedented artistic sensibility: nonfiguration, or the complete absence of recognizable subject matter in their visual arts aesthetic. Achieved through automatism, this innovation was proclaimed by critics as a “pictorial revolution ... [that] would respond for the first time to the needs of Canadians” (Reid, 218). More significantly, the obvious deviation from prevailing art conventions represented the group’s rejection of accepted artistic canons and posed a symbolic challenge to Quebec’s strict religious dogma, ultra-conservative governmental authority, traditional social mores, and the entire status quo.

On August 9, 1948, Les Automatistes also published and signed *Refus global*, which became the unintended manifesto of the group. According to art historian Dennis Reid, the publication is “perhaps the single most important social document in Québec history and the most important aesthetic statement a Canadian has ever made” (225). Max Wyman describes *Refus global* as “uncompromising ... [condemning] the repressive authority of the church and state both within Quebec ... and outside” (in Carruthers, 135). Borduas’ essay referred to the Québécois as a small and humble people, abandoned, isolated, colonized, defeated, and living under the dominance of fear. The Church, Borduas made abundantly clear, was responsible for these conditions (27–31). The provocative language of *Refus global* was perceived as an attack on both the Duplessis government and the Roman Catholic Church, which “led to its interpretation as a politically scurrilous document” (Burnett and Schiff, 22).

The Formation of a Movement

It was during his teaching assignment at L’École du Meuble in Montreal that Borduas began to attract a following of young artists and writers. Charismatic, and nearly twice the age of most of the other participants, Borduas became the leader of a small collective whose “common concern ... [became] more and more clearly social—the struggle against repression and social oppression” (Reid, 220).

The individuals who assembled around Borduas shared with him a wholesale passion to “break free of the conservatism of postwar Quebec, which was mired in the apathy of the Duplessis regime” (Lacasse, 133). Nonfiguration not only embodied the complete emancipation that was vital to the sensibility of Les Automatistes, but also conveyed a powerful political statement in post-World War II Quebec by “[undermining] the rigid conventions of academic painting” (Ellenwood: 1992, 179).

The Contentious Surrealist Definition

Although it is widely purported that Canadian Automatisme has its roots in European Surrealism, I contend that the two movements are very separate both in their philosophies and their aesthetics. Borduas studied the texts of the original European Surrealists and maintained contact with André Breton (founder of the French movement) early in his art career; however the only interest the two groups shared was their high regard for the role of the unconscious mind and the imagination in the creation of art.

While the Surrealists claimed to reject naturalism as “absolutely null and void,” their art continued to remain object-based (Fer et al. 51). The Montreal Automatistes were only interested in Surrealism to the extent that it sought to reach and visually express the unconscious mind. Borduas stated that his investigations into Surrealism were not concerned with its politics or philosophies, but rather with automatism for “the way it expressed itself nonfiguratively” (Ellenwood: 1992, 173). By 1945, Les Automatistes had ceased to represent any subject matter at all, including the “*onirisme*, or dream state so dear to the Surrealists” (van Schendel, 57).

Political Art: Dada, the Postmodern, and Automatisme

Dadaism emerged in Europe at the end of WWI as a movement of revolt against “the whole rationalist tradition of Western thought” (Rubin in Locher, par. 13), a critique of the dominant culture, and a challenge to the status quo (Kuenzli, 15). The striking similarities between the guiding principles of Dadaism and those of

postmodernism—in particular, the bold rejection of traditionalism and the established order—also characterize the principle *leitmotif* of total refusal adopted by Les Automatistes in 1948. Insofar as “postmodernism doesn’t just have a few ‘Dadaist’ characteristics, but rather is overwhelmingly Dada in its basic assumptions” (Locher, par. 27), it is also more than apparent that Canadian Automatisme is much more Dadaist than Surrealist. The Dadaists aimed to reject and destroy their reality, as they perceived that it had come to represent the inclusion of technological advances and progress that led to war machines capable of mass destruction and annihilation. Their traditional social and religious institutions had also become systems in which Dadaists no longer had any faith (Bohn, 29). Hence, the Dadaists chose a nonfigurative aesthetic that did not reflect these social realities. Having developed similar sentiments toward Church and State as a result of their persistent oppression, Les Automatistes later adopted many tendencies that can be classified as Dadaist, and which then contributed to the evolution of a contemporary North American postmodern movement from the roots of Dada.

David Locher argues that the concept of the postmodern is not new and that the ideologies of postmodernism are “exactly the same as the basic premises of Dadaism” (par. 11). He adds, furthermore, that postmodernism is merely “an extension of Dadaism” (par. 1). These observations support my thesis that Les Automatistes were postmodernists—both through their ideological connection to Dadaism and as members of an artistic movement that is formally recognized as socially and politically reformative.

In order to better understand Automatisme as a socially and politically engaged postmodern movement, it is critical to recognize Automatiste art as socio-political work. Martha Rosler writes that art “has a political existence, or, more accurately, an ideological existence. It either challenges or supports (tacitly perhaps) the dominant myths a culture calls Truth” (in Wallis, 322). Postmodern art is especially political, as E. Ann Kaplan notes in referring to postmodernism as a “machine that encourages an outpouring of critical discourse ... [that] demands reaction (49). Stylistically, postmodern art is most

simply defined as a “rupture with the aesthetic order of modernism” (Foster in Wallis, 196). Using these criteria, along with the radical and unprecedented use of nonfigurative abstraction, the work of Les Automatistes can be categorized as postmodern.

The Quebec group sought to make its political statements through the complete elimination of recognizable subject matter. As a political act, the use of a nonfigurative aesthetic proved an effective strategy because modernist art is based upon a system of recognizable signs whose meanings can be deciphered according to cultural codes (Foster in Wallis, 195), whereas nonfiguration resists translation. Peter Bürger explains that the group’s postmodern refusal to provide meaning was most likely experienced by viewers as shock, and that producing shock generally stimulates viewers to examine their lives and social conditions, thus provoking individual and social change (in Walker, 2).³

Perhaps most importantly, the aesthetic developed by Les Automatistes constituted a symbolic, nonverbal language⁴ much more resistant to censorship than were other forms of communication. This is an essential consideration because the insidious nature of the group’s nonfigurative art not only served as a means of subversive communication with the public, but also posed a timely, postmodern challenge to authority. According to Michael van Schendel, Quebec was “in a postcolonial but still dominated culture reduced to textual silence ... marked by a strong suspicion of language and intellectuality” (58). Nonfiguration, therefore, had a powerful political impact in post-WWII Quebec.

Les Automatistes as Social Activists

Les Automatistes not only provided a powerful model of social activism through their public efforts for the acceptance of their art work, but also engaged in many other battles for individual and civil liberties. Notably, Les Automatistes supported feminist concerns, playing a significant role in the advancement of women artists in Quebec and perhaps throughout Canada. As a movement strongly committed to equality between the sexes, the group was described

as uncharacteristically egalitarian given the very patriarchal social structure of their day. Seven of the original Automatistes, comprising almost half of the signatories of *Refus global*, were women.

Automatiste writer, Thérèse Renaud, acknowledges that it took a great deal of courage to put her name to the incendiary *Refus global*, but credits her association with the troupe for providing her with the support she needed to “extract herself from the effects of an upbringing that had prepared her for no function in the world other than the passivity and sense of uselessness that have plagued many women’s lives in patriarchal society” (in Cameron and Dickin, 126). Belonging to a movement in which they were equally represented and encouraged to be active participants may have impelled female Automatiste members to also become more involved in artistic endeavours and feminist activities outside of their own group, thus presenting positive role models for other women

The drive for public exposure remained a priority for Les Automatistes, and they were persistent in their attempts for mainstream acceptance. The group’s work on this front also produced long-term benefits to future generations of artists. When Les Automatistes officially disbanded in 1953, most group members maintained successful individual careers, some joining the ranks of other artist groups who took active roles in lobbying for the procurement of governmental support and funding for Canadian arts and culture. As a result of this ongoing pressure from artists, many government agencies were created to fund advancement and education in the arts, and Canada now boasts “world-class art galleries, concert halls, museums and libraries ...” (Carruthers and Lazarevich, [xv]).

Conclusion

Art can be a powerful form of communication and social action. Moreover, because works of art are generally not perceived as threatening or authoritarian, they are often inadvertently allowed more power in the public sphere than are other forms of communication. In this respect, Lippard points out “the irony of individuals who try to convey their meanings directly, and are then denied public access or are accused of being propagandists. As such, their means of communication are limited” (347). This theory may explain, in part, the success of Automatisme in inciting social change.

Les Automatistes resolutely adhered to an aesthetic that conveyed freedom because they firmly believed their work would have a liberating effect on the spectator and contribute to the evolution of a more liberated society (Belisle and Abramovich, 19). The group’s medium conveyed its intended messages effectively because their symbolic language was not understood by governmental and cleric authorities to be subversive. Thus, Automatiste art was not censored as were other forms of art, literature, and written publications of the era (including the group’s own written manifesto, *Refus global*). It was almost exclusively through their use of an innovative and visually jarring aesthetic that these early postmodernists played a vital role in creating a social and cultural climate receptive to contemporary art and helped to produce an atmosphere ripe for social change in the years leading up to the Quiet Revolution. Canadians have certainly benefited from the Automatistes’ “openness to new thought, [their] audacity, [their] willingness to challenge the social status quo, [and their] readiness to speak for the individual in the face of any form of repression” (Wyman in Carruthers, 142).

Works Cited

- Barthes, Roland. "From Work to Text" in *Art after Modernism: Rethinking Representation*. Ed. Brian Wallis. New York: New Museum of Contemporary Art; Boston: D. R. Godine, 1984. 169-174.
- Baum, Gregory. *The Church in Quebec*. Ottawa: Novalis, 1991.
- Belisle, Josée and Sam Abramovich. *La magie de signes: oeuvres sur papier de la collection Burduas du Musée d'art contemporain de Montreal*. Montreal: Musée d'Art Contemporain de Montreal, 2004.
- Bohn, Willard. *The Rise of Surrealism: Cubism, Dada, and the Pursuit of the Marvellous*. New York: SUNY Press, 2002.
- Borduas, Paul-Émile. *Total Refusal*. Ellenwood, Ray, Trans. Toronto: Exile, 1985.
- Burnett, David and Marilyn Schiff. *Contemporary Canadian Art*. Edmonton: Hurtig, 1983.
- Cameron, Elspeth and Janice Dickin. *Great Dames*. Toronto: U of Toronto P, 1997.
- Carruthers, Glen and Gordana Lazarevich, Eds. *A Celebration of Canada's Arts: 1930-1970*. Toronto: Canadian Scholars' Press, 1996.
- Dickinson, John and Brian Young. *A Short History of Quebec*. 3rd Ed. Montreal: McGill-Queen's UP, 2003.
- Drolet, Michael, Ed. *The Postmodernism Reader: Foundational Texts*. London; New York: Routledge, 2004.
- Durozoi, Gérard. *History of the Surrealist Movement*. Chicago: The U of Chicago P, 2002.
- Easthope, Anthony and Kate McGowan, Eds. *A Critical and Cultural Theory Reader*. Toronto: U of Toronto P, 2004.
- Ellenwood, Ray. *Egregore: A History of the Montreal Automatist Movement*. Toronto: Exile Editions, 1992.
- . "The Automatist Movement of Montreal: Towards Non-Figuration in Painting, Dance, and Poetry." *Canadian Literature/Littérature Canadienne: A Quarterly of Criticism and Review*. Number 112, Spring 1987. pp.11-17. UBC Press.
- Fer, Briony, David Batchelor and Paul Wood. *Realism, Rationalism, Surrealism: Art Between the Wars*. London: Yale UP, 1993.
- Harper, J. Russell. *Painting in Canada: A History*. Toronto: U of Toronto P, 1985.
- Kaplan, E. Ann, Ed. *Postmodernism and Its Discontents: Theories, Practices*. London; New York: Verso, 1988.
- Kuenzli, Rudolf. *Dada: Themes and Movements*. London; New York: Phaidon Press Inc., 2006.
- Lacasse, Yves and John R. Porter, Eds. *History of Art in Quebec: the collection of the Musée national des beaux-arts du Québec*. Québec: Musée national des beaux-arts du Québec, [2004].
- Lippard, Lucy R. "Trojan Horses: Activist Art and Power" in *Art after Modernism: Rethinking Representation*. Ed. Brian Wallis. New York: New Museum of Contemporary Art; Boston: D. R. Godine, 1984. 341-358.
- Locher, David. "Unacknowledged Roots and Blatant Imitation: Postmodernism and the Dada Movement." *Electronic Journal of Sociology*, (1999). <http://www.sociology.org/content/vol004.001/locher.html>. Accessed May 15, 2008.
- Posgate, Dale and Kenneth McRoberts. *Quebec: Social Change and Political Crisis*. Toronto: McClelland and Stewart, 1976.
- Reid, Dennis. *A Concise History of Canadian Painting*. Toronto: Oxford UP, 1973.
- van Schendel, Michel. "Refus Global, or the Formula and History." Trans. Ruth G. Koizim. *Yale French Studies*. 65 (1983): 53-73.
- Walker, John A. *Art and Outrage: Provocation, Controversy and the Visual Arts*. London: Pluto Press, 1999.

