

**The Construction of Canadian Business Schools'
Occupational Health and Safety Curriculum**

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Abstract

Abstract: This dissertation revisits the socio-historical origins and perspectives of Occupational Health and Safety (OHS) practice and its relationship to OHS studies in Canadian business schools by concentrating on the first Workmen's Compensation Acts (WCA) in the early 20th century and the first comprehensive OHS Acts that emerged in the early 1970s. It was during these two eras of massive public unrest and openly expressed public fears about health and safety that the largest and most influential OHS regulatory bodies endeavored to provide solutions to the escalating OHS problems in Canada. This resulted in the regulatory agencies attempting to set rules and standards for work-related OHS behaviours and conduct. A critical hermeneutic analysis of five interpretive moments on the legal documents and related publications produced during the planning, passing, and implementation of these legislations, followed by a third analysis of the first Canadian business schools' OHS curriculum documents that emerged in parallel with the later OHS laws, allow us to see how OHS business practices and studies were shaped. My findings reveal that while many OHS methods of the law makers remained the same, with some being strengthened and others being introduced, the underlying perspectives within these social practices remained unaltered for over a century. The Safety Pays ethos (the belief that it pays for business owners to engage in OHS activities) and the WorkSafe ethos (the belief that it is best for workers to take responsibility for their health and safety) have been woven deep within accepted business practices and studies related to OHS, the former considering OHS mechanisms that make financial sense and dismiss more humane practices that do not, and the latter promoting workers' behaviour change over organization change. The 100 years of historical conflicts and compromises that resulted in today's OHS "common-sense" business techniques and teachings can be explained through hegemonic processes.

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Chapter 1

Introduction

The 1980s represented a significant development in the field and academic arena of Human Resources Management (HRM) in Canada. The first HRM textbooks were introduced into business schools in the mid-1970s (see Jain, 1974) but did not really take off until the 1980s. This was followed by the first publication of a series of HRM textbooks in each of the HRM functional areas, one of which was OHS. This paralleled the emergence of the Canadian Council of Human Resource Associations (CCHRA) and its first certification requirements for HR professionals; of these requirements, the OHS competencies are of importance to this study. Studies have found that business faculty rely on textbooks as the primary source for organizing and structuring course content (Brown & Guilding, 1993; Mills & Helms Hatfield, 1998). Therefore, textbooks, with their inclusion of professional required competencies, dominate what business students learn about OHS. Moreover, they are viewed by society as authoritative, accurate, and inclusive of the most current knowledge.

Business school academic textbooks, including those on OHS, do not contain neutral value-free knowledge, but rather perspectives formed at different times from political, economic, and social negotiations, struggles, and compromises. These textbooks are conceived and written by authorities associated with social groups and institutions interested in OHS. Studies on management textbooks have shown that knowledge from dominant discourses reinforces certain philosophies, facts, and ideas, while marginalizing other discourses (Foster, Helms Mills, & Mills, 2014; Genoe McLaren & Helms Mills, 2010). Textbooks “signify—through their content *and* form—particular constructions of

reality, particular ways of selecting and organizing that vast universe of possible knowledge” (Apple & Christian-Smith, 1991, p. 3).

The question arises on what and whose OHS knowledge became legitimated in Canadian business schools in the late 20th century. To answer this, I must take a close look at the relationship between OHS curriculum and the political, social, and historical context in which it arose. In this dissertation, I explore the emergent field of OHS within the history of two periods of massive regulatory reform, the enactment of the first Ontario and British Columbia WCAs in 1914 and 1916 and the first three comprehensive OHS legislations passed between 1972 and 1980. I also explore the relationship of these laws to the first OHS curriculum in Canadian business schools that emerged in the 1980s. I analyze how key historical events and social processes related to OHS produced and legitimated certain OHS knowledge during these two eras, respectively, 1913-23 and 1971-86. This study seeks to answer how philosophical perspectives influenced and constrained OHS curricula in Canadian business schools, and what the prospects for change are.

My goal is to make visible and open discussions about the hidden ideas and beliefs that structure business school OHS curricula, and, by extension, other business curricula, so that present-day business studies can be assessed and improved. This requires a more nuanced historical model of textual analysis that seeks to investigate the dominant perspectives embedded in the texts. A critical hermeneutic inquiry (Gadamer, 1989; Phillips & Brown, 1993; Prasad, 2002; Ricoeur, 1981; Thompson, 1981) allows for such a focus on texts and their authors and practices, as well as on their historical contexts. Inquiry into how OHS knowledge has been socially constructed through

language, and what these spoken and written texts have achieved over the past century, will guide this study.

I begin this chapter by introducing the theoretical framework that guides my study, followed by a critical discussion of what OHS is. I then provide an overview of the chapters to come.

A Critical Realist History

Critical realism (Archer, Bhasker, Collier, Lawson & Norrie, 1998; Bhaskar, 1975; Corson, 1991) offers a meta-theoretical philosophy as a guide to my critical hermeneutic inquiry, and the theories and data I draw on in my research. Its focus is more on understanding the nature of the social world (ontology) than on how knowledge becomes accepted (epistemology). It is a reflective alternative philosophical position to both the well-known claims about the scientific notions of knowledge and the strong interpretivists' views that seek description. Critical realism allows to combine objective and subjective views of the social world through historical inquiry into social structures (and forces), culture (and ideas), and people, and what affects human practices. Causal explanations and hermeneutics are approached critically and reflectively as a way to open up deeper understandings of the complex, layered, changing, and contingent nature of the social world, our reality.

Underpinning this view is that there may be an external reality in which we are shaped and conditioned, sharing an ontological realism with the natural sciences tradition, yet, on the other hand, adheres to the claims that things that can be measured or observed through our senses may still be real. Bhaskar (1975) states that as complex beings we have the ability to reflect critically on our social worlds which, in turn, can affect social structures and processes. It is the ability to reflect critically on the things we

care about that makes us human. This thesis is about giving myself, the researcher, and those connected to my research the power to make changes in business school OHS curricula. It is about re-evaluation, action, and change.

While I adopt these ontologic considerations about the nature of reality, I also embrace an epistemic relativistic view that our knowledge is socially constructed, historically and culturally situated, subjective, activity-dependent, situated within power relations, and fallible. I cautiously judge rationality by making relatively justified suggestions about workers well-being, while being historical, contingent, and changing through continuous critical hermeneutic dialogue with historical OHS texts.

While many theories of knowledge exist, I view knowledge as being constructed through the many socio-political actions embedded in social relationships (Kuhn, 1962), becoming sets of ideas accepted by social groups in terms of what is real to them. Berger and Luckmann (1966) refer to this process as the social construction of reality, i.e., social reality is produced and communicated, and knowledge itself shapes social organization. In this study, knowledge is defined as:

all kinds of contents that make up a human consciousness, in other words, all kinds of meanings that people use to interpret and shape their environment.

People derive their knowledge from the discursive surroundings (such as through language and social action) into which they are born and in which they are enmeshed throughout their lives. (Jager & Maier, 2001, p. 34)

As such, knowledge is part of a broader pattern of social and historical development; moreover, some forms of knowledge are legitimated through power interests, while others are marginalized (Berger & Luckmann, 1966).

