

Integration, Conversion or Conflict?
A Critical Ontology of the Integration of "CAM" into Biomedical Education

by

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Abstract

This thesis explores the ontological content of the integration of complementary and alternative medicine (CAM) in biomedical education, through a critical exploration of "CAM" policy related documents from the World Bank, the World Health Organization and Health Canada, as a means of contextualizing "CAM" in biomedical education. It also interrogates curriculum documents from a project that seeks to standardize "CAM" in biomedical education. This thesis suggests that there are ontological parallels to the colonial era conversion of indigenous medicine evoked in the contemporary 'integration' of CAM in biomedical education.

LIST OF ABBREVIATIONS USED

WHO	World Health Organization
CAM	Complementary and Alternative Medicine
TCAM	Traditional/ Complementary and Alternative Medicine
CAM in UME	Complementary and Alternative Medicine in Undergraduate Medical Education

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Chapter 1

Introduction

In general, [bio]medicine doesn't act on people coercively but through the subtle transformation of everyday knowledge and practice concerning the body... This is how hegemony operates and this is why one encounters such resistance in attempting to challenge notions and relationships that are now part of the shared common sense world (Scheper-Hughes, 1992, pg. 199).

Nancy Scheper-Hughes' comment serves as an evocative entry point into my critical examination of the integration of what has been euphemized as complementary and alternative medicine (CAM) into biomedical education in Canada. Having worked as a massage therapist for twenty-two years, and also having taught at a number of massage therapy schools in Canada, I became interested in the naturalization of biomedical beliefs and practices as a dominant and superior medical "science"¹ paradigm, from which a myriad of other forms of medicine are measured (Quah, 2003). Some of these other forms of medicine, time tested over thousands of years, have become erased, devalued and contorted by biomedical hegemony (see King, 2002; Arnold, 1988). For example, in my years of experience as a massage therapist, I have seen massage therapy go from a healing art, to a regulated health profession, that has been contorted to fit into a biomedical model of regulation and care. Massage therapy in Canada is currently more likened to physiotherapy than so called "complementary" or "alternative" care.

Traditional/ indigenous medicine, and what is being euphemized as, "complementary and alternative medicine" (CAM) is often presumed irrational and superstitious in relation to biomedicine (Arnold, 1988), while biomedicine is often essentialised as western, rational, scientific and universalistic. Employing a qualitative content analysis, this study critically analyzes these tendencies by examining the integration of health practices, not traditionally

¹ Though, some, like Nanda (2001), Mckenna (2010), Panitch and Leys (2009), Navarro (1976, 2007) etc. would view

deployed under biomedicine, into biomedical education; practices that do not necessarily fit within the dominant biomedical paradigm.

Specifically, this thesis critically engages with “CAM” policy related documents from the World Bank, the World Health Organization (WHO) and Health Canada as a means of contextualizing "CAM" in biomedical education. It also interrogates curriculum documents from a project that seeks to standardize “CAM” in biomedical education, called the Complementary and Alternative Medicine in Undergraduate Medical Education (CAM in UME) project.

In exploring the ontological content of CAM as it is integrated into biomedical education, this thesis hypothesizes that the process of integration of CAM can be seen as a continuation of the struggle between purported ‘rational’ western biomedicine and traditional or “complementary and alternative” medicine, and approaches to health care that began during the colonial era (King, 2002). More specifically, this thesis proposes that there are ontological parallels to the colonial era conversion of indigenous medicine evoked in the contemporary ‘integration’ of CAM into biomedical education. This thesis suggests that this is elicited through the call for surveillance, standardization and regulation of CAM within the context of an emerging disease paradigm², continuous throughout the World Bank, WHO and Health Canada, and CAM content in the CAM in UME project. Furthermore, the call for regulation, standardization and surveillance is influenced by, and framed within hegemonic biomedical discourses and capitalist ideologies, yet also hides behind a discourse of public health and safety.

My main research question is: ‘what is the ontological content of the integration of CAM into biomedical education’. In exploring this question I set out to examine the nature of CAM’s existence in biomedical education, as well as the framework within which it is presented in

² The emerging disease worldview is a perspective on international health that is concerned with the development of the global medical-industrial-technological complex (eg. increasing global capitalist market by increasing the market for pharmaceuticals (King, 2002)

biomedical curriculum. For example, what are the influences that shape why and how CAM is integrated into biomedical education?; what is stripped away in the framing or conceptualization of so called CAM as it is integrated into biomedicine?; what vocabulary and terms are used?; and what worldview is represented? (Hollenberg & Muzzin, 2010).

Background/Context

Integrative medicine, deployed as a combination of biomedicine, and what has been euphemized as complementary and alternative medicine (CAM) into biomedical health care settings, is increasingly part of the landscape of health care in North America (Hollenberg & Muzzin, 2010; Hollenberg, 2006; Adams, Hollenberg, Lui & Broom, 2009). So-called “CAM”³ is typically defined as a heterogeneous group of health care practices that fall outside of biomedicine, such as Ayurvedic medicine and other Indian systems of medicine such as Yoga, varieties of Chinese medicine, homeopathy, Swedish massage, Qi Gong (WHO, 2013; Coulter & Willis, 2004), and all the variations and nuances of these and other approaches that fall under this imposed categorization. These different so-called “CAM” practices are guided by a wide variety of cosmologies and approaches to medicine, that tend to fall outside of the biomedical paradigm (Tovey, Easthope & Adams, 2004).

In North America CAM is diverse, but there are some identifiable patterns worth noting. As alluded to above, it is comprised of health practices and beliefs, many of which evolved from oral and ancient practices in Asia, Africa and the Middle East, since modified in the North American context. The use of CAM is mainly by those from a higher socio-economic class, while in contrast CAM practitioners tend to be from lower socio-economic backgrounds than

³ Embedded within this study is a critical assessment of the term CAM, however for the purposes of this proposal I will refer to this body of medicine as CAM.

physicians and their clientele (Baer & Coulter, 2008; Baer, 2004). CAM is not considered part of the formal health care system in North America, and is paid for out of pocket or by private health care insurance.

Although CAM is becoming increasingly visible and “integrated” into biomedical settings, it is still practiced on the margins of the health care system in Canada. Much of CAM’s marginalization is linked to its perceived lack of a modern “western scientific” basis and a dismissal of ‘other’ epistemologies and ontologies (e.g. Hollenberg & Muzzin, 2010; Kumar, 1997), and not the absence of an ancient indigenous scientific basis (Basalla, 1967), found in China or India for example. Instead of remembering that “what metaphysics in one culture is science in another” [sic] (Chattopadhyaya, 1990, pg. xvii) in the realm of ‘science’, differing worldviews and ‘ways of knowing’ tend to be confined to or contorted towards western science, rather than comprised of knowledge systems and worldviews from a diversity of cultures, and a variety of periods in history (Shiva, 1997, in Hollenberg & Muzzin, 2010).

Perhaps because of the salient differences between CAM and biomedical approaches, the move towards integrating CAM into biomedical settings in North America has been referred to as a ‘social movement’; part of the ‘New Age’ or ‘Holistic Health’ movement (Baer & Coulter, 2008; Baer, 2004). It is driven, at the same time, by the increasing use of CAM, (Fønnebø et al, 2007; Hollenberg, 2006) especially by those belonging to higher socio-economic classes (Baer & Coulter, 2008). At least in part, this is due to dissatisfaction with biomedical approaches to care, and deficiencies in biomedicine⁴ (Mizrachi & Shuval, 2005; Baer, 2004; Baer, Singer & Susser, 1997).

⁴ (i.e. increasing reliance on technology and pharmaceuticals and biomedical iatrogenesis) (Baer, 2004; Singer, Baer & Susser, 1997)

In Canada, currently between 54% and 73% of the population use some form of CAM, and Canadians spent an estimated 5.6 billion dollars in 2006 on CAM therapies (Esmail, 2007; Hollenberg, 2007; Ernst & White, 2000). As CAM is not currently covered under public health care, this money was paid for out of pocket (Hollenberg, 2007), which means that only those who can afford CAM have access. The rates are similar in the United States, at approximately 46% percent and an estimated 33.6 billion dollars spent in 2007 (NIH, 2012; Eisenberg et al, 1993). So-called “CAM” is profitable, and is becoming increasingly commodified.

One of the responses to the increased use and public dollars spent on CAM in Canada is that an increasing number of biomedical schools are including some components of CAM in their curriculum (Verhoef et al, 2004; Frenkel et al, 2007). In Canada for example, approximately 81 percent of biomedical schools include some information on CAM in their curriculum, and this number continues to grow (Verhoef et al, 2004). Furthermore, there are increasing discussions and projects developing to standardize how CAM is introduced into biomedical education (e.g. Canadian Complementary and Alternative Medicine in Undergraduate Medical Education project).

Significance of Study

To date, many studies exploring the integration of “CAM” into biomedical settings focus primarily on interprofessional dynamics and tensions between biomedical and CAM practitioners in clinical settings (hospitals, clinics) (see Baer & Coulter, 2008; Mizrachi & Shuval, 2005; Hollenberg, 2006), or the epistemological challenges of integrative medicine (see Hollenberg & Muzzin, 2010). These studies do not critically explore the ontological content of CAM as it is incorporated within biomedical education, nor do they explore macro-political-market factors

influencing the integration of CAM in biomedical curriculum. This thesis seeks to explore these perspectives and contribute to a nuanced critique of the integration of CAM in biomedicine.

As Brian McKenna suggests: “Medicine is too important to be left to biomedicine” (McKenna, 2012, pg. 112). This quote encapsulates the importance of this research: medicine is more than what it is being reduced to in biomedicine. The devaluation, contortion and even the erasure of a multiplicity of health beliefs and health systems, that have in some cases been around for thousands of years, puts these health systems at the risk of becoming increasingly biomedicalized and lost as they are “integrated” into biomedical settings, such as biomedical education. This comes with a risk of differing worldviews about health, and approaches to health care, becoming increasingly homogenous and monolithic on a global scale. In light of this, it is important to investigate the nature of “CAM’s” existence in biomedical education.

Outline of Chapters

This first chapter provides a brief introduction to the research study, and background information on “CAM” in biomedical education. It outlines the research questions that will guide my examination of CAM’s existence in biomedical education. Chapter two provides an overview of the theoretical framework and methodological approaches employed, including the strengths and limitations of the critical content analysis approach employed in this study. Chapter three provides an ontological examination of biomedicine and CAM in biomedical education. Chapter four explores the question “why is CAM in biomedical education”. This will include a thematic examination of CAM policy related documents from the World Bank, the World Health Organization and Health Canada found on their websites. This chapter will also interrogate these documents for the language and logic of capitalism. Chapter five will provide an examination of

the thematic continuities between the World Bank, WHO and Health Canada policy related documents, and the CAM in UME project. Chapter six will provide some closing thoughts, and include a suggestion for future scholarly explorations that may contribute further to this area of study.

Chapter 2

Methodology

The goal of this study is to critically engage with the ontological content of the integration of CAM into biomedical education by contextualizing and “studying through” (Weldon et al, 2006) official “CAM” policy related documents from the World Bank, the WHO and Health Canada, then following through with a deconstructive analysis of sample curriculum documents from the Complementary and Alternative Medicine in Undergraduate Medical Education (CAM in UME) project.