Wallis, Brian, Ed. *Art after Modernism: Rethinking Representation*. New York: New Museum of Contemporary Art; Boston: D. R. Godine, 1984.

Notes

1 Automatism is defined as “any unpremeditated action or work,” (Ellenwood, 173) and “an advantageous submission to the demands of spontaneity, to pictorial insubordination, to chance in the use of technique, to romanticism of the brush, and to an overflowing of lyricism” (Durozoi, 501).

2 Under the guise of protecting democracy, the Padlock Act permitted police to lock any building in which they suspected occupants might be conducting Communist or Bolshevik activities. “Taking advantage of this broad definition ... authorities [also] used the act against unions, political groups, and religious minorities such as the Jehovah’s Witnesses” (Dickinson and Young, 293–294).

3 Shock was a primary Dadaist strategy, now a common tactic employed by avant-garde and postmodern artists. Sometimes the level of shock is extensive enough to create public objection or even scandal, thereby generating increased interest in and publicity for the artist or group’s cause (Lawson in Walker, 14).

4 According to cultural theorists, art may be considered a visual language that can be communicated, interpreted, and read. Roland Barthes states: “a text is not a line of words releasing a single ‘theological’ meaning ... but a multi-dimensional space in which a variety of writings ... blend and clash” (146).



Skin Colour and Attractiveness: An Econometric Analysis

BRANT SHAPKA AND RICHARD BREGOLISS

I. Introduction and Statement of Topic

Economists have noted the existence of a beauty premium, or the fact that more attractive people appear to make more money due to their attractiveness. However, if some skin colours are perceived as less attractive than others and less attractive people receive a wage penalty, some skin colours may receive a wage penalty based on attractiveness. The purpose of this paper is to investigate the relationship between skin colour and perceived beauty in the context of the beauty premium.

II. Literature Review

The beauty premium is a widely acknowledged phenomenon in labour economics. Using Canadian and American data, Hamermesh and Biddle (1994) found that the beauty premium and plainness penalties are around 5 to 15 percent of the average-looking person's wage. Using only Canadian data, Roszell, Kennedy and Grabb (1989) found similar results, although the results were not statistically significant for women. Using a British birth cohort, Harper (2000) found a similar beauty premium. The above studies used interviews to judge attractiveness, so all of the subject's physical characteristics were included in the judgements of beauty. However, interviewers often differ, increasing the subjectivity of the rankings. Focusing on obesity, Averett and Korenman (1996) found such women incur a wage penalty relative to women with masses in the recommended range of the Body Mass Index. This is strong evidence for a beauty premium.

The amount of literature on the interaction between skin colour and attractiveness is small. Swami, Furnham and Joshi (2008) noted that within ethnic groups, the literature shows that for women, lighter skin tones are preferred. The literature also shows that (again within ethnic groups) darker skin tones are preferred in men. However, when looking across ethnic groups, the outcomes change. In general, lighter skin tones are preferred for men and women. But, it should be noted that a tanned skin tone is generally considered more attractive in developed nations because it implies a level of social status that permits vacation and leisure. In their empirical

analysis, the authors find that lighter skin colours for females are preferred. However, the use of non-photorealistic line drawings in the surveys makes the results questionable.

Frisby (2006) found the same phenomenon as Swami, Furnham and Joshi (2008) using colour manipulated photographs of women. However, she did not ask her respondents which of the pictures they found more attractive. Instead, her method consisted of asking respondents which picture they would select for an advertising campaign. Asking someone which skin tone would do the best in an advertisement campaign implicitly asks for the person's beliefs on what they think others find attractive, not themselves. That aside, the results are still useful and corroborate Swami, Furnham and Joshi's findings.

Analysing data from the 1991 Canadian Census, Lian and Matthews (1991) found that visible minorities have significantly lower incomes than white Canadians at all levels of education when many socioeconomic variables are controlled for. Analysing data from the 1996 Canadian Census, Gosine (2000) finds similar results. Visible minorities both with and without post-secondary education earned significantly less than white Canadians, again controlling for many socioeconomic variables.

Consistent with the theory espoused above, Hunter (1998) found that lighter skin is positively related to income level and educational attainment for African-American women. Hunter (2002) finds that lighter skin is positively related to income level and educational attainment for both African-American and Mexican-American women.

Both Hunter (1998) and Hunter (2002) argue that the reasons for the above bias toward light skin are sociological in nature. In times of colonialism and slavery, light skin was associated with higher status in the race hierarchy, while darker skin was associated with lower status. In the US, slave owners used to divide slaves on the basis of skin colour to break any group solidarity. A similar system of colour-caste was imposed on the indigenous people of Mexico. While these systems of oppression have fallen apart over time, Hunter contended that beauty acts as social capital. Such capital is defined as prestige

related to social status, reputation, and social networks; and it can be converted into economic and/or educational capital. However, if social capital depends on beauty and beauty depends on skin colour, then clearly social capital depends on skin colour. The implications of this are that economic and/or educational capital both depend on racial characteristics.

III. Theoretical Analysis

To investigate the relationship between attractiveness and skin colour, the ordinal choice model or ordinal regression model (ORM) presented by both Long (1997) and Hill, Griffiths and Lim (2008) was used.

The ORM takes a latent variable y_i^* (where $y_i^* \in (-\infty, \infty)$) and maps it to an observed variable. The observed variable provides incomplete information about the latent variable according to the following equation:

$$y_i = m \text{ if } \tau_{m-1} \leq y_i^* < \tau_m \text{ for } m=1 \text{ to } J$$

The structural model is:

$$y_i^* = \mathbf{X}_i \boldsymbol{\beta} + \varepsilon_i$$

\mathbf{X}_i is a row vector with a 1 in the first column to represent the intercept and subsequent variables in subsequent columns. $\boldsymbol{\beta}$ is a column vector of coefficients with the first row containing the intercept coefficient and subsequent rows containing subsequent parameters. ε_i is the error term.

As such, for a single independent variable, this structural model becomes:

$$y_i = \alpha + \beta x_i + \varepsilon_i \text{ where } \varepsilon_i \sim \Lambda(0, \pi^2/3)$$

For the model to be identified, we assume that $\alpha=0$. The estimation procedure is maximum likelihood. Once the error distribution is specified, it is possible to interpret the results of the above structural model. For example, we can calculate the probability that y_i takes some value given some value of x_i .

IV. Empirical Analysis

Before presenting the data, the nature of the error term should be discussed. In the ordinal choice model, the error term is present for the usual reasons. There are many other factors that affect how attractive a person is other than skin colour, like bone structure, hair colour, etc. While Langlois et al. (2000) have found that there is strong agreement on what is considered attractive across cultures, people obviously still differ in their tastes. As such, the error term accounts for individual tastes not captured by skin colour.

IV.A – Empirical Analysis – Data – Sources

To collect data, two base pictures of one white male and one white female were selected. These base pictures then had their skin tone darkened by an experienced graphic designer to three progressively darker (but not exactly equidistant) shades using computer software. The pictures were then posted on the attractiveness rating site, "Hot or Not" (Eight Days, Inc., 2008). This site was selected both because it is popular and because it only allows a computer to rate a given picture once. The ratings retrieved from the website are the dependant variable in our ORM model, and are referred to as $RATING_i$ in the structural form of the model given below.

By using the website, a measure of randomness in the sampling is ensured. Also, this method avoids asking people to rate progressively darker pictures of the same person at the same time, unlike the studies in the literature review. People asked to do this may suspect that the person asking such questions is investigating if they are discriminatory, and may give answers that are less than honest as a result.

Colour was then quantified using the Lab colour space. Like the familiar RGB (red-green-blue) colour space, Lab seeks to quantify colour in three-dimensional space. L is a lightness dimension, while a and b are two colour dimensions. Lab has a distinctive advantage over RGB in that it seeks to approximate human perceptions of colour. In particular, L closely matches human perception of lightness and darkness (Sharma, 2002). To quantify the colour of the face, a set of L, a, and b values was calculated by taking an average from different areas of the face.

However, Lab values between the different pictures were collinear. As such, the variable $COLOUR_i = (L_f + a_f + b_f)/3$ was created and used as the independent variable to allow valid estimation to occur. It is clear that $COLOUR_f$ is a simple average of the Lab values of the face, and that $f \in [1,4]$ because there are only four pictures (for each gender.) This manipulation is acceptable because as a person's skin colour becomes darker, all components of $COLOUR_i$ tend to fall, since they exhibit strong collinearity.

To ensure that the pictures were valid in the sense that a typical person could tell the different skin tones apart, ΔE_{ij} was calculated. ΔE_{ij} is simply the Euclidian distance between two colours i and j in the Lab colour space. Sharma (2002) noted that the least noticeable difference in colour, or the ΔE_{ij} below which humans can see no difference between the colours i and j , is approximately 2.3. All calculated ΔE_{ij} values were at least 4.25 times larger than 2.3.

With the general model and the variables presented above, we can present our modified version of the ORM model. We will be using a model of the form:

$$RATING_i = m \text{ if } \tau_{m-1} \leq RATING_i^* < \tau_m \text{ for } m=1 \text{ to } J$$

where $RATING_i$ and $E[1,10]$ and $J=9$. As stated above, $RATING_i$ is an ordinal rating of attractiveness on a standard 1 to 10 scale taken from the website. The maximum score a person can get is 10, hence $J=9$. The structural form of the model is therefore:

$$RATING_i^* = \alpha + \beta COLOUR_f + \varepsilon_i \text{ where } \varepsilon_i \sim N(0, \pi^2/3)$$

IV. B–Empirical Analysis–Presentation and Interpretation of Results

The estimated ORM for the male pictures lack statistical significance, thus results and interpretations are omitted.