Adopting a cautious and reflective ontological realism, epistemic relativism, and judgmental rationalism position supports a critical hermeneutic investigation into the values, beliefs, ideas, perspectives, politics, and ethics that have shaped OHS practices and business studies. A framework where knowledge, power, and the subjective are dynamically re-examined through a critical hermeneutic ontology that considers prejudices and assumptions, historical context, the parts and whole meanings, multiple perspectives and increasing levels of analysis provides an approach to textbook research that is sensitive to differences.

The Hidden Curriculum

Critical education theorists selectively draw on the philosophical views of critical social theorists connected to the Frankfurt School, as well as others such as Foucault (1980, 1988), Gramsci (1978), and Kuhn (1962). They are concerned with the social and group origins of ideas (knowledge) and the extent to which dominant interests and perspectives influence human lives (our reality). The theorists question the way knowledge is constructed in textbooks and curricula (Apple & Christian-Smith, 1991; Giroux, Penna, & Pinar, 1981). “Critical,” in this study, means intense and extended questioning of established and possibly harmful ideas, interests, ideologies, and institutions (Alvesson, 2008). Such theorists bring attention to the historical context and processes of how knowledge is produced and functions, and its impact on the learner and broader community. They question educational institutions’ taken-for-granted knowledge and seek to uncover the knowledge that is excluded from the curriculum, as well as examining the relationships between knowledge, authority, and power in business textbooks and curricula (Genoe McLaren, Durepos, & Mills, 2009).

Researchers have found that modes of ideology are apparent within business textbooks and instructors' teaching resources (Ferguson, Collison, Power, & Stevenson, 2009). Further findings suggest that ideologies present in textbooks are often expressions of implicit or taken-for-granted assumptions (Foster et al., 2014). Other business-textbook researchers have found that the social, political, and historical context in which the textbook was produced is reflected in it (Foster et al., 2014). Therefore, a historical interpretive analysis of OHS textbooks and related texts can provide insights into the dominant ideologies that underpin OHS curricula in business schools.

The production of OHS textbooks and related curricula acts as a hidden form of control. Business students come to believe certain OHS knowledge as the only way to relate to OHS, and graduates recreate certain cultures, beliefs, and practices about health, safety, and well-being in their workplaces from their experiences in business schools. It is important to explore how the actors involved in the development of OHS curriculum speak and write about OHS, because of their lasting influence on the hundreds of thousands of business students and graduates across Canada. This study will share insights into how business schools unite knowledge and power, and how through this process they can dictate or thwart the formation of certain OHS discourses experienced by business students.

A Critical Hermeneutic Tradition

Throughout this dissertation, I apply a critical hermeneutics perspective to the study of historical texts (Gadamer, 1989; Phillips & Brown, 1993; Prasad, 2002; Ricoeur, 1981; Thompson, 1981). Within this theoretical framework, knowledge is conceptualized as a circular and ongoing dynamic relationship between myself, the research, and the spatial, temporal, ideological, political, social, and historical contexts (Bleicher, 1980). I

am thus concerned with the relationships among language, meaning, interpretation, and existence (Nicholls, 2005). As I approach the different forms of texts, including written documents, institutional practices and rules, as well as the economic, political and socio-cultural structures, I am conscious of the effect my pre-understandings, prejudices, and historical situatedness have on my interpretations. I seek to broaden my own understanding through engaging with other perspectives, seeking the possibility of fusing present and historical perspectives.

I use a reflective and iterative hermeneutic process which moves between the texts and the historical context at increasingly higher levels of analyses. This is known as the hermeneutic circle, and is based on ever-changing interpretations of meaning. The text is understood by exploring its relationship to the socio-historical context that affected it. Reinterpretations of previous views of the text, embedded in their own contexts, produce a better understanding of the multiple and sometimes conflicting perspectives that together form a broader, more complex, and deeper understanding of OHS.

Critical hermeneutics seeks to unravel the concealed myths, motives, and ideological perspectives in the text that serve the interests of powerful actors and sectors of society (Ricoeur, 1981; Thompson, 1981). Therefore, in each analysis, I also seek to draw out the hidden messages in the texts' apparent meaning (Ricoeur, 1981). Moreover, each analysis addresses questions that emerged from earlier analysis, seeking a deeper understanding of the texts within their context. These hermeneutic principles not only provide the theoretical framework, but are the platform for my analysis of historic legal and curriculum documents.

So, What is OHS?

OHS spans many fields of practice, such as occupational medicine, health sciences, engineering, ergonomics, management, psychology, sociology, labour relations, occupational hygiene, safety science, human-resource management, and law. The literature in these disciplines is extensive, which is not surprising, considering the human, social, and economic importance of health, safety, and well-being to individuals, businesses, and society. Single-disciplinary perspectives of OHS dominate the literature, and OHS is often conceptualized from narrowly exclusive positions, each suggesting quite different definitions and approaches (Quinlan, Bohle & Lamm, 2010; Zanko, 2006). Some of the research findings are conflicting and dismissive of other perspectives on workplace illness and injuries. This fragmentation not only makes researching and defining OHS challenging, but hides the integrative and complex ways in which OHS presents itself in workplaces.

A further challenge in defining OHS is the lack of academic research and theories within the business discipline. A recent global literature review showed that while many disciplines produce publications, there is an absence of academic OHS research in management journals (Zanko & Dawson, 2012). This disinterest in OHS within the business academic arena is further supported by the few existing studies that found inattentiveness and disregard towards OHS education in business schools (Behm, Veltri, Fononni, & Haynes, 2008; European Agency for Safety and Health at Work, 2010; Canada, 2013; Pakalnis, 1994; Stewart, Ledgerwood, & May, 1996).

Most of the OHS literature is prescriptive, produced by regulating agencies to provide business and OHS practitioners with information on OHS standards and codes of practice (Zanko, 2006). This literature represents the views of dominant OHS law makers

and their attempts to provide practical techniques and best practices guidelines in OHS. The publications emphasize problem-solving tool kits that show business owners how to meet their minimum legal responsibilities and accountabilities. Academics may also embed these practices into theoretical models. This pragmatic approach, where theory develops from practice, limits our definition of OHS.

In 1950, the joint International Labour Organization and the World Health Organization Committee on Occupational Health adopted a definition of occupational health, stating that health is “a state of complete physical, mental and social well-being—not merely the absence of disease” (World Health Organization, 2010, p. 6). OHS is, therefore, viewed in a broader context of healthy workplaces (Burton, 2010). Despite this formal definition and widely accepted understanding of what constitutes healthy workplaces, OHS is defined more narrowly from a legal perspective as the recognition, assessment, and control of hazards within the work environment with the aim of reducing workplace injuries and illnesses (Kelloway, Francis & Gatien, 2014b).