"Studying through" documents from the World Bank, the WHO and Health Canada provides a means of identifying and highlighting thematic codes emerging from these materials to contextualize my analysis of the CAM in UME curriculum documents. It also serves to highlight the continuities between these governing documents and the CAM in UME project. As such, investigating the language employed by these governing bodies will help connect my analysis of the content of the CAM in UME sample materials to these powerful, organizations (Berg, 2009; Russell, 2006). Following Krippendorff (2013), a qualitative, text based content analysis was used to investigate these documents.

The documents from the World Bank and the WHO included in this investigation are situated within the domain of international health policy, and as such have impact on national governing bodies such as Health Canada. They also may influence Health Canada driven CAM curriculum initiatives, such as the CAM in UME project, which may in turn impact the ontological content of CAM as it is integrated into biomedical education.

This thesis focuses on policy and policy related documents, as policy is a powerful social and

political agent that has the potential to influence, in this instance, non-biomedical health beliefs and systems, and to potentially contort complementary and alternative health practices. As Wright (2006) suggests, policy can be used as “a window through which to see processes of political transformation, or to analyze what the present is producing...” (pg. 22). Further, a focus on policy documents,

engages anthropologists in a re-conceptualization of the field for research, as potentially including all the organizations—from the international to the local—along with people, procedures and texts that have to do with a topic. Field and site are clearly no longer coterminous. Rather than studying up, or down for that matter, anthropologists can select sites from which to follow a flow of events as they move up and down, back and forth, across this field (Wright, 2006, pg. 22).

Immersing myself in the “field” of documents from the World Bank, WHO and Health Canada and analyzing the flow of events among each of these governing institutions, has helped inform my analysis of the sample documents from the CAM in UME project. Anthropologists have referred to this as ‘studying through’ (eg. Wright, 2006; Wedel, Shore, Feldman & Lathrop, 2005). “Studying through” can bring into focus how overarching, dominant global institutions, such as the WHO and World Bank, and national governing institutions, such as Health Canada influence the everyday world (Wedel et al, 2006,); In this case, the ontological content of “CAM” in biomedical education using the CAM in UME project as a case study.

As Weldon and colleagues (2006) note,

[a]nthropology offers a social organizational approach that illuminates the structures and processes that ground, order, and give direction to policies. An ethnographer explores how individuals, organizations, and institutions are interconnected and asks how policy discourses help to sustain those connections even if the actors involved are never in face-to-face (or even direct) contact. “Studying through” - the process of following the source of a policy—its discourses,

prescriptions, and programs—through to those affected by the policies does just that (pg. 39).

Policies have the capability to impose conditions on micro and macro processes, and can thus be understood as a form of governance – a form of power that “acts on and through the agency and subjectivity of individuals as ethically free and rational subjects” (Shore & Wright, 1999, pg. 6).

Primary Data

This thesis will explore curriculum documents using the CAM in UME project as a case study. Largely driven by Health Canada and the Association of Faculties of Medicine of Canada (AFMC), the CAM in UME project was initiated in 2002, and was set up to address what was identified as a gap in biomedical education programs, given the increased public use of CAM. The goal of the project is to develop teaching tools and resources to help standardize CAM curriculum in medical education (CAM in UME project, 2007).

This project website is freely accessible to the public and has a repository of standardized CAM curriculum documents for biomedical educators. The CAM in UME documents examined for this thesis were selected from the project digital resource repository using relevance sampling (Krippendorff, 2013). The criteria for inclusion were documents that included the terms:

“complementary and alternative medicine” (CAM), “complementary and alternative health care” (CAHC), “traditional medicine”, “traditional and complementary and alternative medicine” and “integrative medicine”.

Secondary Data

Primary data findings are contextualized or “studied through” CAM related policy documents from the World Bank, the WHO and Health Canada. The language and themes that manifest in

these policy documents will be critically analyzed and then used to contextualize the ontological content of CAM as it is integrated into biomedical education and explore thematic and ontological continuities between these governing institutions and the CAM in UME project.

Scrutinizing both sets of data for linguistic patterns that contain explicit and underlying meaning, involves systematically coding the sample documents for key terms and phrases. By keeping track of key words and phrases, informed by my theoretical framework, that appeared most frequently in the sample documents from the World Bank, WHO and Health Canada, key themes and messages emerged within my sample. I then used these key themes and messages to “study through” and deconstruct the document sample from the CAM in UME project.

Framework of Analysis

Since I am starting with a hypothesis, I mainly relied on a deductive approach to coding (Krippendorff, 2013; Berg, 2009; Bernard, 2006). I used a thematic scheme informed by my theoretical perspective to explore my hypothesis, and I also developed analytical/theoretical codes based on preliminary readings of secondary documents (Krippendorff, 2013; Berg, 2009; Bernard, 2006). My thematic codes include: *science/scientific proof, consumer, regulation, surveillance, conventional medicine, evidence based medicine, standardization, safety, CAM, gate keeping, indigenous and traditional medicine, science versus charlatanism.*

Although I started with a hypothesis, I tried to ensure that this research design remained flexible enough for new ideas and themes to emerge on their own as I read through the materials (Krippendorff, 2013). I am also aware, as Krippendorff (2013) notes, that content analysis is an interactive process between reader and text and multiple readings of documents are possible. However, as Krippendorff (2013) suggests “[t]he nature of texts demands that content analysts

draw specific inferences from a body of texts to their chosen contexts” (pg. 30). Further, my reading of the documents contribute to what is considered content, and as such I bring meaning to my reading of the texts. To ensure vigor, I did an initial count of key word and phrases of the sample documents to help ground my readings and thematic codes (Krippendorff, 2013).

Theoretical Background

This thesis employs a diverse range of critical theory and I have coined the term “critical eclecticism” as its theoretical framework. The study is grounded in a critical medical anthropological approach (Susser & Baer, 1995), which is based on the notion that increasing the global economic system is the most important social process of this era (Susser & Baer, 1995). From this perspective, biomedicine is embedded within dominant ideological presumptions rooted in colonialism and capitalism (Hollenberg & Muzzin, 2010; Arnold, 2004; Baer 2004).

This study also draws on critical political economy, a form of analysis that critiques dominant political economic arrangements and challenges the seeming logic behind the dominant paradigms and ideologies deployed in its defense (McKenna, 2010, 2011, 2012; Singer and Baer, 1995; Marx, 1983; Navarro, 1976). This framework informed my investigation and analysis of the influence of capitalist ideology on the ontological content of “CAM” as it is integrated into biomedical education (Coburn et al, 1983).

Finally, this study draws on anti-colonial critiques and case studies (Hollenberg & Muzzin, 2010; King, 2003; Rao, 2010; Qadeer, 2011), as

[t]heorising the development of integrative medicine from the perspective of subjugated [or contorted] knowledges [and beliefs] provides an important dimension for examining the emergence of integrative medicine” (Hollenberg & Muzzin, 2010, pg. 35-36).

Anti-colonial or postcolonial perspectives begin from the stance of marginalized peoples, worldviews, and knowledges, and attempts to make visible perspectives that have become obscured by dominant worldviews (Hollenberg & Muzzin, 2010). To elaborate this point:

Dominant European science borrowed from, absorbed, adulterated and altered non-European technologies from the ancient and colonized civilizations of India, China, the Americas and others. Recent scholars have emphasized that the conceptual shift that accompanied European science was closely linked to colonial endeavours (Hollenberg & Muzzin, 2010, pg. 38).

Sandra Harding (1998) suggests that, “non-European knowledges and worldviews (e.g. non-biomedical) have historically been devalued in the pursuit of one ‘true’ account of nature” (pg. 165), in this instance, biomedicine’s. From an anti-colonial perspective the “integration” of CAM practices into biomedical settings such as medical schools, can be viewed as part of an entrenched pattern of knowledge and worldview expropriation, homogenization and even erasure (Harding, 1998).

Reflexivity

As part of this research process I have engaged with theoretical tools to help me ‘see’ things differently. By this I mean looking beyond how ‘things’ are represented and categorized. Reductionist perspectives and approaches are pervasive, and I have needed to continually reflect on trying not to let either my approach or analysis become reductionist. This has proven a difficult task; recognizing reductionism in my approach and analysis has meant continually reflecting on my frame of reference, and trying to make conscious the unconscious, internalized ways of understanding the world, so easily reduced into manageable ‘pieces’ of knowledge. This is an on-going process, and this thesis represents a captured moment of my understanding of the

issue under investigation. I hope my understanding and critical self-reflection will continue to evolve as I study and delve deeper into this area of exploration in future academic work.

I have also tried to be mindful of my own potential biases and preconceived ideas, as I have been practicing as a so-called CAM practitioner for over 22 years, and have my own particular views and concerns about the “integration” of CAM into biomedicine and particularly biomedical education. Since I have also worked in so-called “integrative” medicine settings, and have noticed some of the issues that have arisen in this context it could be easy to project my own professional concerns into my analysis. Although my background provided me with insights, it could also potentially skew my perspective one way or another. I have kept a reflexive journal as a means of exploring potential biases and keeping my projections in check. My methodological approach, although based on a relevance sample of documents (Krippendorff, 2013, pg. 120-121) included a thorough and inclusive search. Further, my theoretical framework provided a reflexive tool/guide in my analysis of the documents.

Limitations of Study

This study sought to explore an evolving phenomenon (CAM in biomedical education) through an analysis of documents. As such, the materials this thesis examines are limited to those accessible publicly on websites. These documents are not static. New documents may be added, and links may become inactive or archived. As Krippendorff (2013) suggests, the nature of textual material changes with the inclusion of electronic documents, and is tied to the “increasingly complex worlds that are produced and are sustained by these data” (pg. 30).

I would like to note that this study began with an intention to examine specific lecture notes (eg. power point slides, course outlines, lecture notes) from three medical schools in Canada,

however, despite having gotten permission to use these materials, from both the ethics review board, and the undergraduate medical education departments, after receiving a number of lecture notes and slides, I was halted. During a later exchange with the ethics review board, they changed their position and I was told that I would need to apply for ethics if I wanted to include these curriculum documents in my study. Given the timing of their request that I apply for ethics (during summer break), I decided that instead of stalling my thesis progress I would continue forward and keep my analysis limited to those documents publicly accessible in websites. This led to another study limitation; as this content analysis is solely reliant on documents from publicly accessible forums, this research could benefit from further study involving ethnographic field-work including field observations of actual lectures, and follow up interviews. I hope to pursue this method of inquiry as part of my PhD research.

Chapter 3

An Ontological Examination of Biomedicine

By the twentieth century biomedicine surfaced as a “profit making venture” in the West (Baronov, 2008, pg. 236), and “its self-confident worldview [was] firmly established...”(Baronov, 2008, pg. 236). During this time biomedicine became the “only reliable and proven form of medicine” (Baronov, 2008, pg. 245), and the benchmark by which all other forms of medicine were to be evaluated (Baer, Singer & Susser, 1997; Baer, 2004; Baronov, 2008). Biomedicine, with its profit making potential, and its focus on microscopic pathogens as the cause of disease, aligned well with capitalism, as it exonerated socio-economic disparities as a health determinant (Baer, Singer & Susser, 1997; Baer, 2004). David Baronov (2008) even contends that the “scientific content of biomedicine is linked to the interests of industrial capitalism” (pg. 246), suggesting that biomedicine and capitalism are intricately entwined.