Variable	$\hat{\beta}$	$\sqrt{\widehat{\text{Var}}(\hat{\beta})}$	z	$P(Z > z)$
$RATING_i$	0.05	0.0076	7.16	0.000
Limit Points				
τ_0	-2.02	0.2037	-9.90	0.0000
τ_1	-1.26	0.1917	-6.59	0.0000
τ_2	-0.79	0.1879	-4.20	0.0000
τ_3	-0.31	0.1858	-1.67	0.0954
τ_4	0.47	0.1849	2.52	0.0116
τ_5	1.11	0.1858	5.98	0.0000
τ_6	1.86	0.1880	9.90	0.0000
τ_7	2.94	0.1925	15.26	0.0000
τ_8	4.02	0.2017	19.93	0.0000

Table 1. The estimated ORM results for the female pictures for the sample size of 1834.

As shown in Table 1, the coefficient of colour is significantly different from zero, while one of the limit point coefficients was not. The p value for the likelihood ratio statistic was 0 and pseudo R squared was 0.004. The prediction evaluation was also low at 21 percent success. As such, we conclude that skin colour is a predictor of the attractiveness rankings of women, albeit not a strong one.

Light (L)		Darker Light (DL)		Lighter Dark (LD)		Dark (D)	
Rating	P(rating)	Rating	P(rating)	Rating	P(rating)	Rating	P(rating)
1	0.03	1	0.03	1	0.04	1	0.05
2	0.03	2	0.03	2	0.04	2	0.05
3	0.03	3	0.03	3	0.04	3	0.05
4	0.05	4	0.05	4	0.06	4	0.07
5	0.12	5	0.12	5	0.14	5	0.16
6	0.14	6	0.14	6	0.15	6	0.16
7	0.19	7	0.19	7	0.18	7	0.17
8	0.23	8	0.22	8	0.19	8	0.17
9	0.12	9	0.11	9	0.09	9	0.08
10	0.08	10	0.07	10	0.06	10	0.05

Table 2. The predicted probabilities for each ranking female.

Several patterns are visible in the results, and these patterns are easier to see in Table 3, a table of ten matrices. Each individual matrix compares the predicted probabilities for all four skin tones for a given rating. For a given entry in the matrix, the probability identified in the column is subtracted from the probability identified in the row.

1		L	DL	LD	D
	L	-	-0.0032	-0.0126	-0.0211
	D				
	L	0.0032	-	-0.0094	-0.018
	D	0.0126	0.0094	-	-0.0085
2		L	DL	LD	D
	L	-	-0.0031	-0.0123	-0.0203
	D				
	L	0.0031	-	-0.0092	-0.0171
	D	0.0123	0.0092	-	-0.008
3		L	DL	LD	D
	L	-	-0.0031	-0.012	-0.0194
	D				
	L	0.0031	-	-0.0089	-0.0162
	D	0.012	0.0089	-	-0.0074
4		L	DL	LD	D
	L	-	-0.0042	-0.0157	-0.0248
	D				
	L	0.0042	-	-0.0115	-0.0205
	D	0.0157	0.0115	-	-0.009
5		L	DL	LD	D
	L	-	-0.0083	-0.0289	-0.0429
	D				
	L	0.0083	-	-0.0206	-0.0345
	D	0.0289	0.0206	-	-0.014
6		L	DL	LD	D
	L	-	-0.0055	-0.0163	-0.0208
	D				
	L	0.0055	-	-0.0107	-0.0152
	D	0.0163	0.0107	-	-0.0045
7		L	DL	LD	D
	L	-	-0.0004	0.0037	0.0108
	D				
	L	0.0004	-	0.0041	0.0112
	D	-0.0037	-0.0041	-	0.0071
8		L	DL	LD	D
	L	-	0.0099	0.0366	0.0569
	D				
	L	-0.0099	-	0.0268	0.0471
	D	-0.0366	-0.0268	-	0.0203
9		L	DL	LD	D
	L	-	0.01	0.0325	0.0467
	D				
	L	-0.01	-	0.0225	0.0367
	D	-0.0325	-0.0225	-	0.0142
10		L	DL	LD	D
	L	-	0.0081	0.0249	0.0347
	D				
	L	-0.0081	-	0.0169	0.0267
	D	-0.0249	-0.0169	-	0.0098

Table 3. Table of Discrete Change Matrices - Female

Table 3 contains three prominent effects we shall call effects one, two and three for clarity. The first effect is that a dark (light) skinned female is generally more likely to be rated as unattractive (attractive) than a light (dark) skinned female. If we define unattractive as a rating

of less than or equal to five and attractive as a rating of greater than five, this becomes clear. Again, the lower diagonal for every matrix m always sees the probability of being rated m for a lighter skin tone being subtracted from the probability of being rated m for a darker skin tone. The values in the lower (upper) diagonal of each matrix m for $1 \leq m \leq 6$ are all positive (negative). The implication of this is that women with darker (lighter) skin are more (less) likely to be rated as unattractive or in the case of $m=6$, marginally attractive. The values in the lower (upper) diagonal of each matrix m for $8 \leq m \leq 10$ are all negative (positive). The implication of this is that women with darker (lighter) skin are less (more) likely to be rated as attractive. The difference between being rated a 7 for DL (as defined in Table 2) and being rated 7 for L is positive, implying that a female with darker skin is more likely to be rated slightly attractive than a female with lighter skin. However, the effect only exists between DL and L, not L and any other darker skin tone.

The second effect concerns the change in probabilities between each matrix. If we compare matrix m to matrix $m+1$ and the differences in probabilities converge (diverge) from zero, the difference between ratings for different skin colours becomes less (more) prominent. We can see in the above table that for matrix 2, the differences converge to zero with respect to matrix 1. For matrices 3, 4 and 5, the differences diverge from zero with respect to matrix 2. For matrices 6 and 7, the differences converge to zero with respect to matrix 5. For matrix 8, the differences diverge from zero with respect to matrix 7. For matrices 9 and 10, the differences converge to zero with respect to matrix 8.

The third effect concerns the relative differences in being rated m for each skin colour, holding m constant. If we look at the first matrix, we can see that as skin colour becomes darker (lighter), the probability of being rated 1 increases (decreases) for all skin tones. This pattern is true for all matrices up to six. Then the pattern reverses, and we see that as skin colour becomes darker (lighter), the probability of being rated 7, 8, 9 or 10 decreases (increases) for all skin tones.

V. Conclusion

This paper attempted to investigate the relationships between skin colour and attractiveness. As noted above, other research has found that as skin colour becomes darker, perceptions of attractiveness fall for women. However, this research was neither plentiful nor in depth. Most currently existing studies investigate the relationship between race and attractiveness, but skin colour and other racial characteristics are collinear, so the exact effect of skin colour on attractiveness was not known. This paper's methodology allows for an estimation of the effect of only skin colour on attractiveness by controlling for other racial characteristics. Several other problems such as non-random sampling and questionable survey methods were also avoided.

Our ordinal logit model was estimated using data taken from the popular attractiveness rating website, "Hot or Not." This data comprised the dependant variable we sought to explain. Again, this data was generated by posting pictures that we manipulated using computer software; the independent variable was the skin colour of the pictures that we posted on the website.

It was found that women with darker skin are less likely to be rated as attractive relative to women with lighter skin. For a given rating m , we found that the difference in the probability of being rated m increases (decreases) as the skin colours being compared diverge (converge). We also found that the differences are larger for some rankings than for others. Differences followed the pattern of converging for very low ratings, diverging up to the point of neutrality (a ranking of around 5) converging for slightly high rankings, diverging for high rankings and last converging for very high rankings.

Our analysis was limited by the inability to collect demographic data on the people rating the pictures. With such information, a multivariate model could be created that would likely have much more explanatory power. The pictures may also appear strange to some people, and people that find the pictures strange may rate the person as unattractive. This is certainly a valid criticism, and with more time and funding a much more realistic set of pictures could have been created.

Works Cited

- Averett, S., & Korenman, S. (1996). The Economic Reality of the Beauty Myth. *The Journal of Human Resources*, 31 (2), 304–330.
- Eight Days, Inc. "Hot or Not" (2008) <http://www.hotornot.com>. Accessed 2008.
- Frisby, C. M. (2006). "Shades of Beauty": Examining the Relationship of Skin Colour to Perceptions of Physical Attractiveness. *Facial Plastic Surgery*, 22 (3), 175–190.
- Gosine, K. (2000). Revisiting the Notion of a 'Recast' Vertical Mosaic in Canada: Does a Post Secondary Education Make a Difference? *Canadian Ethnic Studies*, 32 (3), 89–104.
- Hamermesh, D. S., & Biddle, J. E. (1994). Beauty and the Labour Market. *The American Economic Review*, 84 (5), 1174–1194.
- Harper, B. (2000). Beauty, Stature, and the Labour Market. *Oxford Bulletin of Economics and Statistics*, 771–800.
- Hill, C., Griffiths, W., & Lim, G. (2008). *Principles of Econometrics* (3rd Edition). Willey & Sons.
- Hunter, M. L. (2002). "If You're Light You're Alright": Light Skin Color as Social Capital for Women of Color. *Gender & Society*, 16 (2), 175–193.
- . (1998). Colorstruck: Skin Color Stratification in the Lives of African American Women. *Sociological Inquiry*, 68 (4), 517–535.
- Langlois, J. H., Kalakanis, L., Rubenstein, A. J., Larson, A., Hallam, M., & Smoot, M. (2000). Maxims or Myths of Beauty? A Meta-Analytic and Theoretical Review. *Psychological Bulletin*, 126 (3), 390–423.
- Lian, J. Z., & Matthews, D. R. (1991). Does the Vertical Mosaic Still Exist? Ethnicity and Income in Canada? *The Canadian Review of Sociology and Anthropology*, 35 (4), 461–481.
- Long, J. S. (1997). *Regression Models for Categorical and Limited Dependent Variables*. Sage Publications Inc.
- Roszell, P., Kennedy, D., & Grabb, E. (1989). Physical Attractiveness and Income Attainment Among Canadians. *Journal of Psychology*, 547–559.
- Sharma, G. (2002). *Digital Color Imaging Handbook*. CRC Press.
- Swami, V., Furnham, A., & Joshi, K. (2008). The influence of skin tone, hair length, and hair colour on ratings of women's physical attractiveness, health and fertility. *Scandinavian Journal of Psychology* 49 (5), 429–437.



A Comparison of Canadian and Chinese Student Motivations to Visit Japan

YUMIKO SUZUKI

Introduction

Japan has faced a tourism deficit for several years and launched the Visit Japan Campaign in 2003 in order to increase the number of international visitors to Japan. The government set a goal of inbound tourism at attracting 10 million international tourists annually by 2010. According to the Japan National Tourism Organization report (2008), Japan recorded the highest number of visitors, approximately 8.35 million, in 2007, but still needs to attract another two million foreign tourists to Japan annually in the next two years. The Chinese market may have an important role in improving this situation, since China's outbound tourism has been expanding and Japan has gradually caught the attention of Chinese tourists (Kohno, 2008). Furthermore, through the author's experience in Canada, Canadians seem to have more interest in visiting Europe and the USA than Asia. Although their attitudes toward Japanese culture and products are favourable, Japan has not yet been recognized as a major travel destination.

Inbound tourism is involved with diverse groups of people, and travel motivations may vary depending on cultural background. Kim and Prideaux (2005) advised that destinations that fail to understand the cultural aspects of motivations will lose potential visitors; however, once they successfully identify the primary travel motives, they can be in a stronger position to maximize the appeal and promotions in target markets.