The second definition presents only partial understanding of OHS. Workers’ everyday experiences with unhealthy and unsafe workplace conditions and issues are much more complex (Quinlan et al., 2010). Studies have indicated that viewing workplace accidents as merely technical issues fails to identify the many other aspects and challenges important to ensuring healthy and safe workplaces (Reason, 1997; Turner & Pidgeon, 1998). Still, today, OHS practice and education focus on the control of OHS hazards in a highly constrained framework.

Schnall, Dobson, and Roskam (2009) draw attention to the need to focus on the risk factors that create threats to workers’ social survival, as opposed to their physical

survival, which is the major legal focus. Thirty years ago, Sass (1986) also argued that we need to stretch the dominant legal concept of risk, which covers dust, chemical, lighting, and other quantifiable and measurable aspects of the workplace, to cover all work environment matters: how the work is organized, the design of the job, demands and pace of work, monotony, employment and financial security, scheduling, disrespectful practices, and similar work environment matters (p. 571).

Harmful ways of organizing work are increasingly being seen in their relation to cardiovascular diseases (hypertension and coronary artery disease, diabetes and obesity), mental health (burnout, depression, and anxiety-related disorders), and injuries (back, neck, and repetitive strain injuries). It has been found that by the age of 50, most workers suffer from at least one, or several, of these work-related illnesses (Schnall et al., 2009). Hundreds of studies confirm that characteristics of the work environment and organizational factors play a key role in workers' experience of ill-health or injury (Lowe, 2012, 2014; Kelloway & Day, 2005; Towers Watson, 2012). Pathways to these illnesses are linked to organizational profitability practices, of which downsizing, layoffs, lean production, high-performance work practices, and precarious employment are but a few examples.

The psycho-social work environment and its impact on workers is often invisible, ignored or overshadowed by the prevailing idea that locates the cause and cure of illnesses primarily in the individual. The underlying message of individualization of responsibility (Maniates, 2002) is that workers' ill-health is caused by the shortcomings of the individual. By and large, as I will demonstrate in this study, OHS curriculum adopts these individualistic approaches. Since the focus is on workers and their unhealthy

and unsafe acts, business solutions are narrowly focused on changing the workers' behaviours and attitudes. This is done through interventions, such as education, close supervision, performance management, inspections, and health promotion. Focusing on workers' behaviour diverts attention from the structural causes of their ill-health.

Embedded in these narrow legalist and individualist views maintained in the OHS curriculum lie explicit and hidden economic arguments that strongly appeal to business owners' interests in wealth accumulation. These arguments perpetuate business importance and its centrality in society, emphasizing the need to increase business wealth, rather than workers' health. OHS is framed as a cost-benefit decision-making process, where workers' health and safety are valued if doing so reduces costs or increases profits. Injury- and disease-prevention practices would not be considered if they increased costs or were a drain on profits. Moreover, such considerations can make workers' ill-health seem acceptable. Most employee relations programs are supported on moral or cultural values rather than economic values (Milkovich & Glueck, 1985). I argue that we must think beyond the business bottom line as the justification for OHS and consider more humanistic and ethical reasoning.

These views of OHS raise further questions. How did this OHS knowledge come to be prominent in business studies? Whose interests does OHS knowledge serve? Is this particular OHS knowledge valid today? What effect is this particular OHS knowledge having on business school graduates? What consequences does this knowledge have on shaping the overall society's understanding of OHS? This study will explore the multiple perspectives of the institutions and disciplines involved in creating OHS knowledge. Those that dominate and those that are marginalized are explored through a critical lens.

Contributions

My insider perspective of OHS education as a professor at a Canadian business school allows me to connect deeply with this research project, yet I am careful to question my assumptions. My experiences with OHS education over the past few decades show that the curriculum is disconnected from how working people, including front-line managers, actually experience illness, injury, and OHS problems in their everyday working lives. The curriculum appears to be guided by OHS standards, best practice prescriptions, management controls and cost reduction techniques that limit our understanding of the broader holistic and complex nature of human health and welfare.

How can we think differently about OHS education? The extent to which this question is explored contributes to organization and management education. I am interested in humanizing management students' experiences with OHS. This study fills an important gap in the general absence of research and literature in OHS education in business studies (Zanko & Dawson, 2012). This research further responds to the call for process-oriented contextually-based qualitative research into OHS management (Zanko & Dawson, 2012). While recognizing the important work of those who introduced OHS education to management students in Canadian business schools over the past thirty years, this thesis provides a fresh view. Critical hermeneutics analysis is not a common method in organizational, management or human-resource management research. This study provides the methodological details of using this method for both business research and curriculum development. It further legitimizes critical hermeneutic analysis as an integral research tool for management-education research, as well as a new learning methodology that can be applied to business studies. Of most importance is that the

critical hermeneutics principles that guide this dissertation provide a framework for business school OHS curriculum.

This study contributes to the particular understanding of OHS education, while also increasing our understanding of the social construction of knowledge. The study responds to the call for reintegration of historical analysis into business research. It contributes to meta-theory (critical realism) and critical theory (ideological critique). Its value is thus in crossing the scientific and interpretive ethos, allowing for a deeper understanding of OHS through reflective and critical hermeneutic analysis. This study brings attention to how dominant legal and academic institutional structures and practices are permeated with hidden and subtle ideas, perspectives, and values that persist over time, becoming taken-for-granted notions. It further adds to the under-theorized textbook research.

Chapter Breakdown of the Current Study

Chapters 2 and 3 of this dissertation contain a discussion of my chosen philosophical approach and methods of analysis used in this study. I expand on the critical hermeneutic tradition and interpretative process, and explain how I iteratively apply a qualitative interpretive-hermeneutic textual analysis to historical legal and curriculum documents.

In Chapter 4, I explore the origins of OHS and examine OHS practice and education in Canada over the past 100 years. This poses a significant challenge, given the multiple perspectives, diverse disciplines, and volume of literature available. My approach follows the principles of historiography. I uncover the formative events and developments that were not only turning points, but have also had wide-ranging consequences on how OHS is spoken about and acted upon today. It is important to begin

with this longer time frame to trace the triggers and roots of how we see OHS (Stradling, 2001).

While many forces brought about the birth of OHS, my readings point to the first workers' compensation legislation in Canada as a dominant force in defining practice and education in the past century. I examine the late-19th and early-20th century events that catalyzed this legislation. The first comprehensive OHS laws that emerged five decades later further influence how we have come to understand OHS today.

In Chapters 5 and 6, I apply a critical hermeneutic analysis to documents created in the passing of the first Ontario and British Columbia workers' compensation insurance schemes in Canada: the Ontario Workmen's Compensation Act (ONWCA) from 1914, and the British Columbia Workmen's Compensation Act (BCWCA) from 1916. The corpus of analyzed documents is listed in Appendix A.

The Canadian Workers' Compensation Boards (WCB) are celebrating their 100th anniversary, and are structures of influence and power in social discourse. Thus, analyzing these original texts, I seek to uncover the philosophical perspectives behind these formative legislations. Themes and questions that emerge from this analysis guide the next layer of hermeneutic analysis, where I explore the construction of the first comprehensive OHS laws occurring during the later decades of the 20th century.