To illustrate, many metaphors in biomedicine are reflective of industrialism and economic organization (Martin, 2001). This is evocative of the myriad of ways in which biomedicine fits in with capitalist and neoliberal ideologies; for example, the body is seen as a machine that when sick needs fixing (Martin, 2001), or medicating, in order for ‘it’ to ‘get back to work’. Brian McKenna even suggests “that in the drama of [bio]medicine, the doctor helps perform the hard work of a neoliberal [and capitalist] culture by reproducing the conditions for “wage slavery” of the worker/citizen...” (McKenna, 2012, pg. 98). Also, health tends to be measured in terms of productivity, and the ability to work; or as illustrated in another example, provided by Nancy Scheper-Hughes, symptoms of poverty and hunger get reconceptualized as medical conditions, that are then treated with biomedicine, rather than shifting the distribution of wealth and access to resources (Scheper-Hughes, 1992). This serves to perpetuate the socio-economic inequalities

fostered in capitalist societies, at the expense of human dignity and suffering.

Furthermore, biomedicine's association with science, or what some scholars refer to as science under capitalism (McKenna, 2010; Panitch & Leys, 2009; Nanda, 2001; Navarro, 1976, 2007) limits "the ontological world of health and healing to observable and measurable physical phenomena" (Baronov, 2008, pg. 241). This may influence the ontological content of CAM as it is integrated into biomedical education. As CAM is increasingly "integrated" into biomedical settings, such as medical education, CAM practices may be increasingly contorted towards biomedicine's dominant "ontological world of health and healing" (Baronov, 2008, pg. 241) in order for CAM knowledge and approaches to practice to be more in line with capitalist ideologies. To illustrate, how can Ayurvedic medicine, which views humans as intricately intertwined with nature and sees one's environment as having a "direct role in individual health and disease" (Nayak, 2012, pg. 19) maintain its integrity within biomedicine's reductionist framework?

A crucial feature of critical ontology⁵ in the context of integrating "CAM" into biomedical education includes recognizing and disentangling the "machine metaphors of Cartesianism" (Kincheloe, 2006, pg. 182) fundamental to biomedicine. This ontological position acknowledges the reductionism inherent in biomedicine. For example, the conceptualization of the body as a machine made up of fragmented and breakable parts, and the physician as a "tinkering mechanic" (Baronov, 2008, pg. 242) who fixes it.

Biomedical ontology is considered post-Galilean (Nayak, 2012). "Galileo introduced experimentation and observation" (Nayak, 2012, pg. 18) and the notion that "faith was not to be relied upon for gaining knowledge, but that human reason and senses were the sole reliable sources of knowledge; demonstrable, verifiable, and quantifiable phenomena alone should be

⁵ Ontology here refers to fundamental concepts/substance, the nature of its existence (Kaipayil, 2002).

accepted as true knowledge” (Nayak, 2012, pg. 18). Other ontological aspects of biomedicine include an association with rationality and modernity (King, 2002), and the notion of a superior, Eurocentric science (Hollenberg & Muzzin, 2010; Gordon, 1988; Basalla, 1967).

As discussed earlier, since biomedicine tends to reduce disease to mere physiology, with its focus on bacteriology (McKenna, 2012), it “largely ignores broader social, cultural and institutional contexts” (Baronov, 2008, pg. 242). As such, the significance of indigenous and “other subjugated knowledges”, which tend towards a more holistic view of health and healing, (Kincheloe, 2006, pg 182) appear within this ontological frame of reference, and reflect how “[w]ith the birth of modernity, the scientific revolution and the colonial policies they spawned, many pre-modern, ontologies were lost” (Kinchloe, 2006, pg. 182). Furthermore, the process of contorting and erasing indigenous ontologies is ongoing.

A contemporary invocation of this is the very pigeon-holing of indigenous knowledges as “CAM”, reducing, what is in some instances, thousands of years of knowledge, tradition and practice into a process contingent on measurement against the benchmark of modern western scientific cosmology (Basalla, 1967; Baronov, 2008). The majority of CAM modalities currently practiced in Canada are offshoots or ‘westernized’ versions of indigenous medicine/knowledges (Hollenberg & Muzzin, 2010). Many of these so-called CAM practices are based on versions of health practices and beliefs that were devalued, contorted and even erased during the colonial period, in favour of western medical models (Kinchloe, 2006; King, 2002; Arnold, 1988).

Biomedical Education, a Vehicle for Biomedical Hegemony?

McKenna (2010) suggests that biomedical education is a process of cultural indoctrination that hasn't significantly evolved since the Flexner Report. The Flexnor Report is largely

associated with the “growth of so-called scientific medicine” (McKenna, 2010, pg. 7). He argues that the biomedical model is outdated, and despite attempts to challenge and change it’s framework, it remains entrenched. For example, McKenna (2012) argues that the 1978 Alma Ata movement was an attempt to draw attention to the shortcomings of the biomedical model (i.e. lack of focus of social influences on health and health care), but that these attempts were subverted by political forces, and “by the bacteriological emphasis of the late nineteenth and early twentieth centuries” (Heggenhougen in McKenna, 2010, pg. 7). This emphasis on bacteriology serves to further obscure the role of socio-economic influences on health.

McKenna (2010) provides another example of this in his paper exploring the Community University Health Partnerships project. This project, funded by the Kellogg Foundation in the U.S., was set up to explore and help broaden the dominant model of biomedical education initiated in the United States. This project challenged “biomedicine’s orientation toward curative care, professional rivalry, specialization, and hospital-based medical education” (pg. 6), but Brian McKenna contends it was derailed because of biomedical hegemony (2010). McKenna notes that “[i]t’s easier to move a graveyard than to change medical education” (2010, pg. 7), and even suggests that, “[t]he liberal idea of a university as a democratic public sphere is being eroded through a growing combination of corporate alliances, government contracts, foundation dependencies, pharmaceutical indoctrination, military partnerships, and over-specialized professional mindsets” (pg. 13). While not talking specifically about medical education, Giroux (2007) also suggests that universities have become “hypermodern militarized knowledge factories” (p. 74), that perpetuate capitalist and corporate interests. All of these factors may influence the ontological content of CAM as it is integrated into biomedical education.

Yet, other models of biomedical education and health care are possible, and Cuba is one such

example. In Cuba, CAM is integrated into all levels of the biomedical curriculum (Perez, 2008; Appelbaum, et al, 2006), and the best variety of paradigms is integrated so as to practice one diversified medicine. “Cuba's medical education curriculum incorporates not only teaching *about* CAM, but it also teaches basic CAM approaches and clinical skills. Both the theory and practice of CAM are integrated into courses throughout the six-year curriculum” (Appelbaum, 2006, pg. 1098), suggesting that it is possible to integrate ‘other’ perspectives, knowledge and ways of conceptualizing health and illness into medical education and then implement a broader conceptualization of what counts as medicine, especially when profit is not an overarching goal (Kirk & Erlsman, 2009; Perez, 2008).

Cuba is a low-income country that has “excellent health indicators” (Appelbaum, 2006, pg. 1099), similar to Canada and higher than those of the United States, in many measures, two of the richest nations in the world. In Cuba, CAM is referred to as natural and traditional medicine (NTM), and is part of their public health care system, accessible to everyone regardless of socioeconomic status (Perez, 2008; Appelbaum, 2006), and is largely provided by family doctors who live amongst the community they are serving.

Biomedicine, Capitalism and the Expanding Neoliberal Market

Challenging the ontological content of biomedical education is tricky (King, 2002). Yet, other paradigms, such as Cuba’s example of a model of health care incorporating the best of differing paradigms, and still practicing one diversified form of medicine, are possible (Perez, 2008; Singer & Baer, 1995). However, “Western ideological medical assumptions” (Singer & Baer, 1995, pg. 4) are pervasive, presumed based on ‘fact’, ‘truth’ and ‘progress’, and this ‘truth’, or way of thinking has become so ingrained, particularly in western societies, that we have even

forgotten where it came from (Basalla, 1967; Fleck, 1979). This pervasiveness also obscures how it is influenced by social, political and economic factors outside of itself, including capitalist ideology (Navarro, 2007; Singer & Baer, 1995; Coburn, Torrance & Kaufert, 1983; Navarro, 1976). Moreover, as Singer and Baer (1995) note “[b]eyond its hegemonic contribution, biomedicine serves other identifiable political-economic functions for the capitalist world system, including profit making” (pg. 65). The nature of biomedicine has become embedded within the profit driven, “medical-industrial complex” (Singer & Baer, 1995, pg. 66) and is thus continually searching for expanding markets and increased profit (Sunder Rajan, 2007).

Another contemporary invocation of the contortion indigenous knowledges and CAM practices are undergoing, emerges as CAM becomes increasingly “integrated” into the dominant health system, and through this process is contorted to adopt a reductionist theory of disease in line with “capitalist ideology and the biomedical model of organization” (Baer, 2001, pg. 6). Biomedicine has become interconnected with multi-national corporations, such as the pharmaceutical industry (Sunder Rajan, 2007), and insurance companies, both of which have tremendous political and economic influence (Singer & Baer, 1995) and an increasing interest in CAM practice and products (Gautam, Raman & Kumar, 2003). There are also a variety of other profit-making endeavors in the field of health care including numerous ancillary goods and services within hospitals (Schensul & Schensul, 1982) of which CAM is becoming a part (Hollenberg, 2007). Baer (2004) even suggests that the “integration”, or rather the conversion, of CAM into biomedicine, contributes further to the medicalization of North American societies and helps foster the ‘worried well’ (Hirschhorn & Bourgeault, 2008), thus widening the domain of biomedicine and its profit making potential.

The integration of CAM into biomedical settings and education may increasingly contribute to and serve profit-making activities (e.g. pharmaceuticalization of natural health products/remedies). The pharmaceutical industry's interest in plant derived and herbal medicines has grown exponentially over the last few years (World Bank, 2004; Gautam, Raman & Kumar, 2003). The World Bank has also become involved, suggesting an institutionalization of traditional medicine, "setting up a regulatory mechanism to authorize the marketing of improved traditional drugs" (World Bank, 2004), and has stressed the importance of "setting up of scientific committees made up of experts to review new drug applications" (World Bank, 2004). The World Health Organization has also stated that "[h]erbal medicines are the most lucrative form of traditional medicine, generating billions of dollars in revenue" (WHO, 2008). Traditional medicine with its profit making potential has captured global market attention. All of these factors may influence the ontological content of CAM in biomedical education.

Further, Navarro (2007) and colleagues (see Rao, 2010 and Arnold, 1988) have highlighted some of the connections between biomedicine, capitalism and neoliberalism. As highlighted in earlier discussions, biomedicine tends to be reductionist, individualistic, behaviouralistic, and is increasingly becoming a market driven, profit-focused industry, with technology, and pharmaceuticals as major industry players (Rao, 2010; Navarro, 2007; King, 2002). It has also been suggested that reductionist and behavioral approaches, and the increasing emphasis on technology and pharmaceuticals in biomedicine points the focus away from the role of social, economic and political factors in health (McKenna, 2012; Rao, 2010; Baer, Singer & Susser, 1997). As such, the "integration", or rather, further contortion of CAM into a biomedical paradigm, may be a means of bringing other health systems and beliefs/knowledges, that tend to be more holistic, further under the purview of capitalist ideologies (Baer, 2004).

As illustrated above, biomedicine is not politically, culturally or economically neutral, but rather the product of social and capitalistic forces, that are both internal and external to biomedicine, and as such they are hard to ‘tease’ out (Navarro, 1976). As Navarro (1976) suggests external social, political and economic forces have increasing influence on biomedicine, and biomedicine is part of a “larger social formation – society” (pg. viii), largely ruled by social class and “contemporary capitalism” (pg. viii). All of these factors are suggestive of the level of contortion CAM might undergo as it is included in biomedical settings and education.