The purpose of this research is to compare Canadian and Chinese student motivations to visit Japan. Specifically, objectives of the project are: (1) to describe students' destination attribute preferences in general, (2) to describe their views about Japan, (3) to describe their travel motivations to visit Japan, and (4) to test for differences in the above factors. By comparing Canadian and Chinese students at Thompson Rivers University (TRU), motivational differences may be found between these two nationalities. The findings will inform strategies to enhance Japanese tourism marketing and to stimulate more foreign tourists to visit Japan.

Limitations

This is a pilot study for the author's graduation seminar project; therefore, the following limitations need to be considered when interpreting the results.

1. Sampling. Due to time limitations, a convenience sample of 80 students was chosen for this study. Therefore, the results are not intended to represent Canadian and Chinese students at TRU overall.

2. Student interest. Some students' attitudes toward the survey were very low, possibly indicating they answered questions without properly reading them.

3. Questionnaire content. The questionnaire could not cover all the factors and topics mentioned in the literature, given the desire to limit the length of the survey.

4. Language. Errors may have occurred because of the wording and misunderstanding of questions, especially for Chinese students whose first language is not English.

Methodology

Sample Selection

The population sampled was comprised of Canadian and Chinese students at TRU. There were 447 Chinese students enrolled at TRU in the fall semester of 2008. This number did not include students from Taiwan and Hong Kong. As for Canadian students, there were approximately 8,500 students registered that same semester (Y. Ozawa, personal communication, October 7, 2008). Assuming a response rate of 90%, the desirable total sample would be approximately 80 students which would provide a margin of error of $\pm 10\%$ with a 90% confidence level. Ideally, a minimum of 30 responses were needed from each of the Canadian and Chinese student groups so that the two different nationality groups could be compared statistically.

Instrumentation

The survey questionnaire was three pages long with 50 statements, and was designed to be completed in five to ten minutes. Although Chinese students were part of the sample, only an English version of the questionnaire was prepared. The survey questions were developed based on past studies. In order to measure the travel motivations, 3-point and 5-point Likert-type scales were used. There are five sections in the survey and details are described below.

a. Choosing a destination. This section included 12 statements to investigate how each destination attribute is important for Canadian and Chinese students when they choose a place to visit. Items were mainly borrowed from the study of Lehto, et al. (2002). Items from the TAMs questionnaire (Statistics Canada, 2006) and Kim et al. (2005) were also referred to in question development. Responses were measured by using a 3-point Likert-type scale (1= Not important to 3 = Highly important).

b. Views about Japan. This section included ten statements to describe Canadian and Chinese students' attitudes toward and perceptions about Japan. Statements were developed based on personal interests and past studies (Okamura, 2008; Kohno, 2008). Responses were measured by using a 5-point Likert-type scale (1 = Strongly disagree to 5 = Strongly agree).

c. Reasons to visit Japan. This section included 15 statements to identify push motivation factors for visiting Japan. Items were mainly borrowed from the study of Hanqin and Lam (1999) and divided into five factors: knowledge, prestige, enhancement of human relationship, relaxation, and novelty. Motivation items in the study by Kim and Prideaux (2005) were also employed in order to adapt statements into travel motivations for visiting Japan. Responses were measured by using a 5-point Likert-type scale (1 = Not at all important to 5 = Extremely important).

d. Destination attractiveness. This section included 13 items to describe pull motivation factors for visiting Japan. Four pull motivation factors – expenditures, attractions, natural environment, and others – were chosen from the previous studies and used to

develop items relating to Japan (Hanqin & Lam 1999; Kim et al., 2006). In order to adapt the items into Japanese attractiveness, statements were developed referring to popular activities in Japan (Japan National Tourism Organization, 2007; Kohno, 2008). Responses were measured by using a 5-point Likert-type scale (1 = Not at all important to 5 = Extremely important).

e. Demographics. This section was developed based on the study by Kim and Jogaratnam (2002) and included eight demographics questions as follows: 1) sex, 2) nationality, 3) program, 4) age, 5) main source of finance, 6) preferred length of overseas trip, 7) preferred travel group size, and 8) if they have been to Japan or not.

Data Collection

Data collection began on October 30th, 2008, and all questionnaires were collected by November 17th, 2008. Potential respondents were identified by asking their nationality before giving the questionnaires. The survey was conducted on the TRU campus in the Old Main (OM), Arts and Education (AE), and International (IB) buildings with the assistance of the author's friends, and by visiting classes, such as a Japanese class on November 4th and a business class on November 5th, with the permission of instructors. Thirteen responses were collected from the Japanese class, and 22 responses were collected from the business class. The remaining questionnaires were individually collected on campus. In total, 83 questionnaires were collected, of which three were removed due to an excessive amount of missing data and unanswered questions. After elimination, the final sample size was 80 (96.4%), which was the same as the original goal.

Data Analysis

The data was analyzed by using the Statistical Package for the Social Science (SPSS) software. Descriptive statistics and frequencies were computed for all variables. Independent sample t-tests were employed to examine the significant differences between the two sample groups related to destination choice, views about Japan, and travel motivations to visit Japan.

Results

Respondent Characteristics

Table 1 shows the characteristics of the 80 Canadian and Chinese students at TRU who responded to the survey. Overall, the sample was over-represented by females (73.8%) compared to males (26.2%). Also, the majority of the respondents (95%) were under 25 years of age, and the 5% of respondents over 25 years old included only Canadian students. Over 50% of the respondents study business, followed by tourism (30%) and arts (8.8%). This result may be due to visiting only a business class and a Japanese class to collect the surveys, as well as obtaining cooperation from tourism students in the author's class. The students' main source of financing was parents or family (62.8%), followed by self-savings (19.2%) and student loans (12.8%). The most preferred length for an overseas trip was 1-3 weeks (51.9%), followed by over 4 weeks (25.3%) and 4-6 days (21.5%). With respect to the most preferred travel group size, a group of two people (37.2%) was the most preferred group size, followed by groups of four people (26.9%) and three people (16.7%). Finally, only seven respondents (8.8%) had been to Japan more than once, and five of them were from China. Because of the geographical proximity, it seems that Chinese students tend to have more opportunities to visit Japan.

Statistically significant differences were found between Canadian and Chinese students in terms of main source of finance ($p = .020$) and preferred length of overseas trip ($p = .000$). By comparing the mean of main source of finance, Canadian students were more likely to obtain their financial source from their self-savings (30%) and student loans (25%). On the other hand, Chinese students were apt to rely on their parents and family (84.2%). Furthermore, 1-3 weeks (Canadian = 52.5%; Chinese = 51.3%) was the most preferred length of overseas trips for both groups. Nevertheless, trips of over four weeks (45.0%) were the second preferred length of a trip by Canadians, although 4-6 day trips (41.0%) were second for Chinese students. In short, Canadian students were likely to prefer longer trips than Chinese students.

		Total (N=80)		Canadian Students (N=41)		Chinese Students (N=39)	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Sex	Male	21	26.2%	10	24.4%	11	28.2%
	Female	59	73.8%	31	75.6%	28	71.8%
Age	Under 20	13	16.5%	10	25.0%	3	7.7%
	20-25	62	78.5%	26	65.0%	36	92.3%
	26-30	3	3.8%	3	7.5%	0	0.0%
	Over 30	1	1.3%	1	2.5%	0	0.0%
Nationality	Canadian	41	51.2%	41	100.0%	0	0.0%
	Chinese	39	48.8%	0	0.0%	39	100.0%
Program	Tourism	24	30.0%	13	31.7%	11	28.2%
	Business	41	51.2%	18	43.9%	23	59.0%
	ESL	3	3.8%	0	0.0%	3	7.7%
	Arts	7	8.8%	7	17.1%	0	0.0%
	Other	5	6.2%	3	7.3%	2	5.1%
Main Source of Finance	Assistantship/ Scholarship	1	1.3%	1	2.5%		0.0%
	Parents / Family	49	62.8%	17	42.5%	32	84.2%
	Self-savings	15	19.2%	12	30.0%	3	7.9%
	Loans	10	12.8%	10	25.0%	0	0.0%
	Other	3	3.8%	0	0.0%	3	7.9%
Preferred Length of Overseas Trip	1-3 days	1	1.3%	0	0.0%	1	2.6%
	4-6 days	17	21.5%	1	2.5%	16	41.0%
	1-3 weeks	41	51.9%	21	52.5%	20	51.3%
	Over 4 weeks	20	25.3%	18	45.0%	2	5.1%
Preferred Travel Group Size	Individual	5	6.4%	2	5.0%	3	7.9%
	Two	29	37.2%	15	37.5%	14	36.8%
	Three	13	16.7%	8	20.0%	5	13.2%
	Four	21	26.9%	10	25.0%	11	28.9%
	Over five	10	12.8%	5	12.5%	5	13.2%
Have you ever been to Japan?	Yes	7	8.8%	2	4.9%	5	12.8%
	No	73	91.2%	39	95.1%	34	87.2%

Table 1. Respondent Characteristics

Choosing a Destination

Table 2 shows the destination attributes preferred by Canadian and Chinese students when they choose a destination to visit. Both Canadian ($M=2.89$) and Chinese ($M=2.72$) students were most concerned about personal safety. Similarly, standards of hygiene and cleanliness were also rated high by both Canadian ($M=2.51$)

and Chinese (M=2.46) student groups. Therefore, it is evident that positive perceptions of safety and cleanliness are essential elements to determine the travel destination.

A statistically significant difference was found in terms of shopping opportunities. The result revealed that, on average, Chinese students (M=2.44) preferred shopping more than Canadian students (M=2.02). Although differences were not noted statistically, on average, Canadian students (M=2.39) tended to put more value on outdoor activities compared to Chinese students (M=2.10). As shown in the results, their preferences were opposite regarding shopping opportunities and outdoor activities. Chinese students placed a relatively high importance on shopping opportunities which were the least important attributes for Canadian students. In the same way, Canadian students placed relatively high importance on outdoor activities which were the least preferred attributes for Chinese students. This result may be due to Canadian students being more familiar with and having access to those activities because of abundant natural resources and a well-equipped environment. In contrast, assuming that many of the Chinese students are from big cities like Beijing and Shanghai, they have not grown up in similar circumstances as Canadian students and have had fewer chances to experience outdoor activities. As a result, their attention tends to move toward shopping or other leisure activities which do not require natural resources.

	Canadian Mean	Chinese Mean	P-value
Shopping opportunities	2.02	2.44	.013*
Outdoor activities	2.39	2.10	.060
Outstanding scenery	2.49	2.32	.196
Availability and ease of access to travel information	2.49	2.34	.258
Personal safety	2.80	2.72	.367
Environmental quality	2.49	2.38	.439
Good weather	2.24	2.36	.488
Inexpensive travel cost	2.34	2.42	.588
Different cultural and historical resources	2.32	2.38	.616
Trying local foods	2.39	2.46	.628
Standards of hygiene and cleanliness	2.51	2.46	.671
Well-equipped tourism facilities	2.29	2.32	.867
*P ≤ 0.05			

Table 2. Choosing a Destination

Views about Japan

The result of views about Japan is shown in Table 3. Overall, most students from both groups seem to have positive perceptions about Japan; for example, relatively higher means were seen in the politeness and friendliness of Japanese people as well as their desire to visit Japan in the near future. Yet, Chinese students seem to have more negative perceptions about Japan.