In Chapter 7, I seek to uncover the dominant social and historical events related to the first comprehensive OHS legislation, enacted during the 1970s and 1980s, closely preceding the introduction of OHS education in Canadian business schools. I further engage in a critical hermeneutic analysis of the documents related to the creation and the passing of these first OHS Canadian laws: (a) Canadian Centre for Occupational Health

and Safety (CCOHS) Act 1977-78; (b) the Saskatchewan Occupational Health Act, 1972 and Health and Safety Act, 1978; (c) the British Columbia Workers' Compensation Act and regulations, 1979; and (d) the Ontario Occupational Health and Safety Act, 1980. The analyzed documents are listed in Appendix B. Themes and questions that emerge from this analysis guide the next layer of hermeneutic analysis, in which I examine the first OHS curriculum texts that emerged from 1982 to 1996.

In Chapter 8, I continue my critical hermeneutic process by reflecting on how the first OHS curriculum was constructed in Canadian business schools in relationship to the dominant governing bodies and professional societies regulating OHS during the later 20th century. To uncover the philosophical perspectives produced in the first OHS curriculum documents, I look at the social and historical contexts and documents related to both the first WCAs and first OHS Acts, in relationship with the first HRM textbook content related to OHS and the first OHS business textbook content produced for business students. Analyzed curriculum documents are listed in Appendix C. Here, I provide an understanding of how OHS knowledge is produced, how it functions, and how it impacts higher-education institutions' textbooks and courses.

Chapter 9 offers a summary of my hermeneutic exploration and discusses two periods of significant regulatory upheaval in the early and later decades of the 20th century. I look at how these periods' dominant legal views, assumptions, and omissions link to the OHS curriculum in business studies. I bring attention to the sociology of knowledge, critical hermeneutics, and hegemony as conceptual frameworks to explain the relationship between historical and curriculum documents and their context. I conclude by suggesting these methods to add scope to OHS curricula.

It is my hope that the questions raised throughout this study will encourage dialogues on the hegemonic assumptions that constrain OHS curricula. Insights from this historical inquiry may inform discussions on what shape future OHS curricula might take. This dissertation is also relevant to our understanding of other business textbooks and courses.

Chapter 2

Theoretical Framework

Introduction

This chapter discusses the debates around the theories that drive my research. I review the theoretical perspectives of interpretivism, hermeneutics, critical hermeneutics, the sociology of knowledge, and the new sociology of the curriculum, as well as the close connections between them. All maintain that knowledge is formulated through social interactions that are shaped over time. This framework allows me to analyze and interpret historic legal and regulatory documents and curriculum texts to gain a deeper understanding of OHS knowledge during the 20th century. Underlying my research approach is the acknowledgement of the relationship among language, knowledge, and power in socio-historical contexts.

While research on the social aspects of knowledge remains on the periphery of scientific knowledge, writings by Berger and Luckmann (1966), Foucault (1977, 1980, 1988), Gadamer (1989), and Kuhn (1962) influence my philosophical position. My study is further influenced by the views of critical social theorists such as Althusser (1971), Gramsci (1978), Habermas (1972), and Mannheim (1936), as well as critical education theorists such as Apple (1979a, 1979b), Apple and Christian-Smith (1991), Bourdieu and Passeron (1977), Freire (as cited in Gadotti, 1994), and Giroux (1979, 1981). Their views on how knowledge emerges and is accepted by social groups or society in terms of what is real to them underpins my theoretical framework—a historiography—that draws on critical hermeneutic theory (Phillips & Brown, 1993; Prasad, 2002; Ricoeur, 1981; Thompson, 1981).

Interpretivism

“Since there is no law which can guarantee that things will have ‘one, true meaning’, or that meanings won’t change over time” (Hall, 1997, p. 9), academic research and curriculum work must be interpretive. OHS teaching and education research only have meaning in the context of human co-existence in which these processes arise (Maturana, 1991). Interpretivism views the formation of knowledge and reality as the outcome of interpretations of people and the institutions through which they interact with the social world (Bryman, Bell, Mills, & Yue, 2011). It is rooted in the belief that reality and knowledge exist in the mind through human interpretation. This view contrasts the conventional philosophical assumption that people can be studied through objective scientific processes, such as testing for causality and correlations, which replicate the natural and physical world. This perspective dominates scholarship and assumes that reality and knowledge exist only in the observable world external to people. The relative fixity of scientific works can oppress knowledge, and the shared nature of our life worlds—our reality—can be missed.

Interpretivism insists that all research is a social practice located within its cultural, philosophical, and historical context (Scott & Usher, 1996). Through this lens, my focus in this dissertation is on how knowledge is constructed, and specifically on how language and society have produced OHS knowledge. My study is a naturalist inquiry (Lincoln & Guba, 1985) into the actions and social practices of individuals and groups interested in OHS in their culturally specific contexts. An interpretive worldview not only guides my dissertation research, but most importantly, it presents a new way of thinking about OHS curriculum in business schools (as discussed in Chapter 9).

Hermeneutics

Developed from the works of Dilthey, Gadamer, Habermas, Heidegger, and Ricoeur (Prasad, 2005), hermeneutics, a theory and practice for interpreting texts, provides another philosophical position that guides this dissertation. Gadamer (1976) argues that knowledge is concerned with the relationship among language, meaning, interpretation, and existence, and operates through historical traditions and practices. While concerned with how knowledge is constructed, hermeneutics is foremost concerned with the nature of reality. The meaning of OHS is constructed through the active interaction of the researcher and the array of diverse perspectives held in historical texts. My relationship with the texts is not a fixed, neutral, passive, or objective position, the belief frequently held by scientific researchers. In contrast to scientific notions of subject and object separation, I adopt the view of the researcher as being in a fluid relationship with the text and context.

To understand the social world, we need to understand the meanings that construct and are constructed by human practices in their historical and ideological locations and contexts (Scott & Usher, 1996). We make sense of what we research through our own dynamic interpretive framework within our historical situatedness, and we must acknowledge our existing prejudices to arrive at a meaningful understanding of texts (Gadamer & Silverman, 1991). What results from this simultaneous, subjective, and active relationship between text and context is referred to as a “fusion of horizons” that results in an intersubjective agreement where different perspectives and conflicting interpretations are harmonized (Scott & Usher, 1996). The fusion of horizons is an alternative that transcends the natural sciences’ standard of objectivity. It is a consensus of understanding that results from comparing and contrasting different interpretations.

The hermeneutic dialogue is always continuous, so the intent of interpretation is not to create one definitive interpretation, but rather to open the discourse for new understandings. The aim of this research is to broaden my own horizon and to open new ways to think about OHS education.

Hermeneutics involves an ongoing dialogue between myself, as the researcher, and the OHS texts I am trying to understand. Knowledge is a matter of knowing differently, rather than a linear, accumulative, and confirming process, as portrayed in scientific views. Background in the formation of perspectives “is an integral feature of all interpretations of reality [;] to deny it is to deny what is real” (Nicholls, 2005, p. 29). By accepting this belief, I attempt to understand the interpretive conditions in which the social construction of OHS takes place.