CAM, Capital and the State

Singer and Baer (1997) suggest that increasing public use of CAM can be seen as a form of social dissent and that the increased “integration” of “CAM” into biomedical settings may be seen as the state’s attempt to pacify this social unrest. It may also be seen as an attempt to settle the inherent contradictions of capitalist societies that manifest in the health sector by appeasing “alternative health practitioners and their clients” (pg. 182), who tend to be from higher socio-economic brackets in Canada. Corporations and government, they go on to argue, that are associated with health policy, contribute to the level of legitimacy CAM systems gain, through pushing for and approving licensure and standardizing education (Singer & Baer, 1995), and including CAM in biomedical education may contribute to this. Furthermore, if corporations (i.e. health insurance companies), and the state, see that “CAM” practices are less expensive than biomedical treatment, they may endorse those practices (Singer & Baer, 1995). Since CAM is cheaper than many biomedical interventions, insurance companies and state insurers have developed a vested interest in CAM becoming more integrated into health care (Baer, 2001).

CAM is also becoming a means of raising capital for hospitals, as increasingly CAM practices are being offered on a fee for service basis in hospitals in major cities in Canada (Hollenberg, 2006). In Canada and elsewhere, there are increasing attempts to “re-commodify universal-access health care” (Leys, 2009, pg. 15), which may also be influencing the push for further ‘integration’ of CAM via its inclusion in biomedical education. Containing costs and improving efficiency of health care are the major drivers of health policy in Canada (Leys, 2009), and as noted by Daniel Hollenberg (2007), “the state is ‘loosening’ its resistance to ‘big business’ interests in privatizing and rationalizing health care, and other social services, including those such as CAM that already contribute significant private revenue “ (pg. 4). Including CAM in biomedical education may facilitate the increasing privatization of health care, as these services are already not covered under public health care, yet are increasingly part of health care regimes for those who can afford it; those who tend to have more political influence.

To summarize, biomedicine is the dominant form of medicine in industrialized countries. This section also explored the ways the ontological aspects of biomedicine fit in with capitalist ideology, and illustrated some of the ways in which biomedicine has become part of a medical industrial complex, increasingly driven by profit. The literature also suggests that CAM is being contorted towards a biomedical paradigm and a profit based approach to health care, as it is integrated into biomedical health care systems. One can see how this trend may continue and even be furthered as CAM is integrated into biomedical education curriculum in Canada.

Chapter 4

Why “CAM” in Biomedical Education?

This chapter will contextualize the integration of CAM in biomedical education through an examination of sample CAM policy related documents from the World Bank, WHO and Health Canada, as a means of exploring why CAM is being integrated into biomedical education.

In some countries upward of 80% of the population rely on or use so-called traditional/complementary and alternative medicine (WHO, 2008). In many low-income countries it is those most impoverished that rely on and in some cases only have access to non-biomedical forms of medicine. Yet in the Canadian setting, it is only people from high socio-economic brackets who can afford to use CAM, as it is not part of the publicly funded health care system. As pointed out in chapter one, one of the responses to the increased use and public dollars spent on CAM in Canada, is that an increasing number of biomedical schools are including components of CAM in their curriculum (Verhoef et al, 2004; Frenkel et al, 2007).

For example, largely driven by government and medical organizations from Canada, the US and the UK, calls for the integration of CAM in undergraduate biomedical education in Canada were heeded, and in 2002 Health Canada funded a steering committee to facilitate a workshop related to CAM in undergraduate medical education. This workshop was initiated in order to develop a “national vision” for CAM in UME. The workshop titled ‘*Developing a National Vision for Complementary and Alternative Medicine in Undergraduate Medical Education*’ highlighted what they view as a need to include CAM in undergraduate medical education for two main reasons. Firstly, this report stated that patient safety is being threatened due to the increased patient use of both CAM and biomedicine, and with it the increased potential for adverse reactions between pharmaceuticals and herbal medicines. The response to this has been a

focus on developing physicians' understanding of CAM therapies in order to over-see patient CAM use, to ensure public safety. The second reason is so physicians can become a reliable source of information about CAM for their patients (*see appendix Health Canada, 2003i*).

One of the outcomes of the workshop is a project called the Complementary and Alternative Medicine in Undergraduate Medical Education (CAM in UME) project, which is partially funded by Health Canada. This project seeks to enable the standardization of CAM in UME, facilitated through the creation of templates, CAM curriculum guidelines and actual lecture materials. This project has created a web-based, open access repository of CAM in UME resources for educators to draw on for lecture materials. It is specifically focused on CAM competencies and learning objectives in UME, as well as teaching and learning resources. The CAM in UME project seeks to help standardize CAM curriculum in biomedical schools in Canada, and as such it has implications for how CAM is framed and conceptualized within biomedical education.

Integration or Conversion

In their exploration of epistemological challenges in integrative medicine⁶, Daniel Hollenberg and Linda Muzzin (2010) argue that there are underlying challenges in integrating biomedicine and CAM that have been ignored in the drive towards integration, and under-theorized in their scholarly exploration. Using an anti-colonial framework for analysis, their findings suggest that integrative medicine contributes to a “monolithic worldview” (Hollenberg & Muzzin, 2010, pg. 34), resulting from paradigm “appropriation and assimilation” (pg. 34), which can be traced back

⁶ Integrative medicine refers to the integration of CAM into biomedical settings

to the devaluation of indigenous knowledge and worldviews that occurred during the colonial period. They argue that in the western, biomedical context "CAM's" indigenous epistemologies are being reinterpreted to fit into the biomedical paradigm of health and illness.

Likewise, in his paper exploring colonial approaches to health, and the emerging diseases worldview⁷, Nicholas King (2002) suggests that the 'language of integration' contributes to rhetoric of inclusivity and medical pluralism that is largely unrealized. Integrative medicine with its 'language of integration' makes the inclusion of CAM into biomedical settings, including education, sound more egalitarian than it actually is (Baer, 2004). Moreover, this is taking place within the content of an 'emerging disease worldview' (King, 2002), preoccupied with market interests, commodification of health services, and the modernization and 'westernization' of 'traditional health systems' (Leys, 2009; Towghi, 2004; King, 2002; Navarro, 1976, 2007). Although King and colleagues are writing about the U.S., the parallels to Canada, with the increasing focus on market interests, and the commodification of health care, are striking (eg. Armstrong & Armstrong, 2009; Jacklin & Warry, 2004).

As King notes, during the colonial period, European and United States colonists play an integral role in the battle between what was viewed as "rational Western medicine and primitive traditional therapeutics" (2002, pg. 780). These struggles sought to "drive out" (pg. 780) traditional health beliefs and approaches to health care that were seen as "superstitious and primitive" (pg. 780). This conversion, and even erasure of indigenous knowledges, was conceptualized as part of a humanitarian effort to 'civilize' indigenous populations (Towghi, 2004; King, 2002; Arnold, 1988). Bringing western medicine to these regions was a key vehicle for colonization, and as King describes, part of an "ideology of colonial healing" (pg. 780). To

⁷ The emerging disease worldview is a perspective on international health that is concerned with the development of the global medical-industrial-technological complex (eg. increasing the global capitalist market by increasing the market for pharmaceuticals) (King, 2002)

reiterate King's point, medical colonialism was a process of conversion, and in many instances a violent conversion, from traditional medical beliefs to "modern ways of knowing and doing" (King, 2002, pg. 780).

These patterns were also evidenced throughout Canada, as indigenous approaches to health and healing were all but erased with the colonization of indigenous Canadians (Robbins & Dewar, 2011). As this thesis hypothesizes, this pattern of conversion and erasure of knowledge may be viewed as continuing through the seemingly 'civilized' standardization, absorption and contortion of CAM as it is integrated into biomedical curriculum. This may be likened to a "colonization" of the western imagination towards alternative worldviews, and approaches to health and healing (King, 2002), which is also being framed as a 'humanitarian' effort to ensure public health and safety.

For example, the World Health Organization has stated that they must ensure traditional, complementary and alternative medicine (TCAM)⁸ is used "rationally and safely" worldwide in order to help improve global health (WHO, 2004). This includes standardizing and regulating TCAM across the globe. They contend that there is an urgent need for national policies on TCAM; mainstreaming TCAM; as well as a need to create internationally recognized standards for TCAM practices (WHO, 2004). Further, they also highlight what has been called a need to adopt a biomedically defined 'evidence' base, and what they refer to as 'real science' to prove its validity. To illustrate:

Much of the research on TCAM is of questionable quality and often it does not use modern scientific techniques... a combined political and scientific approach will be necessary to provide for a comprehensive research agenda targeted at establishing the potential risks and benefits of TCAM. Only then will health-care professionals be in a position to

⁸ The WHO refers to "CAM" as Traditional/Complementary Medicine (TCAM)

make informed decisions about the use of TCAM therapies alongside those of conventional Western therapies (WHO, 2004, pg. 2).

This quote underscores the naturalization of biomedicine as the only "real" scientific medicine, and the only type of medicine that can judge others' inherent qualities and value.

Baer and Coulter (2008) also problematize the current trend towards integrating CAM into biomedical health care settings. They argue that the model of integrative medicine privileges the dominant biomedical model and leads to a biomedical conversion of CAM (Baer & Coulter, 2008; Baer, 2001). Wolpe (2002) concurs, noting that: “the conventionalization of CAM into the academic [bio]medical centre is part of a long history of maintaining control over modalities by co-opting them” (pg 169).

Furthermore, as discussed earlier, Baer (2004) argues that CAM is being co-opted by “political and economic forces” (pg. 324) and that these forces will continue to undermine CAM’s holistic paradigm, as it becomes increasingly incorporated into biomedically dominant, integrative biomedical settings (Baer, 2004). Both the World Bank and the WHO are shaping some of these political and economic forces.

One of the consequences of biomedicine’s association with science is that it limits “the ontological world of health and healing to observable and measurable physical phenomena” (Baranov, 2008, pg. 241), which is at odds with many CAM philosophies. Christina Barry (2006) even suggests that:

‘healthcare technologies’ (such terminology itself denotes a separation of treatments from: the people they treat, the people providing them, and the settings in which they are provided). In an alternative orientation such a separation makes no sense, as the therapeutic effect does not reside inside a homeopathic remedy, for example, but in an energetic system that comprises the patient, the remedy, the healer and the setting” (pg. 2647).

Further, Barry (2006) agrees that the focus on providing biomedically defined and accepted ‘evidence’ that CAM practices work is “in part, political and relates to the agenda of controlling the threat posed by alternative medicine to the long-standing hegemony of biomedicine in the West” (pg. 2647) and that “[t]here is no such thing as The Evidence, just competing bodies of evidence” (pg. 2648).

Capitalism and CAM in Biomedical Education

This section will explore and elaborate on some of the potential forces influencing the ontological content of CAM in biomedical education, through a thematic investigation of CAM related documents from the World Bank, and the World Health Organization (WHO).

The dominant biomedical paradigm is evident in the World Bank, the WHO and Health Canada CAM policy related documents. However, it is buried within a discourse of humanitarianism, public health and safety. I will illustrate throughout the next two chapters how the naturalization of biomedicine as the only ‘real scientific’ medicine, can be traced throughout the sample documents from the World Bank, and WHO, to Health Canada, and then to the CAM in UME project sample materials.