There were four significant differences between the two groups. Regarding acquaintance with history, Chinese students ($M=2.92$) tended to have higher hostility compared to Canadian students ($M=1.46$). This result could be due to hostilities between China and Japan during the Second World War. Whether historical background has an impact or not, Canadian students ($M=3.85$) showed a higher interest in communicating with Japanese people compared to Chinese students ($M=3.33$). Moreover, Canadian students ($M=2.90$) rated higher on the desire to either study or work in Japan than Chinese students ($M=2.33$). Finally, Chinese students ($M=3.58$) rated higher on fear of earthquakes and typhoons compared to Canadians ($M=3.00$). Because of the similarity in geographical features, Chinese students may have experienced those events and know better how damaging they can be. Particularly, the Sichuan earthquakes in 2008 might still be fresh in their minds as it caused severe damage to the area.

	Canadian Mean	Chinese Mean	P-value
I have hostility toward Japan because of its history	1.46	2.92	.000*
I like interacting with Japanese people	3.85	3.33	.007*
I would like to study or work in Japan	2.90	2.33	.012*
I fear earthquakes and typhoons	3.00	3.58	.023*
Japanese people are polite and friendly	4.20	3.90	.094
Japan is too busy and crowded	3.39	3.67	.184
Traveling to Japan is expensive	3.37	3.59	.228
I would like to visit Japan in the near future	3.76	3.62	.505
I am worried about the language barrier in Japan	3.17	3.31	.571
I prefer Japanese brand electronic appliances	3.29	3.36	.711

* $P \leq 0.05$

Table 3. Views about Japan

Reasons to Visit Japan

Table 4 describes the results of the reasons to visit Japan, which are also considered push factors in motivation theories. Reasons to visit Japan were divided into five motivational factors: knowledge, prestige, enhancement of human relationship, relaxation, and novelty. Upon examining the factors, the main reasons to visit Japan in the future were to enhance their knowledge and to seek novelty, which were rated as the most or second-most important factor. Overall, the means of the Canadian students were relatively higher than those of Chinese students. However, only the prestige factor was slightly higher for Chinese students although it was rated relatively low by both groups. As respondents are still students, their interest in prestige appears to be low, and Japan may not yet be regarded as a reputable destination for them.

Furthermore, significant differences were found in the following factors.

Knowledge. Most items from the knowledge factor demonstrated statistically significant differences. Overall, Canadian students placed higher importance on most knowledge items. For instance, they put higher value on visiting historical and cultural sites ($M=3.85$) and experiencing the Japanese lifestyle ($M=3.80$). As for Chinese students, lower levels of importance were reported regarding knowledge. However, Chinese students put higher value on trying Japanese food ($M=3.92$) which was the highest mean among all items.

Enhancement of Human Relationships. Canadian students scored higher on meeting Japanese people ($M=3.68$) and making friends with others ($M=3.61$). On the other hand, Chinese students were less likely to be motivated by the human relationship factor.

Relaxation and Novelty. Canadian students had a higher likelihood of seeking relaxation ($M=3.60$) and novelty ($M=3.70$) as reasons to visit Japan. Consistent with past studies (Ontario Ministry of Tourism, 2007), relieving stress and seeking stimulation were important reasons to travel. As shown by the higher mean scores for novelty, differences in culture may be attractive and unique for Canadian students. On the other hand, Chinese students placed less

importance on relaxation and novelty, possibly due to the cultural similarities between Japan and China.

	Canadian Mean	Chinese Mean	P-value
Factor 1: Knowledge	3.70	3.18	
Visiting historical and cultural sites in Japan	3.85	2.79	.000*
Increasing knowledge about Japanese culture	3.68	2.74	.000*
Experiencing a different lifestyle	3.80	3.28	.021*
Trying Japanese food	3.46	3.92	.055
Factor 2: Prestige	2.90	2.99	
Purchasing Japanese products and showing them to others	2.56	2.86	.247
Taking pictures and showing them to others	3.44	3.23	.438
Going places my friends have not visited	2.70	2.87	.560
Factor 3: Enhancement of Human Relationship	3.21	2.72	
Meeting Japanese people	3.68	2.84	.001*
Making friends with others through visiting Japan	3.61	2.92	.004*
Visiting friends or relatives	2.35	2.41	.843
Factor 4: Relaxation	3.60	2.89	
Escaping from daily routine	3.59	2.64	.000*
Releasing daily stress	3.63	2.92	.006*
Resting and relaxing physically	3.59	3.11	.062
Factor 5: Novelty	3.70	3.00	
Finding thrills or excitements	3.90	3.13	.001*
Rediscovering myself	3.49	2.87	.013*
*P ≤ 0.05			

Table 4. Reasons to Visit Japan

Destination Attractiveness

Table 5 shows the pull factors representing the destination attractiveness of Japan. Destination attractiveness was assessed using four factors: expenditures, attractions, natural environment, and others. Upon examining individual items, seeing beautiful scenery was rated highest overall by both Canadian and Chinese

students. Shopping was the least important item for Canadian students, as discussed earlier, while seeing a sports game was the least important for Chinese students. Upon examining all factors, the natural environment was the most important factor to attract Canadian students whereas expenditures (opportunities to purchase goods and services) were the most important factor for Chinese students.

Comparing the two groups statistically, significant differences were found in the following two factors.

Expenditures. Chinese students tend to be attracted by activities involving shopping, eating Japanese food, and experiencing night life and entertainment. It has been noted that Chinese students seek shopping opportunities in Asian countries (Kohno, 2008). As the result of financial sources showed, Canadian students rely significantly on self-savings and student loans; therefore they may be reluctant to spend money above and beyond necessities.

	Canadian Mean	Chinese Mean	P-value
Factor 1: Expenditures	3.23	3.78	
Shopping (e.g. electronic appliances, clothing)	2.59	3.64	.000*
Eating at authentic Japanese restaurants	3.46	3.85	.110
Experiencing night life/ entertainment (e.g. Karaoke, Geisha)	3.63	3.85	.406
Factor 2: Attractions	3.44	3.39	
Visiting old temples and shrines	3.88	3.15	.006*
Visiting Japanese gardens	3.76	3.15	.015*
Visiting theme parks (e.g. Tokyo Disneyland, Universal Studio)	3.07	3.67	.025*
Visiting animation museums and shops	2.90	3.23	.200
Visiting modern cities and experiencing high technology	3.37	3.51	.500
Visiting hot springs	3.63	3.62	.940
Factor 3: Natural Environment	3.63	3.45	
Seeing beautiful scenery (e.g. cherry blossoms, mountains)	4.10	3.87	.333
Going to ski hills/ beaches	3.15	3.03	.667
Factor 4: Others	2.95	2.58	
Visiting the sister city of Kamloops, Uji	2.93	2.51	.134
Seeing sports game (e.g. baseball, sumo)	2.68	2.29	.155
Experiencing tea ceremony and craft making	3.24	2.95	.281

*P ≤ 0.05

Table 5. Destination Attractiveness

Attractions. Canadian students scored higher on visiting traditional Japanese places such as old temples and shrines ($M=3.88$) as well as Japanese gardens ($M=3.76$), whereas Chinese students rated higher on visiting theme parks ($M=3.67$). Possibly, Canadian students' limited exposure to Asian history and culture explains their strong interest in visiting traditional places in Japan. There was a tendency for Canadian students to indicate their attraction to traditional Japanese culture as well as the country's pristine nature. Conversely, Chinese students were stimulated by modern Japanese culture and places.

Conclusions

This research was designed to investigate motivational differences to visit Japan between Canadian and Chinese students. The results of the responses revealed that there were differences as well as similarities in their travel motivations.

Both Canadian and Chinese students were concerned about safety and standards of hygiene and cleanliness when choosing a travel destination. In addition, both student groups showed a strong desire to acquire more knowledge and were attracted by the beautiful scenery in Japan.

On the other hand, differences were found regarding a destination's preferred attributes and travel motivations. In general, Canadian students prefer outdoor activities and have the least interest in shopping, while Chinese students value shopping opportunities most. With respect to push motivation factors, Canadian students expected more opportunities to interact with Japanese people as well as to experience relaxation and novelty compared with Chinese students. The results of the pull motivation factor demonstrated that Canadian students were fascinated by beautiful natural environments and historical places while Chinese students were more interested in opportunities to purchase goods and services such as shopping, dining, and visiting theme parks in Japan.

It appears that Canadian students are attracted by traditional Japanese culture and places while Chinese students seek the modern

culture of Japan. It is possible that because China has a great history and culture which influenced the development of Japanese culture, experiencing modern popular culture and entertainment in Japan is more attractive for them. In contrast, Canada has a totally different culture from China and Japan since Canadian culture has been strongly influenced by British and French culture due to its colonial past, and thus traditional Japanese culture would be exotic and intriguing for them. It seems that differences in cultural background are associated with perceptual and motivational differences between Canadian and Chinese students. Therefore, Japan needs to acknowledge these differences to develop effective marketing strategies for each market.

Note:

Yumiko Suzuki's study was selected by the BC Market Research and Intelligence Association as the winning submission to their 2009 Student Marketing Research Contest.

Works Cited

- Hanqin, Z.Q., & Lam, T. (1999). An analysis of Mainland Chinese visitors' motivation to visit Hong Kong. *Tourism Management*, 20(5). Retrieved September 20, 2008 from Science Direct database.
- Japan National Tourism Organization. (2008). *Visitor arrivals and Japanese overseas travelers*. Retrieved September 23, 2008 from <http://www.jnto.go.jp/jpn/downloads/080418stat.pdf>
- Kim, K., Jogaratnam, G., & Noh, J. (2006). Travel decisions of students at a US university: Segmenting the international market. *Journal of Vacation Marketing*, 12(4). Retrieved October 15, 2008 from Sage Journal Online database.
- Kim, K.Y., & Jogaratnam, G. (2002). Travel motivations: A comparative study of Asian international and domestic American college students. *Journal of Travel and Tourism Marketing*, 13(4). Retrieved September 20, 2008 from Hospitality and Tourism Complete database.
- Kim, S. S., Guo, Y., & Agrusa, J. (2005). Preference and positioning analyses of overseas destinations by mainland Chinese outbound pleasure tourists. *Journal of Travel Research*, 44. Retrieved September 23, 2008 from Sage Journals Online database.
- Kim, S.S., & Prideaux, B. (2005). Marketing implications arising from a comparative study of international pleasure tourist motivations and other travel-related characteristics of visitors to Korea. *Tourism Management*, 26(3). Retrieved September 20, 2008 from Science Direct database.
- Kohno, M. (2008, January). *Trends in China's Outbound Market to Japan*. Retrieved September 21, 2008 from <http://www.tourism.jp/english/report/2008/01>

- /29/report-eng-01.php
- Lehto, X.Y., O'Leary, J.T., & Morrison, A.M. (2002). Do psychographics influence vacation destination choices? A comparison of British travellers to North America, Asia and Oceania. *Journal of Vacation Marketing*. 8(2). Retrieved September 19, 2008 from Sage Journals Online database.
- Okamura, N. (2008, October 3). Japan seeks foreign tourists to boost economy. *Reuters UK*. Retrieved October 10, 2008 from <http://uk.reuters.com/article/idUKTRE4921KQ20081003>
- Ontario Ministry of Tourism. (2007). *Travel activities and motivations of Canadian residents: An overview*. Retrieved September 23, 2008 from http://www.tourism.gov.on.ca/english/research/travel_activities/TAMS%202006%20Overview%20Canadian%20Report.pdf
- Statistics Canada. (2006). *Travel activities and motivation survey-2006*. Retrieved October 13, 2008 from http://www.tourism.gov.on.ca/english/research/travel_activities/2006%20TAMS-questionnaire_Canada_English.pdf



Medicated Blue: The Creative Process of Giving Schizophrenia a Voice

BETH WALKER

Within the scope of the film, *Medicated Blue*, is the difficult subject of schizophrenia, and my mother's descent into its hellish nightmare. Schizophrenia is a stress-related disorder. *The Concise Oxford Dictionary* states that schizophrenia is "a long-term mental disorder of a type involving a breakdown in the relation between thought, emotion, and behaviour, leading to faulty perception, inappropriate actions and feelings, and withdrawal from reality into delusion" (1280). *Medicated Blue*, is based upon my memoir of the same title and explores how to create a multimodal film as well as explaining the film's artistic expression in its use of images, coupled with an original soundtrack. The film includes images of an apparently functional woman and her family. The images are juxtaposed to lyrics and music that are a lament of the loss of Colleen's sanity. Furthermore, metaphorical images embedded in the original archival family film bond with the disturbing lyrics and music, giving the audience both an intellectual and emotional experience of what it is like to lose one's sanity. The archival footage documents family life from the 1950s to the 1970s and was originally made both to entertain and as a family memento. The family film was never intended for public viewing and has never been published. The montage of clips from the original film will be the first time any part of it has ever been published.