To further understand a text is a part of a whole dialectic that operates in words, sentences, paragraph, chapters, books, reports, and other documents. I seek to understand the interplay between the pieces of OHS texts and the whole text, as well as with their cultural context. The meaning of a text and how it is understood can be found in the spirit of a given culture, such as artifacts and textual productions (Gadamer, 1976; Palmer, 1969). Language is central to the understanding of human behaviour and action, and lies at the heart of all knowledge.

Multiple texts representing diverse perspectives create a much broader understanding of the overt and latent meanings within the texts. These diverse texts are not arbitrary, but relate to each other, forming our reality, and specifically, our knowledge of OHS. Subsequent interpretations of the texts embedded within their historical context produce an ever-deepening familiarity with the socially constructed

ideologies within the texts. This knowledge formation process is what Gadamer (1989) calls the hermeneutic circle of interpretation. Drawing on the theory and practice of hermeneutic interpretation, I adopt a critical approach that enables me to reflect on the social conditions surrounding the production of texts and their contribution to the maintenance of social systems, and hence to patterns of social practices.

Critical Hermeneutics

Building on hermeneutics, critical hermeneutics seeks to reveal the hidden ideas and meanings in texts that serve the interests of socially powerful actors and their relationship to dominant institutions. Texts operate in reciprocal social relationships that maintain and reproduce dominant perspectives and practices. While there are complex debates between philosophical hermeneutics and critical hermeneutics, they are both interpretive in nature; i.e., they view knowledge as socially constructed (Prasad, 2002). Ricoeur (1981) suggests that philosophical hermeneutics can be combined with critical hermeneutics, as the two have more similar, rather than opposite traits. Moreover, it is further argued that both interpretive approaches are necessary to provide a more complete understanding through the inclusion of the ideological aspects of texts (Prasad, 2002). By recognizing the influence of prejudice that is conditioned by historical circumstances, philosophical hermeneutics offers a moment of critique (Kinsella, 2006; Prasad, 2002; Ricoeur, 1981).

Critical hermeneutic theorists such as Habermas (1972), Ricoeur (1981), and Thompson (1981) argue that language is altered by labour and power relations. This can inhibit the emergence of an authentic social consciousness. Individuals and groups present specific understandings of the world through written, verbal, and symbolic texts, with the intention to create and sustain preferred patterns of social relations in certain

situations (Phillips & Brown, 1993). While everyone participates in the creation of the OHS discourse, not everyone has an equal voice. In this process, dominant individuals determine the material practices of life. Powerful individuals and groups and their related institutions can legitimate their views and positions through obvious or less visible social controls. These views are influenced by and blend with the works of critical social theorists committed to ideological critique.

This critical hermeneutic perspective can help us understand how powerful OHS regulatory agencies can produce practices deemed acceptable by society. The central concern of this dissertation is the way in which certain dominant OHS texts condition our understanding of OHS education in Canadian business schools. My analysis attempts to explore this hegemonic process through a critique of the ideological elements disseminated in the texts. I go beyond the surface language to unravel patterns of power and dominance. An important aspect of this dissertation is to expose blind spots, and subsequently increase the OHS and business communities' awareness of this OHS hegemony. My adoption of critical hermeneutics as a philosophy and methodology of analysis (discussed in Chapter 3) is closely connected to the social construction of knowledge.

The Social Construction of Knowledge

The philosophical orientation of the social construction of knowledge is closely based on interpretivism and hermeneutics. Sociology of knowledge is an area of study concerned with everything that passes as knowledge in society, including ideas and acts accepted as real. It is also concerned with the context in which knowledge emerges, the processes by which knowledge is achieved, and the effects that dominant ideas have on societies.

The theory of the social construction of knowledge questions the extent to which social groups influence people's lives, as well as examines the social and cultural foundation of cognition and perception (McCarthy, 1996). Berger and Luckmann (1966) refer to this foundation of human thought as the social construction of reality. Within this framework, historically constructed beliefs, values, concepts, ideas, and practices related to OHS curriculum can be explained by the specific social and political forces in which they emerged (Berger and Luckmann, 1966). Sociology of knowledge takes a broad social constructivist approach to understanding the organization of knowledge and is inclusive of many theories (McCarthy, 1996). In this section, I examine the theoretical perspectives of various social and educational theorists whose views can help explain the social organization of OHS knowledge. From these theorists' writings, I include concepts that relate to each other, with a few being in partial opposition; however, all are relevant and share epistemological similarities to my study.

Mannheim's (1936) early theories were concerned with the determinate Marxist relationship between knowledge and superstructure, offering a relationist understanding of knowledge. He revealed the limitations of observation and experimentation practices as sources of knowledge. Later critical social researchers continued to question whether generalizable, measurable, and predicable scientific knowledges are even possible in the social domain (Scott & Usher, 1996; Smith, 1990b), with others (Messing, 1998) interested in workers' health questioning biological and medical data in the OHS sphere. My research follows this line of questioning.

Drawing on hermeneutic philosophy, Mannheim further brought attention to the role that ideology plays in representing people's social world; that is, that people do not

think purely individually, but rather communicate with others by building on prior dominant thinking. Althusser (1971) found that dominant views operate through ideological structures and apparatuses in society that create human consciousness. These early ideas add to our understanding of how dominant OHS structures and practices in society (such as OHS laws and education) can create people (practitioners, educators, students) who believe they think and act independently when they may not actually have free choice.

Gramsci (1978) contributes to the idea that knowledge is a social construct that serves to legitimate social structures. He provides insights into how power is constituted in the realm of ideas and knowledge, which is expressed through consent rather than coercion. His theory of cultural hegemony can help us understand how dominant OHS institutions have had a pervasive influence on OHS ideas, to the extent that they become common-sense social norms, values, and practices. Human behaviours can be orientated and maintained through OHS doctrines, paradigms, and principles that appeal to the universal interests of society, such as OHS laws introduced for the betterment of all society and of paramount importance to all parties. What ends up as OHS legal and curriculum documents is contested and modified, but does not challenge or question the dominant power relations, such as capitalism and its ruling ideas. OHS laws and practices labeled as new most often stem from old ideas. Gramsci, similar to the other theorists, and myself, argues that ideas and knowledge cannot be understood outside their historical and social origins, functions, and context.

Habermas's (1984) view of ideology as a form of systematically distorted communication is similar to Gramsci's notions of hegemony and common sense. He

argues that the technical language of perceived experts can conceal and legitimize dominant views. His theory helps us understand how forms of technical expert knowledge produced by professionalized OHS fields (such as engineering) create highly technical language which can inhibit communication, yet without being recognized as doing so. OHS discussions limited to the financial language of business is a further example of biased communication. Habermas argues for ideal speech communities through communicative action that is inclusive of all human voices.