Many of the policies discussed and implemented through these governing institutions, are influenced and driven by the logic of capital. The logic of capitalism refers to the privileging of profit over people and health, the technologicalization of medicine (Navarro, 1976), and the growth of the medical-industrial complex at all costs (McKenna, 2011, Navarro, 2006). The logic of capital emerges in the World Bank and WHO CAM sample policy documents. World Bank initiatives and WHO policies impact health systems locally and globally. One of the consequences of this is the continued contortion of traditional knowledge and practices towards

the dominant biomedical model. As mentioned earlier, this is being done under the guise of humanitarianism, modernization and progress.

“CAM” and the World Bank

The World Bank has become interested in traditional, complementary and alternative medicine (TCAM)⁹, and has suggested an institutionalization of TCAM worldwide. In 1996 the World Bank expressed their vision of creating a “knowledge bank”, branding themselves as the mediator between ideas and financial resources in relation to TCAM and indigenous knowledges (*see appendix World Bank, 2003a*) on a global level. The World Bank has consequently undertaken the “challenge to learn from the practices of communities so as to leverage the best in global and local knowledge systems” (*see Appendix World Bank, 2013b*), and in response initiated the *Indigenous Knowledge for Development Program*. This program has set out to “learn” from indigenous and community based knowledge systems and practices, and to “integrate” this knowledge into World Bank supported health programs.

The *Indigenous Knowledge for Development Program* is a series of papers related to managing, and I am arguing, exploiting indigenous knowledge for capital gain. The focus of these papers is on giving voice to “poor people”, by helping them “capitalize” on the profit making value of indigenous knowledge and traditional medicine (World Bank, 2004). The reference to the term "capitalize" suggests a push to commodify indigenous knowledge. What remains unsaid is that although indigenous knowledge has been devalued, contorted and even erased for centuries in favor of “modern science and technology”, and western hegemonic ideologies, there is now a push to foster it for development (*see Appendix World Bank, 2013a*).

⁹ The World Bank also refers to CAM as traditional/complementary and alternative medicine (TCAM)

Why now? The language used to talk about these issues includes phrases such as: “empowering” indigenous communities towards their own “development” in the context of globalization, and “helping countries capitalize” on indigenous knowledge (*see appendix World Bank, 2004d*). The choice of language in these examples is in one instance demeaning; for example, why do indigenous communities need to be empowered towards their own development? The answer lies in their history of persecution, marginalization and exploitation, as a result of western imperialism (King, 2002; Baer, Singer & Susser, 1997). In the other instance, using words like "capitalize" is illustrative of the how the logic of capital underpins or at least overshadows these seemingly humanitarian initiatives (Baer, Singer & Susser, 1997).

Within the sample documents from the World Bank they state that TCAM practitioners have poor biomedical knowledge, which leads to dangerous practices. They also make the claim that the main reason TCAM is excluded from “modern” national health systems is their lack of documentation of “scientific” proof of safety (*see Appendix World Bank, 2013b*), ignoring any political or economic motivation for this marginalization and exclusion. It also negates the thousands of years of knowledge, in some instances, that has been documented and proven in forms other than dominant western scientific methods (Quah, 2003; Arnold, 1988).

Another issue that arises out of these sample documents is the use of the term 'health systems' (in plural), alluding to there being more than one dominant health system. There is really only one “modern” recognized health system especially in industrialized nations that has any power - biomedicine (Baer, 2001; Baer, Singer & Susser, 1997). Further, within the World Bank sample materials, there is a lot of focus on the profit making potential of indigenous knowledge through the “discovery” of active ingredients in medicinal plants that have been around and used for thousands of years. These so called 'discoveries' can then be used for new

pharmaceuticals (*see appendix World Bank, 2004c*). As such, these ‘discoveries’ become the property of the major industries involved, such as pharmaceutical companies (Sundar Rajan, 2007; Gautam, Raman & Kumar, 2003). Thus indigenous knowledge may be masterfully appropriated, and contorted for capitalist gain, and indigenous communities end up robbed further of resources as a result of these seemingly humanitarian initiatives (King, 2002) to find new drugs to help improve global health.

Although the World Bank has declared that TCAM knowledge can be an avenue for “development”, and there are World Bank supported efforts for the adoption of policies for the protection of indigenous knowledge, the current policy related to public health and “health for all” campaigns enable the appropriation of indigenous knowledge for the benefit of any member states of the World Trade Organization (*see appendix World Bank, 2004d*). For example,

... to encourage the discovery of new drugs derived from Indigenous Knowledge and to reward its custodians, the [Alma Ata] Declaration pledged a commitment from industrial countries to “provide incentives to their enterprises and institutions to promote and encourage technology transfer to least developed countries. This could help build up the research and development (R&D) capacity of national drug laboratories to undertake clinical trials on herbal treatments derived from Indigenous Knowledge. A partnership could develop between the local healers and scientists to share their knowledge of medicinal plants and the subsequent economic gains derived from the end-products (*see appendix World Bank, 2004a, pg. 3*).

One hypothesis to explain why CAM/TCAM is being integrated into biomedical education is that as CAM/TCAM is taught to physicians, and is increasingly standardized and biomedicalized it may eventually become biomedicine's domain. This may facilitate the cooption of indigenous plant based knowledge as it too may then come under biomedicine's control, which may lead to this type of knowledge becoming part of the medical-industrial complex via the "knowledge

bank". The "knowledge bank" is part of and controlled by the World Bank. Further, partnerships between local healers and scientists employed by the pharmaceutical industry will likely benefit industry more than local healers.

As King (2002) suggests, in his paper exploring the emerging disease paradigm and global health initiatives, these endeavours are being framed within the realm of humanitarianism, yet more accurately they are in line with the emerging disease worldview. The World Bank is promoting the development of partnerships between powerful industry, scientists and local healers promising that it would benefit everyone involved. But whose interests would actually be represented in these endeavours? It has also been suggested that in order “[t]o integrate and work with globalization, traditional medicine must reassess and open itself to the requirements of scientific rationality, convert itself in its diagnostic and therapeutic approach methods as well as in its deontology” (*see appendix, World Bank, 2004d*). This is presumptuous, and also highlights the hierarchy in how knowledge is valued, and how so called “modern scientific rationality” is seen as of the ultimate form of ‘knowing’. It also illustrates the ways that knowledge can be contorted and erased. I am left wondering - what about so-called scientific rationality being open to other ways of knowing? Also, the use of the word “deontology” implies that there is somehow a moral obligation/duty for TCAM practices and practitioners to be open to the 'requirements of scientific rationality', whether it affects their integrity or not.

The discourses in these sample documents use a language of inclusion and regard for TCAM in some places, but then contradict this position in others. For example, the World Bank says that TCAM must use modern medicine’s means of diagnosis, such as laboratory testing and MRI’s in order to improve safety and efficacy. Yet, these ways of “diagnosis” may be at odds with TCAM cosmologies related to health and healing. To illustrate, how could an MRI or other laboratory

test show illness caused by social factors (poverty, conflict, oppression), or a blockage of qi, or supernatural powers or the disharmony between humans and nature?

The logic of capital can be traced throughout the World Bank traditional and complementary and alternative medicine policy related sample documents in other ways as well. For example, the World Bank refers to people/communities and countries as *clients* or *customers*; they use the term “*brokered*” to discuss fostering the “cooperation for the scientific validation of traditional medicinal practices between local research organizations, NGOs, practitioners, and the global scientific community” (*see appendix, World Bank, 2004c, pg. ix*). They have also helped develop an initiative to aid Ethiopia in the development of the marketization of medicinal plants for profit. Further, the World Bank has supported and facilitated the U. S national Cancer Institute signing a deal with Cameroon, and now Cameroon provides samples of medicinal plants to the national cancer institute in return for payments that are then put towards community development projects (*see appendix, World Bank, 2013b, pg. 7*). This is an example of how TCAM and indigenous knowledge related to medicine plants may become the "property" of the medical-industrial complex, as it is coopted by biomedicine. This may be facilitated further through initiatives such as teaching TCAM/CAM in biomedical education, as biomedicalizing TCAM may lead to it being further controlled by industry interests and biomedical hegemony.

The World Bank is also interested in facilitating the institutionalization of TCAM. As discussed earlier, they point to a need to study, pharmacologically, the active ingredients and toxicity in traditional medicines/plant medicine in order to commercialize them, and to then have them put into large-scale production, driven by the pharmaceutical industry (World Bank, 2004). They also suggest “setting up a regulatory mechanism to authorize the marketing of improved traditional drugs” (World Bank, 2004), and have stressed the importance of setting up of

scientific committees made up of "experts" to review new drug applications related to herbal medicine derivatives (World Bank, 2004). These scientific experts are not likely going to be TCAM practitioners. The World Bank sample documents also talk about putting TCAM into “rational galenic form”... (pg. 4), which reflects another theme that emerges in these documents; the push towards classifying and categorizing TCAM into tidy categories that fit within a biomedical paradigm¹⁰. This further contorts CAM/TCAM towards the logic of capital. These themes recur in both the WHO and Health Canada TCAM related policy documents, which I discuss in detail later.

The terms consumer, regulation, standardization, are used frequently to discuss how the World Bank is endeavouring in this so-called ‘humanitarian’ effort to teach TCAM practitioners what to do, when many of these practices have been time tested for thousands of years. Why do they need to be shown what to do now, and under these circumstances? On close examination the language used in many of the discussions illuminates how biomedicine is naturalized as the most advanced form of medicine from which TCAM should be measured. To illustrate:

At all levels, modern medicine is an evolving medicine that is open to knowledge and progress through continuous research.... In contrast to this dynamic Cartesian medicine [biomedicine], one must admit that from its nature, traditional medicine does not aim at progress. It is not open to innovation, renewal and the progressive modifications of its principles, means, and methods. Tradition keeps it static and inward looking, subjected to the passivity of empiricism set rigidly by the elders and followed faithfully by apprentices (*see appendix World Bank, 2004a, pg. 3*).

It has been also suggested that:

In order for traditional medicine to integrate and work with globalization, traditional medicine must reassess and open itself to the requirements of scientific rationality, convert itself in its diagnostic and therapeutic approach methods as well as in its

¹⁰ I will discuss this in more detail in chapter 5

deontology. It will thus ensure its influence, productivity, and progress as well as enhance its therapeutic efficiency and competitiveness (*see appendix World Bank, 2004a, pg. 4*).

These statements highlight presumptions made about TCAM on a fundamental level and the naturalization of biomedicine as the only “real scientific medicine”. They also provide examples of how TCAM cosmologies are contorted and even erased through biomedical hegemony. Furthermore, it is suggestive of how integrating CAM/TCAM into biomedical education could enable these processes.

WHO and CAM

The World Health Organization (WHO) has also declared the need to establish its role in a global TCAM strategy to address the increased use of TCAM. The sample materials highlight the need to address policy issues to ensure TCAM safety, efficacy, and quality of TCAM, as well as its “rational use” across the globe. They have also identified “an urgent need” for national and international policies for the regulation and standardization of TCAM, as well as the establishment of surveillance systems to help control adverse events related to TCAM use. They state that developing national and international policy is a “sound basis for defining the role of TCAM” (WHO, 2004).

The WHO plays a key role in establishing these national and international standards. They also are a key player in managing TCAM related information, and in promoting “evidence based” TCAM use. They have identified what they see as a “[l]ack of training for TM/CAM providers and on TM/CAM for allopathic practitioners” (WHO, 2004), as well as a “[l]ack of communication between TM/CAM and allopathic practitioners, and between allopathic practitioners and consumers” (WHO, 2004). As such, one of the WHO’s goals for 2002-2005

was for biomedical practitioners to have basic training in TCAM. These issues and goals identified by WHO help explain some of the reasons why TCAM is being integrated into biomedical education.