The purpose of *Medicated Blue* is three-fold. First, to explore the creative art of film, second, to bring the subject of schizophrenia into the public sphere, and third, to attempt to dismantle the monolithic negative label of the term "schizophrenic." The most damaging negative stereotype is that people with schizophrenia are violent. Dinan explores the role that movies play in creating stigma for people with schizophrenia. He writes, "Many popular movies also reinforce the spurious link between mental illness and violence. In these movies, there is no differentiation made between mental illness, psychosis and psychopathy, which are lumped together in an all embracing generic term, "psycho" (3). The words "schizophrenic" or "psycho" encapsulate a person's entire identity. We must all come to recognize that people with schizophrenia have an identity beyond the

illness. Just as we now say “People with disabilities,” so we should also say, “People with schizophrenia.” Dinan exposes the misconceptions about schizophrenia. He writes, “[The misconceptions about schizophrenia] include [that they] are violent and dangerous, the condition is untreatable, people with schizophrenia are likely to infect others with their madness and people with schizophrenia are lazy or unreliable” (3). It is important to realize that these “misconceptions” are the foundation for the stigma associated with schizophrenia. The result of the stigma is revealed by the work of Norman et al. They write, “Consistent with past findings, respondents [in their study] indicated a preference for greater social distance for schizophrenia than depression, and beliefs about the likelihood of socially inappropriate behaviour and danger were correlated with social distance” (848). From personal experience, the result of social distance means isolation for people with schizophrenia. People with schizophrenia must often function with a limited social network of friends or no friends at all. Some are even shunned by their own families. As a person diagnosed, yet successfully managing the disease, I would like to see the term “schizophrenic” eliminated from our lexicon. It has become a stereotype we can live without.

My memoir, *Medicated Blue*, is based upon my childhood memories of Colleen and her descent into the black abyss of schizophrenia. *Medicated Blue* speaks in three genres: embedded stories in the narrative, poetry and song. Bold text differentiates my mother’s voice from mine. To evoke Colleen’s childhood, but also the loneliness and isolation of schizophrenia, the text is printed on a watermarked landscape scene of a beach pictured in hues of faded pink and faded azure. The beach hints at mother’s childhood experiences of the backwaters of the Thompson River in Kamloops, but also peace upon death. The embedded stories and poetry showcase not only her sense of humour, but also her talent as a storyteller and poet. My memoir, *Medicated Blue*, defends Colleen and her identity as a person with schizophrenia. The lyrics of my song, *Medicated Blue*, speak to the abyss of schizophrenia: how impossible it was for her to have any quality of life “medicated blue” on psychotropic drugs.

My film explores the process of selecting powerful metaphorical images set to my song, *Medicated Blue*, creating discord for the audience because the song is in direct opposition to what appears to be images of a functional woman. It admits viewers into the emotional experience of the undertow of schizophrenia. The main constraint in adapting the memoir to film is that there is no recording of Colleen's voice, so her humour and talents as a storyteller and poet are lost. My voice is no substitute for Colleen's. Without her voice, the continuity of the theme of being medicated blue becomes important, so I made the decision to layer the film with my song. The other constraint is that text is tied to paper. Film offers more freedom because it is visual, aural and linguistic. The metaphorical images and the lyrics of my song tell the story of Colleen's descent into illness. A limitation of the family film is that I am confined to the images captured by my father's camera.

My film project moves a reader's imagination away from text to the visual images of black and white and sometimes colour family archival film. My film is a new discourse because it brings schizophrenia into the public sphere and challenges the viewer to close their "social distance" from people with schizophrenia. According to Kress and van Leeuwen, "discourses are socially constructed knowledges of some aspect of reality" (24). To paraphrase, Kress and van Leeuwen argue that the different kinds of communication or media related to a culture are the foundation of that culture's interpretation of reality (24). Our culture interprets schizophrenia based upon the stereotypes. The film journey into schizophrenia uses my lyrics, music and images to disrupt the "socially constructed knowledges" or stereotypes of schizophrenia.

Metaphorical images embedded in the routines of family activities and nature scenes bond with messages in the song. For example: the first image is of a highway. The blacktop is visible and the snow of winter has been cleared to the sides. The highway is a metaphor for life, but also for the journey of schizophrenia. Winter is a seasonal metaphor in literature that indicates death: here, it indicates the death of a functional mind. To continue with the image of the highway, it is

accompanied by A minor (Am), strumming, conveying sadness. The following blend of voice and guitar (Am, C, G, C, Am, repeating until the chorus, F, Am, G, C, Am, F, Am, G, Am) is a lament of loss, because the music is grounded in Am and the lyrics chronicle life trapped in the abyss of schizophrenia. In the words of van Leeuwen, “The attempt to ‘rise above it’ [all] fails, and the end result is a sound act of ‘admitting defeat’ in a downcast way (because of the low pitch level), of ‘giving up trying’” (93). Together, the lyrics, music and images are disquieting — “downcast.” Another way to view the minor key of the music is to substitute the word “downcast” for “outcast,” which is the essence of how a person with schizophrenia feels when shunned by society.

The opening lyric, “What keeps anyone sane play’n the white coat game?” is set to a fleeting image of my mother in her youth as a coquettish woman. It is evident that she has a zest for life. The black arrows of the film transition close in on her, foreshadowing the ravages of schizophrenia upon her life. This coquettish image of Colleen is followed by an image of her, as a young mother, pushing a child in a swing. Note that Colleen is interacting with her child — interactions that over the course of her lifetime disappear with the onslaught of schizophrenia. The swing moves to the beat of my song. The effect is subtle, but conveys the undertow of schizophrenia.

At this point, the film shifts to an image of the Bulkley River. This image is followed by a brief glimpse of a Christmas gathering, then shifts to me in my high chair watching a spinning top. Schizophrenia is disorienting, like the feeling you get when you watch a spinning top. The spinning top is schizophrenia. Regardless of the spinning top in her life, my mother is seen repeatedly engaging with her family, both in celebration of Christmas and times of childhood play. At the Christmas celebration Colleen is wearing a corsage. This tiny detail symbolizes her taking joy in the occasion. My father’s camera does not witness any scenes of violence or dangerous behaviour on the part of Colleen. This is the significant way in which the monolithic stereotype of schizophrenia is dismantled, but the audience will have to first dismantle the discord between the lyrics and the film in

order to experience my mother's humanity.

However, with the illness of schizophrenia, comes a life subordinated to a psychiatrist's power over the patient. The music and the lyrics lament to the images of the river. The image of Christmas and me in my high chair link to the lyrics, "What keeps anyone sane play'n the white coat game?" "The white coat game" is a metaphor for psychiatrists and doctors who see the treatment of schizophrenia as medicating or masking the symptoms with drugs that often have unbearable side effects for the person with schizophrenia. Frequently, people with schizophrenia cease to take their medication because of the side effects and this means multiple hospitalizations in the psych ward.

The creative process is about the art of making meaning. To quote van Leeuwen, "meaning is made more concrete through the words it is set to" (94). (The message or meaning of the song *Medicated Blue* tells the heartbreaking story of trying to escape the hell of schizophrenia. There is no escape. There is no cure, only medication.) My song continues with "Mumble your own name replays as a foreign exchange." The lyrics, "foreign exchange" transition from me, to my father, to my mother and musically frame Colleen's face at the Christmas gathering. A person's name becomes intrinsic to the self and that name, that sense of self, can be lost not only in the disease of schizophrenia, but also the aftermath of having someone define your entire identity as schizophrenic.

Now, for the audience, some comfort comes in the form of the repeated "grammar" design. ("Grammar is the language or images that a film uses to make meaning.") There is an intellectual, but not emotional, release in the familiar image of the highway and its meaning. In the words of Kress and van Leeuwen, "As with any semiotic [or meaning-making] practice, the semiotic means involved may become formulated" (48). And, indeed, the film embeds a "formula" as the film repeats the highway scene; the first time we see it the highway is bare, while the second time it is snow-covered. This is all captured in the mirror of my father's British American Oil truck. However, by design and process the relief is temporary, because the

lyrics haunt the images with, “Once you knew there was a life for you. Everything’s changed. Medicated blue.” The music and lyrics are slow in comparison to the rate of film so these same lyrics are also set to an image of a raven and its carrion target as well as another repetition of the image of the winter highway covered in snow. The highway scene ends with the relentless description of psychosis in my lyrics, “Shuffle your feet to some psychotic beat.” Colleen’s experience with schizophrenia is like the snow-covered highway in that her path to freedom from the disease is obscured from view.

The lyrics, “Little pill, blue, no relief that’s true,” accompany yet another Christmas scene, with the word “relief” framing Colleen and the word “true” framing her mother in order to highlight the generational impact of schizophrenia. These words, in their timing, power and process, subvert the visual image of a “typical” family Christmas: “Once you knew, there was a dream for you. Everything’s changed. Medicated blue,” frame a poorly defined Colleen. She has so disappeared in this image that the strongest hint of her presence in this film clip is her burning cigarette. The disease of schizophrenia has made her vanish from view. She is not violent. She fades from reality into psychosis. She is at a greater risk to herself than to others. This metaphorical image captures the process of schizophrenia and is the iconic statement of my film. It is the first image of Colleen that came to my mind and opened the process of revealing this story on film. It is a process of gaining courage in order to bring the private world of schizophrenia into the public sphere.

The “grammar” of the river re-emerges, but this time it is a violent river. A tree, ripped from the safety of the riverbank, is carried downstream. Metaphorically, a person with schizophrenia is ripped from the safety of the shore and is at the mercy of the currents of schizophrenia. This series of images, which includes the destruction of the tree against the rocks of the river, is set to the part of my song that describes the powerlessness inherent in the doctor/patient relationship as well as the domination of the large pharmaceutical companies marketing anti-psychotic medications; Colleen’s body could metabolize neither Thorazine nor Stellazine, and like the

tree she was drowning, subjected to the crushing power of a river of schizophrenia and pharmacological side effects. My song laments, “Torment your soul. Doc’s got a lengthy scroll. Pharmaceutical dole. Big money all for show.” The musical timing with “Big money all for show” corresponds to the image of the tree overtaken by the current of the river. According to Kress and van Leeuwen, the original family film and my soundtrack have reached the part in the process where they become ‘extravizual’ (46). The film and soundtrack have a metaphorical oneness conveying a message of despair.