Kuhn, in his seminal work, *The Structure of Scientific Revolutions* (1962), further questioned knowledge as the outcome of objective scientific empirical processes. He showed that scientists' subjective experiences make science a relativistic, not rationalist discipline. He presents science as a socio-historical practice shaped by the beliefs, values, judgments, and actions of a given community. While scientific inquiry is concerned with discovering truths and cause-effect relationships, he suggests that this does not resemble what is done in practice. Like Gadamer (on hermeneutics), Kuhn argued that human interpretations are always prejudiced, formed by their history and culture. He also showed that researchers immersed in their backgrounds are unaware of their subjective views, believing they are being objective (1962). This not only brings into question a researcher's ability to adopt an objective stance, but also delivers the central message that scientific knowledge is socially constructed. My research is influenced by Kuhn's social constructivist ideas, as I seek to understand how OHS is actually done in practice and education. Kuhn's idea that knowledge relies on both subjective and objective perspectives, a possible paradoxical view, is an important consideration I advance in my study. I do not see the world in restrictive epistemic or ontological counter positions,

instead adopting a view that recognizes meaning-making as an individual critically-reflective and context-negotiated process.

Kuhn also showed that knowledge is an ongoing historical and social achievement characterized by disruption and discontinuity, and that the process of knowledge construction can only be revealed through an investigation into the history of scientific crisis and breakthroughs. Other researchers had similar theoretical perspectives. Lyotard (1984) found that knowledge is organized through “grand narratives” that link our social understanding to past and future events, also discrediting ahistorical objective and rational views of how knowledge is constituted. Kuhn’s and Lyotard’s ideas support my historical inquiry into the key events and disruptions that shifted and redefined acceptable OHS practices, particularly my interpretive hermeneutic inquiry into how OHS knowledge was constructed during historical periods of legislative reorganization. It is Kuhn’s attention to historiography and the study of old texts in detail that influences my research.

My work is also influenced by Kuhn’s ideas about how research communities establish boundaries of included and excluded knowledge, and compete over defining what knowledge actually is. Kuhn brings attention to the limitations of researchers working to solve problems within narrow paradigms. With this in mind, I argue that OHS can be better understood by building on insights from a range of philosophical views. Kuhn further reveals that the dominant scientific philosophical perspective (such as that portrayed in textbooks) marginalizes other perspectives. He goes on to argue that the dominant view is not an accurate representation of reality. This highlights the importance of questioning taken-for-granted knowledge constructed in OHS curricula. These ideas

influence my exploration into the key crises, forces, and processes through which OHS knowledge has been constructed within its socio-historical context during the past century, and how this is reflected in Canadian business studies today. It further supports an alternative approach to OHS curriculum in business schools, which I propose in Chapter 9.

The writings of Berger and Luckmann (1966) advanced the understanding of the social organization of knowledge and are also foundational to my dissertation. Berger and Luckmann proposed that knowledge and social reality exist in a reciprocal relational process. As human beings, we are shaped by and shape our social worlds (McCarthy, 1996). All human knowledge is developed, transmitted, and maintained in social situations. This happens as individuals and groups interact reciprocally with each other, creating concepts and mental representations of each other's thinking and actions, which over time eventually become habitual within their social context. Knowledge and conceptions of reality become institutionalized in socio-political actions and practices (Berger & Luckmann, 1966).

Berger and Luckmann's theories on the habituation process that leads to institutionalization help us see how OHS knowledge becomes established and maintained within social structures. The origins of the institutionalization of OHS by regulatory agencies and related societies are relevant to this study, since institutions further imply historicity and control. Berger and Luckmann's (1966) ideas on the firmness of consciousness that develops as knowledge and is passed on to new generations provide insights into why OHS knowledge is often spoken of as "common-sense knowledge," and why it is difficult to change historically rooted OHS perceptions.

Thus, it is important to keep in mind that OHS knowledge is human-constructed and socially contested. Attempts at change are challenging but possible when we investigate the purpose and modes of OHS operation in society. My analysis, through Berger and Luckmann's social constructivist lens, seeks to reveal how social groups and institutions compete to maintain or change public perceptions of OHS. I do this through acknowledging and examining language and other forms of representation in such material as written historical documents and textbooks.

Foucault (1972, 1980) provides important insights into the sociology of knowledge and the complex relationship between power and knowledge, also influencing my work. He argues that the genealogical historical formations of *power / knowledge* set the conditions for how we understand things in our lives; they form our social reality. Berg (2009) explains further that power / knowledge is infused in all relationships and operates to produce subjects and objects, and explains Foucault's argument that power relations between people and institutions participate in the construction of knowledge and the maintenance of power. He uses the term "discourse" broadly to describe the "taken-for-granted, and most often hidden, frameworks of ideas that structure both knowledge and social practices" (Berg, 2009, p. 215). This naturalization of a body of knowledge is somewhat similar to Gramsci's notion of common sense. The social acceptance that some level of worker ill-health is natural in workplaces is an example of this.

Foucault describes how there are many discourses circulating in society, but only one discourse is usually hegemonic in nature and dominates societies' understandings of themselves. Foucault's idea that discourses are fluid and productive, and draw on existing discourses to produce more powerful messages, helps explain how common-sense ideas

about OHS draw on and mediate with other discourses operating in society. This provides insights into the social construction of OHS knowledge within legal and curriculum documents that both reinforce and renew various perspectives and practices bound up with power. Foucault's conceptualization of power is an important theory I draw on in this study, as it helps us understand that not only do dominant social groups benefit from certain practices, but how individual identities are constituted through power relations. Foucault further suggests that to understand a dominant discourse, we need to trace the beginnings of the discourse, as I do in this study.

Foucault's ideas on genealogy show how unquestioned contemporary OHS practices can be traced to dispersed disruptive historical events. A search for the cultural and historical context in which OHS emerged is an important aspect of my study. I begin by tracing the social disruptions and responding regulatory reforms related to the urgent need to reduce escalating incidences of workers' ill-health and deaths occurring with the mechanization of workplaces. This view is most important to my research orientation, as it rejects the scientific orientation that adopts a timeless beginning, instead embracing a historical starting point by which to understand the arena of OHS.

Foucault's concept of power / knowledge also helps explain the way OHS practices and education have been developed through continuous power struggles among the legal institutions, business owners, labour groups, professional associations, safety societies, academic disciplines, and other bodies interested in OHS. His ideas illuminate how dominant OHS social institutions use various sets of ideas and practices to regulate thoughts and actions concerning workplace health and safety, similar to Althusser's state apparatuses. Foucault's methods of exploring how texts create meaning, such as through

regulations, methods, narratives, illustrations, concepts, theories and techniques of the dominant agencies, are an important part of my textual analysis. Within these practices, I question the ways OHS is spoken about, by whom, and for what purpose, as well as its effects. Language, statements, and text are at the core of all knowledge, and are thus the foundation of my dissertation.

The idea that knowledge is contained and passed on in performed practices, and connected to power relations, informs my textual analysis. Foucault (1980) uses the term “episteme” to describe and study the historical formations of knowledge and how we come to understand our social life. Mills (2006) uses the term “junctures” to theorize the past. Both Foucault and Mills contend that the formation of knowledge is characterized by a particular era in which certain dominant mindsets are embedded in particular sets of practices. Epistemes and junctures further acknowledge the circulation of power in societies. The aim of my analysis is in this way to excavate the beginnings of the commonly held traditions, beliefs, and rules about OHS that define our present.