The WHO has also voiced their concern about how continued unregulated TCAM practices are contributing to the increased commodification of TCAM, and how this could make these therapies less accessible, due to increased cost. Yet, it seems that regulation also contributes to the increased commodification of TCAM in other ways. Increased regulation, standardization within a biomedical model, and placing TCAM practices under increased surveillance may further contort TCAM practices towards biomedicine, as they would then be overseen by a regulating body designed after the dominant biomedical model; thus becoming increasingly controlled/absorbed by biomedical hegemony and market interests. As discussed earlier this may actually increase the commodification of TCAM through the increased commodification of natural medicines.

In her 2008 WHO congress address, Dr. Margaret Chan, Director General of WHO, talked about “mainstreaming” TCAM, and called for a “blending together for beneficial harmony” of TCAM and biomedicine (*see appendix WHO, 2008a*). She has declared that it is time to realize that TCAM is a precious resource (*see appendix WHO, 2008a*). She also states that “strict controls” of TCAM and TCAM products are necessary. This discourse of humanitarianism and integration is misleading (King, 2002), and these statements seem at odds with each other. Increased control over CAM is more likely to benefit the ones doing the controlling than those being monitored and strictly controlled. Moreover, how does "strict control" of TCAM relate to "beneficial harmony"? I also wonder why TCAM is such a precious resource now? What about during the colonial era? Was it not precious then? The use of the term “resource” is synchronic

with the logic of capital that runs through the World Bank sample documents. Further, a 2006 report by Novartis (a major pharmaceutical company) stating that it was going to invest over 100 million U.S. dollars to investigate traditional medicine in Shanghai, uses the language of humanitarianism and integration; framed as creating partnerships between industry and communities, implying this is a positive development for global health. This is similar to the rationale used in the World Bank documents to explain their mining for indigenous plant based knowledge.

Another WHO goal is to get member states to cooperate in the promotion of traditional medicine for health care. The collaboration aims to:

support and integrate traditional medicine into national health systems in combination with national policy and regulation for products, practices and providers to ensure safety and quality; ensure the use of safe, effective and quality products and practices, based on available evidence; acknowledge traditional medicine as part of primary health care, to increase access to care and preserve knowledge and resources; and ensure patient safety by upgrading the skills and knowledge of traditional medicine providers
(see appendix WHO, 2013a pg. 2).

While efforts to upgrade and standardize TCAM education in an effort to foster increased collaboration between TCAM practitioners and biomedical practitioners alludes to an idyllic health system based on equity, there are underlying power relations that remain unacknowledged, that impact the very integrity of TCAM practices as they are "integrated" into these national health systems. Further, these endeavours may actually serve to deepen biomedicine's dominant position as TCAM becomes contorted and then co-opted by biomedicine through biomedical hegemony (see Rao, 2007; Baer, 2004).

In another WHO document titled: "*New WHO guidelines to promote proper use of alternative medicines*", the discussion is centred on the increase in adverse drug reactions to alternative

medicines over the last three years. However, they do not supply a reference for this statistic. They blame this supposed increase in adverse reactions on the lack of regulation and surveillance by biomedical doctors over TCAM (*see Appendix WHO, 2004b*). In response, the WHO has released a new set of guidelines to help national health authorities develop “reliable” information about TCAM to protect the public. This also helps explain the reasons for the integration of TCAM into biomedical education.

Dr Lee Jong-wook, Director-General of WHO, goes on to say that the “WHO supports traditional and alternative medicines, when they have demonstrated benefits for the patient and minimal risks... [b]ut as more people use these medicines, governments should have the tools to ensure all stakeholders have the best information about their benefits and their risks” (*see Appendix WHO, 2004a, pg. 1*). Who are the stakeholders? How are risks and benefits measured? And by who? Industry?

The WHO also endorses a “checklist” approach to follow in order to foster informed and “proper” use of TCAM; to make sure that TCAM practitioners are following a set guidelines underpinned by the biomedical paradigm. Yet this creates rigid boundaries around TCAM, and contradicts other statements about blending biomedicine and TCAM together for “beneficial harmony”. This checklist approach enables intensified surveillance over TCAM. The WHO also talks about using the mass media to “sensitize and educate” the public about TCAM issues and adverse incidence, yet this could be a powerful tool to discredit TCAM as well. As such, the WHO sees patient use of TCAM without informing their physician, as a serious safety concern. Again these statements do not create an image of the harmonious blending of CAM and biomedicine, but rather the cooption or distortion of non-biomedical practices into biomedical frameworks and ideology and a further entrenchment of biomedical hegemony.

While the WHO publicly acknowledges the potential value of TCAM in addressing health issues, especially chronic disease locally and around the globe, the underlying theme of control, standardization and categorization, informed by the biomedical paradigm, and market interests, surfaces in their TCAM policy documents. This is consistent with themes that emerged in the World Bank sample documents.

Both the World Bank and the WHO documents illustrate an interest in developing TCAM typologies. They view internationally standardized classifications of TCAM, into tidy biomedically informed categories as crucial in ensuring the safety and "rational" use of TCAM worldwide. For example, both organizations see the need to create categories within TCAM based on biomedicine's subdivisions, such as 'generalists' and 'specialists'. Further, discussions related to TCAM seem centred on it either being 'science' or 'charlatanism'. It seems that if the TCAM practice is not categorized or able to stand up to evaluative measures based on modern science, then it is dismissed as charlatanism. It is either one, or the other: science or charlatanism, no in between. This is another example of reductionist biomedical categories being imposed on TCAM.

Although both the World Bank and the WHO admit to the tension between finding "scientific" proof of efficacy in TCAM, and the hundreds of years (even thousands of years in some cases) of so-called "anecdotal evidence", these discussions while promising, are fleeting. Furthermore, the fact that indigenous knowledge has contributed or been the basis of many modern scientific discoveries is mostly neglected in these sample materials.

This chapter has explored some of the underlying factors influencing why CAM is being integrated into biomedical education through an examination of key themes that emerge from the World Bank, WHO and Health Canada. It has also highlighted a few thematic continuities that

emerged within these seemingly independent governing institutions. As has been discussed, the main themes are: the need for surveillance, regulation, standardization, and categorization of TCAM/CAM as well as the need for biomedically defined evidence of efficacy. This analysis has also traced the logic of capital within the World Bank and the WHO sample documents, through the use of terms such as "consumer", and "stakeholder". Further, biomedicine is taken for granted as the ultimate reference point for judging any other type of medicine's validity, and as such has the potential to contort knowledge and practices through these initiatives that in effect may just end up making TCAM/CAM more like biomedicine.

The “Trickle Down”

This chapter explores sample documents from Health Canada. It also explore the thematic continuities between the World Bank, WHO, Health Canada and the CAM in UME project and takes a closer look at the logic of capital that weaves its way through the documents from the these three governing institutions.

Health Canada and CAM

Health Canada has also turned its attention towards developing policies that will ensure the “safe and effective use of CAM therapies”, and is concerned with defining an “acceptable level of evidence” to ensure this. Similar to the World Bank and the WHO, in order to facilitate this process they are focused on defining and categorizing CAM therapies. They also are focused on establishing and enforcing a uniform terminology within CAM practices; a terminology that is derived from biomedical informed categories. One of their main concerns is about “consumers” using both biomedicine and CAM at the same time, and the potential adverse interactions between the two approaches, especially plant based medicine and pharmaceuticals (*see Appendix Health Canada, 2003j*). They see a crucial role for government in developing regulation of CAM practices in order to ensure “consumer” safety.

They also see a role for government in implementing and standardizing CAM in biomedical curriculum. For example, the Department’s Health Human Resource Strategies Division, Health Policy and Communications Branch, has worked with the University of Calgary and the Association of Canadian Medical Colleges on “a curriculum-related research initiative to facilitate the physician’s role with respect to complementary and alternative medicine (CAM)”

(see *Appendix Health Canada, 2003j*). This initiative, as discussed earlier, is called the CAM in UME project. This project seeks to develop standardized CAM curriculum and resources for biomedical education, to help build both knowledge and attitude capacity of future physicians.

In the Health Canada sample document titled: '*The Need for Guidelines: Ethical Issues in the Use of Complementary and Alternative Health care in Canada Today*' they state that the increased visibility and public use of CAM is posing a challenge to biomedical dominance and the social authority that has been afforded to physicians. Many CAM practices are unregulated in Canada, and Health Canada views this lack of regulation as an ethical issue. From this perspective the regulation and inclusion of CAM in biomedical education may be interpreted as a strategic way to control this challenge to their social authority, as well as a means of controlling CAM practices themselves, (Coburn et al, 1983). However, they do go on to say that:

[t]he history of osteopathy and chiropractic reveals that the process of recognizing and regulating an alternative practice can be highly charged politically. The process does not leave the alternative practice unchanged. Professions, which have achieved recognition and regulation have abandoned claims and interventions that were perceived to be excessive or unfounded by mainstream medicine. They have also negotiated some form of co-existence with mainstream practitioners through an often protracted process (see *Appendix, Health Canada, 2003c, pg. II-31*).

This quote illustrates the subtle, and not so subtle forces, at play in the contortion and perhaps even eventual erasure of non-biomedically rooted health care practices and knowledge. Without much of a leap of imagination one can interpret this as a contemporary evocation of the conversion and erasure of indigenous medicine practices that began in the colonial era.

Thematic Continuities between the World Bank, WHO, and Health Canada

The World Bank, WHO and Health Canada are governing institutions that can exercise power through policy recommendations and policy-making. As illustrated in the previous chapter, central themes and keywords emerging from the World Bank, the WHO and Health Canada CAM sample documents allude to the biomedicalization of non-biomedically oriented health beliefs and practices, and the further entrenchment of biomedical hegemony.

Invoking Foucault at this juncture highlights the importance of critically examining these seemingly neutral and independent governing institutions, in order to uncover their pervasive influence. The following quote emphasizes this point:

The real political task in a society such as ours is to criticize the workings of institutions that appear to be both neutral and independent, to criticize and attack them in such a manner that the political violence that has always exercised itself obscurely through them will be unmasked, so that one can fight against them” (Chomsky & Foucault, 2004, pg. 41).

For example, analyzing World Bank, WHO and Health Canada CAM related policy documents for language, central themes and keywords, contextualizes the nature of CAM’s existence in biomedical education, and provides a lens through which to examine curriculum materials from the CAM in UME project. It also is suggestive of the level of influence these institutions have on “everyday world” and in this instance, the importance of studying the CAM in UME project "through" these institutions. (Wedel et al, 2005). Using the CAM in UME project as a case study, this chapter is a critical examination, and summary of the thematic continuities between the World Bank, the WHO, Health Canada and the CAM in UME project.

As discussed in chapter four, the key words and themes that emerge from the World Bank, WHO, which are consistent with the Health Canada sample materials include: *consumer*, *stakeholder*, *mainstream medicine*, *conventional medicine*, *traditional and complementary and*

alternative medicine, the perceived need for standardization, categorization and regulation of CAM, biomedically defined “scientific” evidence of efficacy, and surveillance of CAM practices and practitioners via biomedically derived standards.