Even in her despair, Colleen was a very strong swimmer, but she did not know that two of her five daughters, Wendy and me, would also swim the currents of schizophrenia. With a new generation came a new approach. The new approach is Orthomolecular Medicine. “Orthomolecular Medicine is a mega-vitamin regime” (Pauling 1-8). Linus Pauling states: “There is sound evidence for the theory that increased intake of such vitamins as: [vitamin C, Niacin, B6 and B12] is useful in treating schizophrenia” (1). However, Wendy met with limited success with this new treatment and after six years succumbed to multiple and serious psychotic episodes. I believe there is hope for this approach, but more research needs to be pursued. So, the film and soundtrack do not reflect this ray of hope. The images of the river continue to play to the soundtrack: “Mega-vitamin out. Find a doctor with some clout. Medicare refrain. We only pay for the white coat game.” The image of Wendy in her youth coincides with “We only pay for the white coat game.” Orthomolecular Medicine may be a way out of the trap of schizophrenia, but Medicare does not cover additional costs related to this illness, such as the allergy testing for wheat that Wendy was forced to pay for from her own pocket. During Wendy’s initial illness, Walter, her husband, contacted 30 physicians in Vancouver. Of the 30, only one was willing to take an Orthomolecular approach to her illness. In any case, knowledge of this new treatment came too late for Colleen.

In the words of Kress and van Leeuwen, "Design ... is the organization of what is to be articulated into a blueprint for production" (50). Thus, the edited family film and my soundtrack becomes the cruel "blueprint" of the life of my family. More images of the film shift to a family camping trip at Babine Lake. These are scenes of my siblings and young friends of the family. It seems very "normal," but the soundtrack is juxtaposed with these images and continues to tell the story. The song goes, "Empty wallet will not do. No Blue Cross to pay your dues. Sit'n on the news. No dough to pull you through." As if forecasting my future experience with schizophrenia and being unable to afford the new treatment, there is an image of me, timed to this part of the lyrics, holding a fish that I caught at the lake. Even if we had known about the new treatment during Colleen's illness, our family was not in a financial position to absorb the additional costs, hence the image of Colleen holding her youngest child juxtaposed with the words, "medicated blue." My design blends together disquieting lyrics, melody and images that reflect the stereotype of schizophrenia, yet the image of a mother rocking her child upon her hip is an icon of motherhood that challenges the negative stereotype. The images of the family film return their focus to Colleen holding Patricia. The original question of my song, "What keeps anyone sane play'n the white coat game," repeats. There is a brief clip of Colleen lifting Wendy above a slushy driveway in Goose Bay, Labrador. Then the film returns to the highway metaphor. Once again the film is edited to focus on Colleen, set to the lyrics, "Once you knew, there was a life for you. Everything's changed. Medicated Blue." The image of Colleen holding a sweater fades to black, haunted by the lyrics, "medicated blue."

In conclusion, two art forms (film and music) are designed to blend together and reveal not only the devastation of schizophrenia, but also to challenge the negative stereotype of the violence. The project reveals the person behind the illness. The intention behind bonding metaphorical images to the song, "Medicated Blue," is to give schizophrenia a voice. It is also to bring about both an intellectual and emotional understanding of the undertow of schizophrenia. As

I have a metaphorical mind, the process of discovering these images comes naturally. The hard work is to manage the guilt that comes from taking my father's film, intended to simply remember family experiences, and adapt it to my purpose of opening up a dialogue about schizophrenia. Readers who would like to view the film are welcome to contact me at: kindersprite_1999@yahoo.com.

Works Cited

- Dinan, Timothy. "Schizophrenia: illness, stigma and misconceptions." *Ir J Psych Med* 16.1 (1999): 3-4.
- Kress, Gunther and T. van Leeuwen. *Multimodal Discourse: The Modes and Media of Contemporary Communication*. New York: Oxford, 2001.
- Norman, Ross, Richard Sorrentino, Deborah Windell, Rahul Manchanda. "Are Personal Values of Importance in the Stigmatization of People with Mental Illness." *Can J Psychiatry* (2008): 848-856.
- Pauling, Linus. "On the Orthomolecular Environment of the Mind." *Journal of Orthomolecular Medicine*. Vol. 7 No. 1. 1995: 10, 27 March 2009 <<http://orthomolecular.org/library/articles/orthothotheory.shtml>>.
- "Schizophrenia." Def. 1. *The Concise Oxford Dictionary*. 10th ed. 1999.
- Turner Family Film*. 1965-1975, Ed. Beth Walker, Kamloops, BC: March 9, 2009.
- van Leeuwen, Theo. *Speech, Music, Sound*. London: MacMillan Press, 1999.
- Walker, Beth. "Medicated Blue." Film recorded 13 December 2004.

Sex-selective Abortions

MAX WINKELMAN

Introduction

Abortion as a population control method has been practiced in a variety of cultures. The Romans used abortion and infanticide as a means to regulate their population (Kreis 2006). Another culture that practiced similar population control methods was the Inuit culture. Inuits used infanticide to balance out gender ratios, although some journals report they only practiced female infanticide (Billison & Marini, 2007). In both the pro-life and the pro-choice movements in Western society, many people find themselves struggling with the moral and social issues that surround the choice for abortion.

Religion is a key factor regarding abortion in general and sex-selective abortions specifically. Wang & Buffalo (2004) found that many fundamental Christians in the USA favour a pro-life view. Within the United States, Jelen & Wilcox (2003) have confirmed that the subject of abortion “has become a highly partisan issue.” Political affiliations have also had a direct influence on one’s position; Republican voters tend to express support, by fifty-five percent, of a near total prohibition of abortion, while only thirty-two percent of Democrats support the same position (Blendon, et al. 2008).

Although abortion is a highly divisive issue, the world view is that since *Roe v. Wade* in 1973, the Supreme Court in the United States gave American women an unrestricted right to have an abortion during the first three months of pregnancy. As it turns out, this worldview is incorrect. The law reasons free from passion, according to Aristotle 1; this is apparently not the case. The law, being a human construction, has never been free from the social cultural, social political, and deeply psychological aspects of human morals and ethics surrounding life issues. So when is it not “my body my right”? Women, it seems, are not allowed to screen embryos to determine sex in fertility clinics and terminate based on gender. Women in Canada and the United States are not allowed ultrasounds to determine gender and then abort based on this fact alone. An attempt needs to be made to understand this type of cognitive dissonance: why Canadian and American respondents appear to strongly oppose sex-selective abortion choices specifically, while supporting abortion for any reason generally.

Are morality, law, politics, and religion based on rational thought? Haidt (2001) argues that research on moral judgment can best be explained by an intuitionist model where moral judgments are generally the result of quick, automatic subconscious intuitions followed by an attempt to justify our beliefs in a *post hoc* manner. According to Freud, judgments are driven by unconscious motives which are then rationalized after the fact with publicly acceptable reasons; a process expressed as an *ex-post facto* progression meant to influence our basic intuitions.

As voters are influenced by a wide variety of social and emotional factors and the left wing espouses individual liberty while the right wing tends to limit liberties in defense of order (Graham et al. 2009), I hypothesize that members of the right-wing Conservative-type parties would generally oppose all types of abortion and that left-wing NDP-type parties would generally support abortion on demand, especially after full disclosure of information. Further, I propose to study the subconscious automatic decisions people make and contrast those decisions with their rational choices against the backdrop of the capitalistic system.

Methods

Participants: There were one thousand and four participants. All participants were unpaid, anonymous volunteers who were card-carrying members of the four main Canadian political parties.

Materials: The Angus Reid 2009 poll on life issues commissioned by “The Signal Hill,” a BC provincial human rights group, was administered to the participants. Responses on the questionnaire ranged from “strongly agree” to “strongly disagree” and were placed on a five-point Likert scale. The choice “not sure” was used for the neutral responses.

Procedure: A paper-and-pencil-type survey was given to the participants. The survey was completed in less than 30 minutes.

Design: The Angus Reid group analysed the results using Analysis of Variance (ANOVA) and significant results were reported as $p < 0.05$. Cell counts were rounded to the nearest integer.

Results

The data demonstrated that, on average, 77% of all respondents reported that females should have access to abortion on demand for any reason ($p<.05$). In addition, on average, 95% of all respondents agreed women should be informed of all options ($p<.05$). The data also demonstrated, however, that, on average, only 5% of the respondents indicated that a woman should have the right to abort a foetus once she finds out it is a girl ($p<.05$). See Table 1 below.

Table 1. Results from Angus Reid market research 2009 poll: percentage of respondents indicating “strongly agree” or “moderately agree.”
Source: Published Angus Reid market research poll January 2009

Statement	Party Affiliation of Respondents			
	Conservative	Liberal	NDP	Bloc Quebecois
Supports abortion on demand for any reason	76%	75%	81%	78%
Women should be informed of all options	95%	94%	96%	97%
A woman should be allowed to abort a foetus once she finds out it is a girl	2%	4%	3%	10%

Discussion

The data demonstrate that although card-carrying members of the four main political parties in Canada espouse different views on personal freedom and human rights for election purposes, nearly 90% of all the members across the political spectrum supported abortion for any reason (with females having access to all information). It also appears that this right is limited in the area of sex-based abortion decisions across all parties surveyed. Three medical professionals in BC and the Yukon were subsequently surveyed and their answers mirrored the Angus Reid 2009 poll. Women in BC and the Yukon were frequently denied information about the foetus being female so that they could not make an informed termination decision based

on sex. Although not part of the survey, the medical professionals all asked the question whether the female foetus was healthy. Based on their responses it would seem therefore that health problems trump the sex of the child in abortion decisions and that the sex of the child trumps a women's right to make decisions about her own body. Can these cognitive discrepancies be explained by rational thought? The psycho-political reasons for such discrepancies need to be explored.

Haidt (2001) argues that moral judgments have been dominated by rational thought-based models, in that moral judgment is thought to be caused by moral reasoning. Moral reasoning is thought by Haidt to be a *post-hoc* cognitive construction generated after a judgment has been reached. The social intuitionist model is therefore an interesting alternative to the rationalist model. The intuitionist model de-emphasizes private reasoning by individuals, emphasizing the importance of social and cultural influences. The model appears on the surface at least to be more consistent with social and cultural data than the older established rationalist model.

It should be pointed out that a problem with the current research is that card-carrying respondents claiming allegiance to one of the four main political parties do not in fact represent all voters in those parties; further, we should not assume this survey is representative of Canadians as a whole. In addition, these Canadian opinions may not reflect actual practices in Canada or other parts of the world.

From a global perspective, Milliez (2007) demonstrated that in Asian countries, sex-selected abortions were based on economic and traditional practices. When the Chinese government enacted legislation limiting the number of children permitted per family, it became economically more expedient for parents to have sons. Parents were fined if they had a second child. This led to female children being discarded. Although still practiced, female infanticide has been publically banned since 1995. Wen (1993) found that the sex ratio among children in China, however, is still distorted. He also found that in multiple-child families, the distortion in sex ratio of last-born children was negligible, indicating that once the financial factor was out of the way, sex-selective abortion ceased

being a problem. Coale and Banister (1996) took it a step further and analyzed the Chinese censuses. They found that as early as the 1930s the sex ratio in China was distorted. They asked if it should be acceptable that there are “five decades of missing females in China?” This raises the question if societal and economic issues also trump a woman’s right to make decisions about her own body.