Foucault’s genealogy work is close to hermeneutics in his belief that power / knowledge is culturally bound and not universal. In his later works, he offers philosophies close to critical hermeneutics, where he conceives power, knowledge, and the subject in a circular, dynamic ongoing relationship (Nicholls, 2005). His later writings include a form of critical reflection (Itani, 2017). I draw on both Foucauldian and critical hermeneutic views that conceive the researcher as a critical agent investigating historical texts as political documents of how knowledge is created and maintained.

The Sociology of the Curriculum

Critical education theorists such as Apple (1979a, 1979b), Apple and Christian-Smith (1991), Bourdieu and Passeron (1977), Freire (as cited in Gadotti, 1994), and Giroux (1979, 1981) selectively draw on the philosophical sources of the sociology of knowledge in their theories of the new sociology of the curriculum. Their works reflect the views of the critical social theorists connected to the Frankfurt School and Jürgen Habermas as well as the earlier writings of Gramsci. They further draw on elements of Foucauldian power / knowledge theory. These critical social and educational theorists' views are somewhat similar in that they all seek to understand power and social institutions in relationship to the human condition. Their efforts seek to unravel the interests and power-based nature of all knowledges operating in wider social structures, processes, and belief systems through ideology critique. These theorists further view knowledge as being historically constituted. This new sociology of the curriculum allows for a specific focus on the OHS business school curriculum and its relationship with OHS institutions.

These critical education theorists argue that schools are part of wider societal processes influenced by dominant political and economic ideologies, and the institutions that stand behind these philosophies. They also propose that ideological processes of knowledge selection and organization are used by social groups to serve their own interests (Apple & Christian-Smith, 1991). The new sociology of curriculum addresses questions about the broader relationship between ideology and school knowledge, as well as those between social control, power, and meaning (Giroux et al., 1981). What counts as OHS knowledge? How is OHS knowledge produced? By whom is it produced? What

purposes does it serve? What are its effects? These questions are the core of my research. Appendix D provides a detailed list of queries that guide my analysis.

Critical education theorists argue that academic institutions and the selection of curricula, being part of wider active societal processes, must be understood within the framework of cultural customs, economy, power, and language. These theorists examine how authoritarian power, located in organizations and embodied in institutional practices, shape knowledge in school curriculum. Seeking to identify the knowledge contained in language and social practices in certain places and times, such researchers examine its connection to power relations. They view the production of knowledge as an exercise of power, where only certain authorities' perspectives are held to be valid knowledge (Apple & Christian-Smith, 1991; Giroux, 1979; Hickman & Porfilio, 2012). This knowledge becomes accepted by society through hegemonic processes (Apple, 1979b).

Several social and educational critical theorists (Apple, 1979a; Freire, as cited in Gadotti, 1994; Giroux, 1979) point out that schools are not objects, but rather bodies of collective attitudes, beliefs, rules, and social relationships. Schools' curricula are value-based, and always represent historical patterns of belief systems that guide behaviour in educational settings (Freire, as cited in Gadotti, 1994). As cultural institutions, schools have the power to establish, maintain, and control an environment that propagates their own interests, beliefs, and values. These cultural institutions, in turn, are influenced by the ruling government and other dominant social groups.

Clegg and Dunkerley (1980) discuss social control as a central aspect of power in which hegemony, domination, and rules appear to be a natural convention. Apple and Christian-Smith (1991) suggest that the process of hegemony has social groups involved

in a complex web of relations where dominant groups' actions and interests rule ideas. The power struggles within the social structures behind OHS are examined in my research, as I seek to uncover perspectives and practices generated by powerful OHS institutions that aim to convince society to accept their views as legitimate knowledge. This invisible form of social control, where most of society consents to a prevailing ideology, is important to my understanding of OHS.

Hegemony is an important notion within business schools, as certain knowledge may be accepted unquestionably by business faculty and students. Business faculty may unknowingly reproduce discourses that contain the interests and beliefs of dominant social institutions. The idea of hegemony is also useful in understanding the relationship between OHS curricula, business schools, and society, and how business schools function to reproduce curricula that support the culture, beliefs, and practices of dominant groups.

Dewey (1997) states that the structures within schools and curricula contribute to the hegemony of society. He explains that the bonds that connect the subject matter with the ideas of the dominant social group are hidden, and subject matter exists simply as factual objectified knowledge to be mastered independent of social values. Apple (1979b) sees educational institutions as agents of cultural and dialogical hegemony, which create people who see no other possibilities beyond the dominant meanings and values presented in curriculum.

These theorists argue that the curriculum field cannot be treated as a realm of facts, where knowledge appears as objective, external to the individual, and separate from human meaning and intersubjective exchange (Giroux et al., 1981). Leading critical educationalists (Dewey, 1997; Freire, as cited in Gadotti, 1994) argue that teaching and

learning are necessarily social and interactive processes. They propose that knowledge and experience develop simultaneously out of an interest in the activity. While both Dewey and Freire have different philosophical orientations, they believe that educators must engage learners in focused self-reflection and interpretation of their lived experiences for them to gain knowledge and generate their own meanings. This view is foundational to my proposed alternative approach to OHS curriculum in business studies (Chapter 9). This way of thinking further implies that learning, and, by extension, curriculum, is not a neutral ahistorical process, and must leave room for educators and students' individual meanings. Based on this approach, OHS education, too, must be understood within its socio-historical context. Questioning and reflecting on the interests and acts socially constructed in the language of the OHS curriculum, and their impact upon human lives, make an important aspect of my research.

Not only do critical educational theorists challenge the rational, scientific, ahistorical assumptions that underlie curriculum theory and practice (Giroux et al., 1981), they also believe that researchers must unmask ideologies and practices that limit human freedom and justice, and build the social conditions that allow for humans to better themselves. According to the theorists, by better understanding the knowledge-power relationship between the curriculum and society, society itself can learn to understand the meanings presented to it.

The aim of my research becomes transformative in relation to business faculty and students. I seek understanding of OHS perspectives and practices, but I also take part in raising awareness of conditions limiting OHS curricula, and act to change these conditions. My work proposes new learning outcomes for OHS curricula based on my

research findings. The sociology of knowledge and the new sociology of curriculum provide a theoretical foundation for this study, because they allow me to examine how the dominant social OHS structures, the OHS legal bodies, and associated professional societies influence the construction of particular OHS knowledge in business practices and studies.