The logic of capitalism (McKenna, 2011; Navarro, 2007; 1976) can be traced most explicitly through the World Bank and the WHO sample documents. The logic of capital refers to the privileging of profit over people and health (Leys, 2009; Navarro, 2007, 1976), the technologicalization of medicine, and the growth of the medical-industrial complex at all costs (McKenna, 2010, 2012). The language used in these sample materials includes metaphors that are invocative of capitalism, and the commodification of CAM and indigenous knowledge. For example, the World Bank referring to itself as a “*knowledge bank*”, and to countries and people as ‘*clients*’ and ‘*customers*’, reflects the power capitalism has on shaping these institutions, and this trickles down to the initiatives they engage in.

Another example of the logic of capital that is perhaps more subtle is how both the World Bank and the WHO talk about the need for TCAM practices to incorporate biomedical technology (e.g. MRI’s, lab testing) in order to modernize and improve safety and efficacy. This suggests a push to contort TCAM towards biomedicine, and the biomedical-industrial-market complex (McKenna, 2011), potentially increasing the market for technology.

Although less prominent, the language of capital can also be traced in Health Canada CAM documents. For example, Health Canada also refers to patients as “customers”, and “consumers”, and uses the term “stakeholder” frequently. These terms connote a commodification of health care, reducing people to the logic of capital, turning patients into mere “consumers” of health care. Further, through Health Canada’s push to standardize, categorize and regulate CAM practices, they support the contortion of CAM practices into a reductionist biomedical

framework. As discussed in chapter three this reductionist model fits in with capitalism and neoliberal ideologies (see McKenna, 2010, 2011, 2012; Baer, 2001; Baer & Singer, 1995).

Although Health Canada has stated that the co-option of CAM by biomedicine could “stifle the evolution and knowledge acquisition of an alternative health care system that may eventually prove more robust and effective than the present conventional medical system, which limits itself to the philosophy of biological reductionism” (*see Appendix, Health Canada, 2003j, pg. 101*), their focus on the categorization, standardization and regulation of CAM using a biomedical model remains unchallenged. Further, although Health Canada has stated that “not all CAHC¹¹ practices or practitioners can be organized in a manner so that regulation or formally structured education and training is possible, they have come up with nine categories of CAM products and practices. For example they use the categories: (1) Natural Health Products, (2) Traditional Chinese Medicine, (3) Naturopathic Medicine, (4) Chiropractic, (5) Homeopathy, (6) Therapeutic Bodywork, (7) Mind-Body Practices, (8) Expressive Therapies, and (9) Energy Therapies. These nine categories reduce and contort CAM therapies into tidy compartments, and exclude a whole range of other non-biomedical practices (e.g. Ayurveda, Islamic medicine). Health Canada has also stated that as long as people use these services, and that they “do no harm” then CAM practitioners should be “allowed” to practice. Through this statement one can infer hierarchy between types of knowledge and practices, and the surveillance of CAM via biomedical norms and ideals, governed by biomedical hegemony.

CAM in UME Project

The complementary and alternative medicine in undergraduate medical education (CAM in

¹¹ Health Canada refers to CAM as Complementary and alternative health care (CAHC).

UME) project documents analysed in this section includes standardized peer reviewed summaries of CAM-related topics, called CAMpods. These CAMpods are templates and actual lecture notes and slides, taken from their repository, all of which are accessible to the public. One of the primary goals of the CAM in UME project is to help faculty involved in teaching CAM “develop a basic understanding of complementary and alternative medicine (CAM) in modern societies and to impart this knowledge to medical students as well as the necessary skills and attitudes[sic]” (CAM in UME, 2013). This repository is a key resource for standardizing how CAM is taught in biomedical schools in Canada, and is still under development. As such, the repository is continually expanding.

Similar to the sample documents from the World Bank, WHO and Health Canada, the hierarchy and divide between “CAM” and biomedicine is widened within the CAM in UME materials, through their frequent reference to biomedicine as ‘*the science based medicine*’. Further, continuous with the World Bank, the WHO and Health Canada, biomedicine is referred to as “conventional medicine” in the CAM in UME project and all non-biomedical practices are labeled CAM, reaffirming biomedicine as the ultimate reference point for any other type of medicine. This also illustrates how easily any practice or health related behavior that is not biomedicine is lumped into the euphemism CAM. For example, in some of the curriculum materials they refer to prayer, taking vitamins, and guided imagery as "CAM".

The CAM in UME materials often divide CAM into similar categories to those defined by Health Canada. For example they use the following four categories: 1. Biologically based therapies; 2. Body based therapies; 3. Energy based therapies and 4. Mind-body therapies. Breaking up and constraining practices in this way reduces CAM therapies into biomedically informed compartments, dividing mind, body, and energy. As such, it also provides an example

of the continuities between the policies and political position of the World Bank, WHO, and particularly Health Canada, and the contortion of CAM as it is integrated into biomedical education.

The sample lecture materials also contort CAM by placing it under other biomedically informed categories, such as, *psychoneuroimmunology*, or the so-called *Wellness Model*.

Psychoneuroimmunology is a biomedical term for a branch of biomedicine that gives credence to the connection between body and mind in health and illness. The wellness model is similar, and is described as:

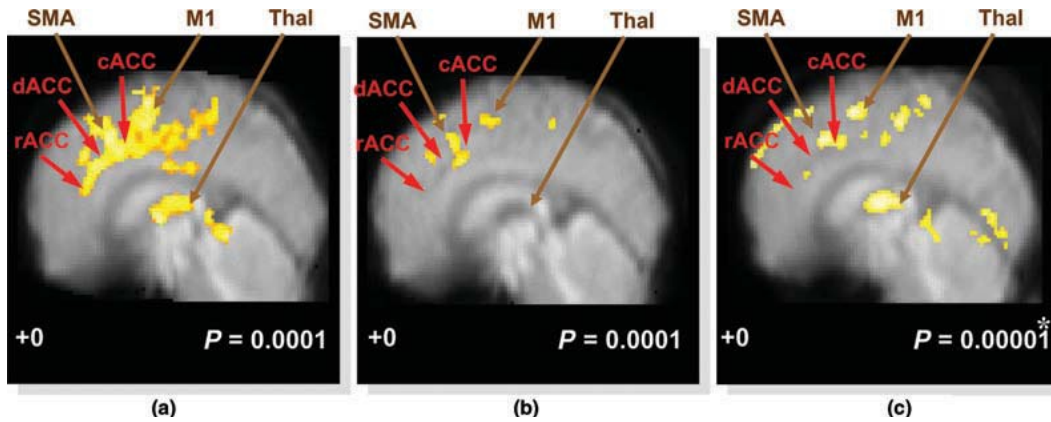
Constitut[ing] a major shift to a different philosophy of health and healing. It complements the Bio-psycho-social and Patient-Centered Models; [r]ecognizes the importance of body, mind, connectedness and spirit; includes taking responsibility for own health, creating a full and balanced lifestyle and being the best person one can be; and it includes social, occupational, spiritual, physical, intellectual and emotional components.

This model is individualistic and behaviouralistic, in keeping with biomedical, capitalist and neoliberal ideologies (McKenna, 2012; Navarro, 2007). Further, it negates the impact of social, political, economic and environmental factors on health.

Another striking element of these sample lecture materials is how they evoke the placebo effect to explain CAM. The lectures tend to equate CAM practices with placebo in an effort to explain their use and effectiveness in the absence of “real scientific” evidence. Invoking the placebo effect to explain CAM reduces it to the realm of magic, or the supernatural, and further devalues non-western scientific cosmologies. This also leaves only forms of “evidence” that can be quantified using biomedical, western measurement, ideals, and tools as legitimate. This highlights and further entrenches the naturalization of biomedicine as the only “real science”.

Moreover, continuous with the World Bank's suggestion that CAM modernize and use biomedical technology to enhance practice, the use of CT scan and MRI images are used in lecture materials to show effects of particular CAM treatments on the brain. See image below:

Figure 1

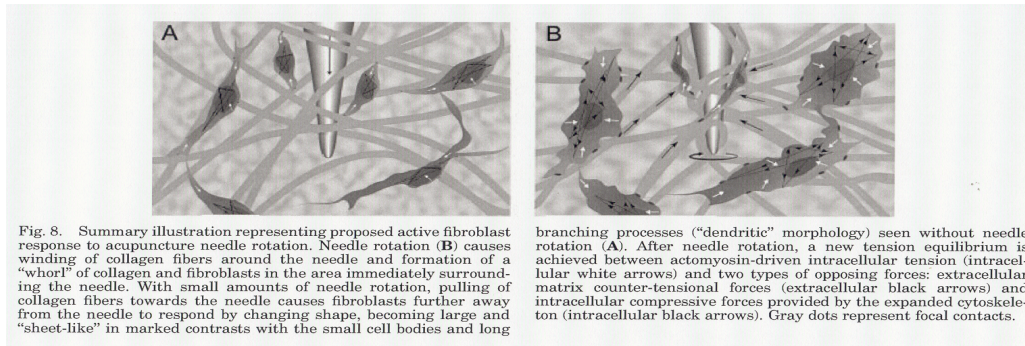


(This image compares MRI results of patients receiving acupuncture and sham acupuncture)

Also, in one of the lecture presentations trying to explain what meridians are in acupuncture and Chinese medicine practices, they use biomedical language, referring to the meridian system as “The Living Matrix”, a term that refers to a new “science of healing” that explains the unexplainable in health related matters.

The evidence for the efficacy of CAM therapies presented in the lecture materials is biomedically distorted, and includes images of the body broken down into cells. This is another example of how a biomedical framework is being used to explain and validate so-called CAM practices, such as acupuncture. To emphasize, they use an article titled “*Subcutaneous Tissue Fibroblast Cytoskeletal Remodeling after Acupuncture: Evidence for a Mechanotransduction Mechanism*” as “proof” or “disproof” of acupuncture’s efficacy. See below:

Figure 2



The preceding examples of the use of biomedical technology to prove and explain CAM is supported by the World Bank, the WHO and Health Canada, and is seen as a crucial means of legitimizing and modernizing CAM practices.

In her ethnography titled "The Body Multiple: the Ontology in Medical Practice, Annemarie Mol (2002) explores how biomedicine "shapes its objects" (eg. bodies, diseases) through "various and varied practice". Her study suggests that biomedicine is locked in a "language of disease" (pg. 24) that depicts Western medicine categories as "natural"; naturally occurring in nature and thus only needing to be uncovered or discovered. Following this logic, CAM merely needs to be reshaped and reinterpreted (biomedically) in order to "live up" (pg. 158) to biomedical standards. Depicting and shaping CAM practices through a biomedical lens and language imposes the naturalization of biomedicine's "disease language" and organization of knowledge on non-biomedical derived cosmologies and practices. However, Mol (2002) argues that "good knowledge does not [or should not] draw its worth from *living up* to reality..." (pg. 158), but should ... "seek, instead worthwhile ways of *living with* the real (pg. 158).