In India and other areas of the world, female children are also considered an economic burden. Females cost money to clothe and feed, yet provide little monetary income, especially when they become the property of the husband’s family. In 1994, India enacted the *Sex Selection Prohibition Act*; however, its effectiveness has been questioned, as the law resulted in no convictions for the first decade. Thus, although publically India seeks to appear more Westernized and modern, privately little has changed (Menon 1992).

The societal problem may perhaps lie in the unawareness of the public of the unlawfulness of sex-selected abortion and the consequences of a distorted sex ratio. Chaturvedi et al. (2007) found that 56.4% of the respondents (from Delhi) who had participated in foeticide were unaware of its unlawfulness. A more practical problem may lie in the irresponsibility of medical staff. In all the cases of infanticide, a qualified doctor was involved; thus, the problem lies not only with the lack of public education but also with the traditions of the professionals. Sharma et al. (2007) point out that a distorted sex ratio can cause major societal problems, and that girls who are not aborted often suffer worse treatment than their male counterparts; for example, abuse and starvation. Parenthetically, banning sex-selective abortion, and with that violence against females in the womb, doesn’t stop violence against women in general and thus leaves the larger problem unsolved.

In more modernized countries, Williamson (1978) argues, “This tendency [to abort female fetuses] has been turned around in Japan, Singapore, Hong Kong and the U.S., where small families are now ideal,” and that “the timing of sexual intercourse, the separation of male and female-bearing sperm followed by artificial insemination, and sex-selective abortion after foetal sex determination indicated

that an effective and practical method of sex control may still be further off than predicted.” Twenty-five years later, pre-conception sex selection is much more probable, and Dahl (2003) argues that “Preconception sex selection for non-medical reasons raises serious moral, legal, and social issues.” He provides examples in the form of sex-ratio distortion, sexism and creating designer babies. However he argues that “none of the objections to pre-conception sex selection are conclusive and that there is no justification for denying parents the right to choose the sex of their prospective children.” It would be interesting to study if the Canadian respondents would approve of the terminating of female-producing sperm while objecting to aborting female fetuses. It becomes unclear where to draw the line. Dickens (1997) states “the conflict [is] between protecting and respecting women.”

The Angus Reid 2009 study demonstrated that the majority of politically active Canadians believe that sex-selective abortions should be prohibited. It, however, did not specifically enquire if abortions should be allowed if a foetus has disorders. Bouchard et al. (1995) found that more than 55% of their respondents in a study among physicians from France and Quebec would accept selective abortion if the foetus had a specific disorder. They also found that, within Quebec, Anglophone physicians were even more supportive than Francophone physicians of this view. De Silva et al. (2008) conducted a study among medical and nursing students and nurses and doctors and found that more than 50% were willing to participate in an abortion if the foetus was diagnosed with Down syndrome or a lethal autosomal recessive disorder. Thus, both in Westernized and Asian countries, sex-selective abortion is supported if the child is diagnosed with specific disorders.

Morality seems to be a socially driven factor as it is not the individual that faces the question of yes or no, but rather society that determines whether it should be acceptable or not. Haidt & Kesebir (2009) argue that from a virtue-based approach we educate children not just by teaching rules, but by shaping perceptions, emotions and institutions. To achieve this feat, they argue that we use examples,

such as narratives, that display punishment for wrong moral decisions while the proper ones are rewarded. Moral judgments concerning sex-selective abortions are therefore not achieved by moral reasoning but through simple conditioning.

Society condemned the German people for their actions regarding the concentration camps and the slaughter of innocent civilians. Milgram's (1963) experiment, however, showed that 67% of the population of Western countries would kill when given similar orders. Much of the Western population, therefore, will completely disregard their morals and follow the present social "morals." So, from this perspective, although an NDP member may inherently believe in a women's right to her own body (personal liberty) that belief is easily crushed by the perceived societal pressure that it is wrong to selectively kill females.

Cognitive dissonance regarding abortion also involves biological purpose. According to the evolutionary perspective, the weak must die and the strong survive in order for the species to prevail. Aborting disabled fetuses thus serves the species at the most primary level: survival. Killing the weaker females or the genetically weakened members of society has much survival value. However, this is contrasted with protection for the disenfranchised and helpless. Morality has many biological aspects. Haidt (2001) argues that moral judgments involve certain areas in the brain related to emotion. Thus, it may be argued that the brain may contain a moral acquisition device much like the Language Acquisition device that Noam Chomsky (1965) proposed. If such a device does exist, it would support the notion that morality may have an evolutionary purpose.

One other interesting and unexpected finding was that there was no significant difference between the parties' opinions which may indicate that whatever is occurring is occurring at a deeper level than the rational cognitive thought processes i.e. evolutionary based biological hardware rather than cognitively based conditioned software. Graham et al. (2009) have argued that liberals and conservatives rely on different sets of moral foundations, thus their moral judgments should differ. People vote conservative because of

the “moral clarity” and the limitation of civil liberties (Haidt 2008). Civil liberties, he argues, can undermine good societal order. Conservatives therefore offer less fear and more stability than the NDP.

Asch (1951) demonstrated that the social pressure to conform is significant. Even when the answer was perceptually clear, the subjects were likely to conform with peers even if their answers were wrong. Thus, there may be no difference between the parties because of conformity, and unlike Haidt, Solomon Asch might claim that perceived social pressure had led the card-carrying members of different parties to uniformly conform to perceived global societal pressure.

Indeed, in Canada and North America, the economic prospects between raising a boy and a girl are negligible. The economic consequences between raising a healthy child and an unhealthy child, however, are significant. Consequently, the choice to abort based on disease or disorder outweighs gender rights in Canada. On the other hand, abortions based on the sex of a child are not unequally burdensome in Canada and do, therefore, outweigh the rights of the mother in North America. Thus, once cost becomes the mitigating factor, as in China and India, selective abortion is supported. It can be inferred that the moral issue of abortion isn't a moral issue at all but a simple monetary problem, essentially putting a price tag on human comfort and life. No one would argue that people have no morals and no theory base proposes a complete absence of social justice. Quite to the contrary, it can be clearly identified that there is a positive movement toward equality for women and an increase in women's rights, especially in North America. However, when it comes to making decisions regarding moral topics, people, it seems, are incapable of making clear and independent moral decisions when other external factors come into their decision-making. A great example on this topic outside of the field of abortion would be the American Civil War. The people in the North didn't practice a significant amount of slavery compared to the South, meaning that there weren't a lot of economic factors in play for them. In the South, however, slavery drove the economy; hence its morality was clouded by the economic benefits of an immoral act. Consequently,

I propose that when it comes to topics regarding moral decisions such as abortion, euthanasia or war, people first and foremost look at economic factors, and morals and social justice are generally relegated to a lower priority until the higher priority extraneous variables are dealt with. More research, however, is needed to consider the morally rational or indeed morally intuitive nature of economically driven behaviour.

Author's Note

I would like to thank Dr. Chris Montoya for his assistance in the preparation of this manuscript.

Works Cited

- Angus Reid Strategies. (2009). Market Research Poll, Online random representative survey August 2008, public release January 2009, <http://www.thesignalhill.com>
- Aristotle. (1984). *The Complete Works of Aristotle: The Revised Oxford Translation*. Ed. Jonathan Barnes. 2 vols. Princeton, NJ: Princeton UP
- Asch, S. E. (1951) Effects of group pressure upon the modification and distortion of judgment. In H. Guetzkow (Ed.), *Groups, Leadership, and Men*. Pittsburgh: Carnegie.
- Billison, M.J., & Macini, K. (2007) *Inuit Women*. Rowman & Littlefield
- Blendon, R. J., Altman, D. E., Deane, C., Benson, J. M., Brodie, M., & Buhr, T. (2008, January 24). Health care in the 2008 presidential primaries. *New England Journal of Medicine* 358(4), 414–422. doi:10.1056/NEJMSr0708410
- Bouchard, L., Renaud, M., Kremp, O. & , Dallaire, L. (1995). Selective abortion: A new moral order? Consensus and debate in the medical community. [Electronic version]. *International Journal of Health Services*, (25)1, 65–84
- Chaturvedi, S., Chhabra, P., Bharadwaj, S., Smanla, S., & Kannan, A.T. (2007). Fetal sex-determination in Delhi: a population-based investigation. [Electronic version]. *Tropical Doctor* 37(2), 98–100
- Coale, A.J., Banister, J. (1996). Five decades of missing females in China. [Electronic version]. *American Philosophical Society* 140(4), 421–450
- Chomsky, N. (1965). *Aspects of the theory of syntax*. Cambridge, MA: MIT press.
- Dahl, E. (2003). Procreative liberty: The case for preconception sex selection. [Electronic version]. *Reproductive Biomedicine Online* 7(4), 380-384
- De Silva, D.C., Jayawardana, P., Hapangama, A., Suraweere, E.G.D.N., Ranjani, D., Fernando, S., Karunasena, C., & Jinadasa, S. (2008). Attitudes toward prenatal diagnosis and termination of pregnancy for genetic disorders among healthcare workers in a selected setting in Sri Lanka. [Electronic version]. *Prenatal Diagnosis* (28)8, 715–721
- Dickens, B.M. (1997). Conflicts between protecting and respecting women: the prohibition of sex-selected birth. [Electronic version]. *Humane Health Care International* (13)2, 14–15
- Graham, J., Haidt, J. & Nosek, B. A. (2009) Liberals and Conservatives Rely on Different Sets of Moral Foundations [Electronic version] *Journal of Personality and Social Psychology* 95(5), 1029–1046

- Haidt, J., & Kesebir, S. (2009) Morality. *The Handbook of Social Psychology* [Electronic Copy] <http://faculty.virginia.edu/haidtlab/articles/haidt.kesebir.2009.morality.pdf>
- Haidt, J. (2008). *What makes people vote Republican*. Retrieved June 20, 2009 from http://www.edge.org/3rd_culture/haidt08/haidt08_index.html
- . (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review* 108, 814–834
- Jelen, T. G. & Wilcox, C. (2003, December). Causes and consequences of public attitudes toward abortion: a review and research agenda. *Political Research Quarterly* 56(4), 489–500. <http://prq.sagepub.com/>
- Kreis, S. (2006) *A brief social history of the Roman empire*. Retrieved March 30, 2009, from <http://www.historyguide.org/ancient/lecture13b.html>
- Menon, N. (1993, June). Abortion and the law: Questions for feminism. *Canadian Journal of Women & the Law* 6(1), 103-118. <http://www.utpjournals.com/cjwl/cjwl.html>
- Milgram, S. (1963). Behavioral study of obedience. *Journal of Abnormal and Social Psychology* 67, 371–378.
- Milliez, J. (2007, February). Sex selection for non-medical purposes. *Reproductive BioMedicine Online* 14, (Suppl. 1), 114–117. www.rbmonline.com/Article/2374
- Sharma, B.R., Gupta, N., & Relhan, N. (2007). Misuse of prenatal diagnostic technology for sex-selected abortions and its consequences in India. [Electronic version]. *Public Health* 121(11), 854-860
- Wang, G., & Buffalo, M. (2004). Social and cultural determinants of attitudes toward abortion: A test of Reiss' hypotheses. *Social Science Journal* 41(1), 93–105. doi:10.1016/j.soscij.2003.10.008
- Wen, X. (1993). Effect of son preference and population policy on sex ratios at birth in two provinces of China. [Electronic version]. *Journal of Biosocial Science* 25(4), 509–521
- Williamson, N.E. (1978). Boys or girls? Parents' preferences and sex control. [Electronic version]. *Population Bulletin* 33(1), 1–35