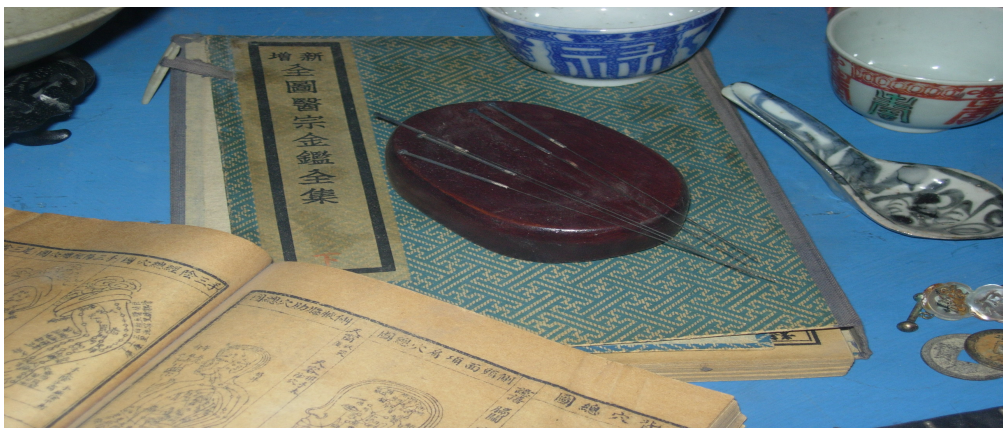
The lecture materials under examination rely heavily on archaic images to portray or shape CAM. For example, they use pictures of old glass bottles of medicine, Chinese writing and ancient drawings of acupuncture meridians. These images all connote antiquity, and even a lack

of sterilization (see Figure 3 and 4). Also some of the images, as they are taken out of context, seem almost barbaric. This perpetuates the perception of CAM as old and ‘stuck in its ways’ that was highlighted in the sample documents from the World Bank. The acupuncture needles portrayed are really long, old, and non-disposable (see figure 3 and 4). Needles such as these are not used in clinical practice in Canada; instead very thin, small, disposable needles are now the norm.

Figure 3



Figure 4



As mentioned earlier, these images are taken out of context in the lecture materials; they are not explained or referenced, and the pictures reinforce the notion of CAM as old fashioned, unclean, unchanging, and potentially dangerous and disorganized as well.

The four different images provided above illustrate the distinct differences in the portrayal of CAM and biomedicine. The images of modern science are pictures of cells, and parts of the body, such as the brain, that can only be seen using technology. In contrast the images of CAM are ancient artifacts that evoke a sense of “backwardness”.

Other continuities between the World Bank, WHO and Health Canada include the focus on risk management, and safety with regards to CAM, as well as the regulation, and standardization of CAM practices under biomedically informed frameworks. The regulation and standardization of CAM practices, is seen as *the* way to ensure the management of risk and protection of the public from harm. Some of the lecture materials feature concerns over lack of regulation of CAM, stating that without regulation anyone can practice CAM, which is seen as endangering the public. There is a concern that without regulation and standardization there are huge variations in the education of CAM practitioners, and that this leaves CAM practitioners unaccountable and potentially dangerous. While these lecture materials raise some valid concerns in this regard, there is a lack of critical awareness of the naturalization of biomedicine as the superior form of science and medicine, towards which all other forms of medicine are compared. Further, the lecture materials and sample documents from the World Bank, WHO and Health Canada, are strangely silent about the many dangers of biomedicine, despite its high level of standardization, regulation, and even technologization.

Another key thematic continuity between the World Bank, WHO, Health Canada and this project is the focus on safety and surveillance. The lecture materials keep referring back to the importance of including CAM in biomedical education so that doctors can oversee patient CAM use. They also talk about doctors needing to learn how to advise their patients on the safe and effective use of CAM, and even include a 'Quackwatch" screening guide. For example, they

divide up CAM practitioner behavior into 'Red Flag' and 'Yellow Flag' categories, citing specific behaviours physicians should be on the look out for so they can advise patients against these therapies. There are many possible behaviors and practices that are unethical in any health practitioner yet here the focus is only on CAM practitioners as potential charlatans. This theme of charlatanism was also noted in the WHO documents. In the lecture materials, physicians were portrayed as somehow above unethical behavior, implying that the public is ensured against charlatanism by modern science. While it is true that some CAM practitioners may be practicing unethically, there isn't any mention of unethical practices that occur in biomedicine. For example, many doctors are wined and dined by pharmaceutical company representatives under the guise of learning about all the latest medicines.

This section has focused on the thematic continuities between the World Bank, the WHO, Health Canada and the CAM in UME materials. As I have highlighted, there are crucial thematic congruencies between these powerful governing organizations' sample documents and the CAM in UME materials. For example, the logic of capital can be traced through all three of these organizations and into the CAM in UME documents to varying degrees. This is suggestive of the ways that these institutions operate, and how this logic may contribute to contorting practices towards a logic that places profit and the expanding neoliberal market, (Navarro, 2007, McKenna, 2010, 2012) above people and health. Further, it circumscribes and even constrains other ways of understanding health and healing from really being “integrated” into medicine.

This is not without consequences. Medicine is about more than it is being reduced to by biomedicine (McKenna, 2010). Allowing biomedical hegemony to become further entrenched takes with it any chance of an expanded health system or systems, and the possibility of non-

biomedical health practices maintaining their underlying integrity, as they are integrated into medical education.

Ideally, so-called CAM would not be reduced to a term that uses biomedicine as its reference point, and biomedicine and biomedical education would not be driven by profit based logic and maintaining the status quo. Drawing on the Cuban example, medicine could instead encompass traditional and indigenous knowledge for its own sake and the potential benefit of people and health, and not its exploitation for the benefit of industry and market interests.

In closing this section I would like to come back around to my opening quote: “[bio]medicine doesn't act on people coercively but through the subtle transformation of everyday knowledge and practice concerning the body” (Scheper-Hughes, 1992, pg. 199). This is how hegemony works. Non-biomedical forms of medicine may be potentially lost and this is enabled through seemingly humanitarian efforts meant to ensure public safety. Yet teaching future physicians about “CAM” (in its contorted form) in order to oversee its use is a form of conversion that can be seen as a continuation of the domination of traditional or “complementary and alternative” medicine and approaches to health care that began during the colonial era by so-called ‘rational’ western biomedicine (King, 2002). As demonstrated by the investigation in this section, efforts to standardize, regulate and in other words, biomedicalize “CAM” is reflective of the pervasive nature of biomedical hegemony. It also illustrates some of the factors influencing the ontological content of CAM in biomedical education, highlighting the relationship between seemingly neutral and independent governing institutions, such as the World Bank, WHO and national organizations, such as Health Canada, and its offshoots - the CAM in UME project

Chapter 6

Discussion and Concluding Thoughts

This thesis has sought to critically investigate the ontological content of "CAM" in biomedical education, contextualized through governing institutions, such as the World Bank, WHO and Health Canada, using the CAM in UME project as a case study example of CAM content in biomedical education.

Through this preliminary exploration and analysis I have seen some important patterns; patterns that require further investigation. I am left with burning questions such as: how will the integration of CAM into biomedicine play out in the future? Will TCAM/CAM become completely biomedicalized? Will the multiplicity of health beliefs that inform these many practices disappear and become a melting pot; leaving the only medicine, biomedicine; a medicine that is increasingly governed by capitalist logic? Will CAM become increasingly market driven? In its contorted form, it is already big business, and there are a myriad of products that have incredible marketing potential. The pharmaceutical industry, for example, is ready to appropriate plant-based medicines and extract their active ingredients and contort them into synthetic form.

In his paper exploring the notion of doctors as slaves to technology, and biomedical education as a slave to capitalism, Brian McKenna asks this question:

...[W]hy do we allow]the hierarchical culture of biomedicine....
to have hegemony over a form of education that severely and
unnecessarily harms us through its restrictive ideologies, piecemeal
practices, and close alliances with corporate capital” (McKenna, 2012)?

Recognizing the inherent value, and maintaining the integrity of a variety of health beliefs and practices, has the potential to create a broadened form of medicine. As Hollenberg and Muzzin (2010) suggest:

...[m]arginalized CAM [beliefs, worldviews and] knowledges could be rightfully viewed as particular sciences of their own that do not need to be altered or proven to foreign groups using foreign standards, each with unique histories, strengths and weaknesses (pg. 53).

In closing I would once again like to draw on my own experience as a CAM practitioner and teacher. Throughout my time working on this thesis I was teaching part time at a massage therapy school in Halifax. Perhaps because I was so immersed in this study and critically analyzing biomedicine, each time I taught I felt like I came face to face with the ways that massage therapy, an ancient healing art, some of the strengths of which are deeply entwined with simple palpation and touch, is devalued because of these very strengths. These strengths tend to be devalued, considered illegitimate and washed over in favor of so called 'hard' or 'real' science in the curriculum. For example, orthopedic assessment, muscle testing and many biomedical forms of measuring and assessing have overshadowed 'other' ways of 'knowing' and understanding how to approach treatment.

Teaching massage therapy within the context of a formal institution I am constrained in my approach by the push to emphasize the visible, and measurable components of practice. I am constrained by curriculum that has been contorted due to biomedical hegemony. In small ways I try to remind students the importance of the simple, and in my experience, powerful effects of the "hands on" facets of practice. I remind them every chance I get that not everything fits into tidy compartments. Neither does this study.

There are health related matters that cannot be explained through biomedicine or using a biomedical paradigm. There are things related to health and healing that technology may not be able to see or address no matter how advanced it becomes. Perhaps some of the answers don't lie within biomedicine or technology as it stands now, but in other ways of conceptualizing health and healing.

Finally, I would like to say that what stands out for me are the ways that seemingly humanitarian, neutral governing institutions may be shaping policy on a global scale, and as such may be shaping seemingly unrelated, and distant initiatives, such as the CAM in UME project, and the inclusion of CAM into biomedical education more generally, which is ultimately contributing to the contortion of CAM. Although, I am relying on inferences based on a small sample of documents, there are clear parallels between the language and themes and the potential underlying influences affecting CAM in undergraduate biomedical education between the World Bank, WHO, Health Canada and the CAM in UME project. It would be useful to investigate these continuities further, and explore actual CAM lectures at biomedical schools in Canada for further insights on this subject.

Strangely, just as I was finishing this thesis some of my sample documents from Health Canada and World Bank became archived and are now unavailable without special request. I am not sure what the implications of this are. Does it mean that the World Bank and Health Canada are stepping away from some of the so-called CAM issues? Is this an example of an erasure of knowledge? Regardless, now when I search CAM related topics on the Health Canada website the only new documents that came up are about natural health products. Natural health products are very profitable, and I wonder is Health Canada shifting its focus away from therapies and to marketable products? An exploration of these questions would be useful in developing a more

nuanced understanding of the effects of the role governing institutions play on policy and the everyday world.

Appendix A

Health Canada Documents

N.B. documents 2003a-2003i were all archived on June 24, 2013 and are no longer available without special request.

Health Canada (2003a). 'Introduction: Perspectives on complementary and alternative health care'. Retrieved June 3, 2013, from http://www.phac-aspc.gc.ca/publicat/pcahc-pacps/pdf/comp_intro.pdf

Health Canada 2003b 'Defining complementary and alternative health care'. Retrieved June 3, 2013, from http://www.phac-aspc.gc.ca/publicat/pcahc-pacps/pdf/comp_intro.pdf

Health Canada 2003c 'Taking Stock: Policy issues related to CAHC'. Retrieved June 4, 2013, from http://www.phac-aspc.gc.ca/publicat/pcahc-pacps/pdf/comp_intro.pdf

Health Canada 2003d 'Towards an integrative health system'. Retrieved June 4, 2013, from http://www.phac-aspc.gc.ca/publicat/pcahc-pacps/pdf/comp_intro.pdf

Health Canada 2003e 'Invitational seminar on informed choice in the use of CAHC with respect to practitioners, users and the Health System'. http://www.phac-aspc.gc.ca/publicat/pcahc-pacps/pdf/comp_intro.pdf

Health Canada 2003f 'The regulation of CAHC practitioners: Policy considerations'. Retrieved June 4, 2013, from http://www.phac-aspc.gc.ca/publicat/pcahc-pacps/pdf/comp_intro.pdf

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