By critically reflecting on the different philosophical views, debates, and connections of these critical theorists, I am able to draw some common themes to guide my inquiry. We live in a world where our reality, and therefore, our knowledge, are constructed by what we see, hear, and read. Knowledge operates across all society, through legal, regulatory, and academic institutions, as well as in people's daily experiences. Knowledge is shaped through social relationships; societies, in turn, operate within their own historical context, and their knowledge is passed on through time (McCarthy, 1996; Smith, 1990a; Swidler & Ardit, 1994). Knowledge can only be understood within its historical origins, functions, and contexts, and can be distorted and hidden, coming to appear as common sense over time. While social structures and cultures can influence and constrain knowledge, humans have the ability to reflect and act to change these structures. Despite our powerfully pervasive social reality, these scientific knowledge claims can be examined against it, although always in interpretivists' ways. A deeper understanding of knowledge can then occur through the crossing of diverse worldviews. The aim is to change the social world through the identification of institutional structures and apparatuses, including attitudes, assumptions, and practices that exploit people (Corson, 1991). Looking at OHS this way, specifically through knowledge presented in historical legal, regulatory, and curriculum texts within

institutional settings during critical eras of regulatory reform, illuminates the socio-cultural foundations of OHS perceptions and practices.

A Historiography

In summary, my theoretical framework is historiographical, not historical. My aim is to analyze the wider influences on the writing of history and to show how frameworks of ideas structured OHS practices during two major periods of OHS regulatory reform. My study is inclusive and integrative of multiple views as a way to address the limitations inherent in objectivism and relativism. I recognize that history is never truly objective or total, but rather interpreted through the person who writes the history. Through an inclusive and skeptical lens (Kincheloe & McLaren, 2000), I question both the authors of the texts and my own vantage points, enabling a fairer and deeper analysis of the texts. I present *a* history of OHS, not *the* history of OHS.

Chapter 3

Methodology

Introduction

In this chapter, I discuss the value of critical hermeneutics as a method of textual analysis and interpretation, followed by my methodological guidelines. I then explain the analytical methods I use with texts.

The Value of Critical Hermeneutic Analysis

My analysis began with reading a number of histories of the origins of OHS in Canada. This allowed me to deeply connect with the events and movements created by people and institutions interested in OHS throughout the late 19th century and the 20th century. My interest is in locating the historical formations of OHS knowledge that set the conditions for how we understand OHS in business studies. My readings pointed to the origins of OHS being linked to two specific socio-historical events and contexts that significantly influenced OHS practices and education, namely, the enactment of the first WCAs in the second decade of the 20th century and the later passing of the first comprehensive OHS legislations in the 1970s and early 1980s. The first OHS curriculum emerged in parallel with the later OHS Acts. Locating the two periods of catastrophic crises related to the escalation of workers' injuries, ill-health, and deaths, and the responding massive regulatory reform allowed me to engage in two critical hermeneutic analyses of legal documents (Appendix A and B) and a third critical hermeneutic analysis of OHS curriculum documents (Appendix C) related to these two socially disruptive and unsettling eras.

A critical hermeneutic analysis allows a close examination of production and reproduction of written, visual, and spoken texts within the context in which they are

created (Palmer, 1969; Prasad, 2002). In this way, I examine the historical legal and curriculum documents related to OHS from each era to locate articulations of perspectives and meanings assigned to OHS texts. A significant aspect of my analysis is the examination of the interrelationship between the analyzed documents and other social texts, information, and events. I am concerned with how OHS, in conjunction with other social and organizational practices during these two historical periods, served to construct a particular OHS knowledge.

The aim of the three historical analyses is to unravel the hermeneutic layers of text and hegemonic assumptions embedded in these layers of texts over time, thus allowing a deeper and more comprehensive interpretation of OHS and its relationship to business studies. Through a constant dialogue and debate with the texts, I aim to reveal how the knowledge presented in dominant OHS historical legal texts is reflected in OHS curricula. My analysis is iterative and cyclical, making connections within and between the different historical periods, and identifying similarities and differences between texts and contexts across time.

The value of critical hermeneutic methodology is in its ability to constantly compare and uncover the mutual relationship between text and context, thus offering a deeper understanding of OHS (Alvesson & Skoldberg, 2000; Prasad, 2002). I seek to understand how socio-historical context determines texts, and how the texts, in turn, maintain the prevailing social narratives and practices within society during their eras (Prasad & Mir, 2002). Critical hermeneutics provides a way to explore how the texts contribute to the maintenance and reproduction of social systems of meanings (Phillips & Brown, 1993), a central concern in this dissertation.

A critical hermeneutic approach also lets the researcher move beyond the surface meaning to uncover social relations of power and domination concealed within the text (Phillips & Brown, 1993). Understanding such hidden messages is extremely important (Fairclough & Wodak, 1997), as identifying underlying assumptions, values, beliefs, and attitudes can reveal the specific types of knowledge and the social structures the texts either represent, or fail to represent.

Critical hermeneutics is responsive and sensitive to differences, while critical at the same time, through a circular hermeneutic ontology where knowledge, power, and subject are dynamically reconceived, loyal to both critical and interpretive theory. My analysis is guided by several questions arising from this approach. Why have certain ways of acting and thinking about OHS become more pervasive and widely accepted than others? Whose and what knowledge influences OHS curricula in Canadian business schools? Why do certain philosophical perspectives dominate over other views? What effect does specific understanding of OHS have for business faculty, students, and the overall shaping and development of society?

Methodological Guidelines

Several methodological principles are presented in the writings of hermeneutic theorists like Gadamer (1989), Habermas (1972), Phillips and Brown (1993), Prasad (2002), Ricoeur (1981), and Thompson (1981). These principles are integral to my critical hermeneutic analysis, as I: (a) utilize the process of the hermeneutic circle to iteratively define the context of OHS at increasingly higher levels of analysis; (b) recognize my own productive cultural inheritances and suspend my unproductive prejudices to arrive at authentic meanings in texts; (c) subscribe to a deeply self-reflexive and self-critical process; (d) focus beyond the authors' intentions to understand the

contextual factors that influenced the authors' writing; and (e) critically think about the text in terms of cultural significance, social practices, and power relations in which it is embedded.

Knowledge and meaning reside in what Gadamer (1989) calls the circle of hermeneutic interpretation, where the aim is to capture the cultural spirit of the text. This occurs as the researcher moves between the texts and the socio-historical context at increasingly higher levels of examination. My analysis explores the context of the texts with increasing comprehensiveness at the institution, industry, and societal levels within the two historical periods discussed. Unravelling layers of texts allows me to explore the micro-level social practices used within the OHS documents in connection to the wider macro-level social practices.

Gadamer's (1989) hermeneutic approach also considers the dialectical relationship between the text and the productive and unproductive prejudices that the researcher brings to its interpretation. Throughout my analysis, I strive to recognize, filter, and confront my own biases and presuppositions, and how they may shape my view (Prasad, 2005). I consider my 20 years of experience as an academic involved in teaching, curriculum development, research, publishing HRM and OHS texts for Canadian business schools as the aspects that foster and hinder my understanding of the texts. I constantly challenge and question my embedded assumptions about the role of OHS education in business schools, while retaining a relationship with the text and context. To work through these challenges helps me seek a deeper and more comprehensive understanding of both present and historical contexts in which the texts

are produced. I approach the texts cautiously, with an attitude of both trust and skepticism (Gadamer, 1989).

As a member of a world that views language as reflecting pre-existing reality, I am challenged by shifting to a constructivist argument. I struggle daily with contradictions between my upbringing within the empirical scientific tradition and my developing interpretivist view as I experience this dissertation. I am constantly drawn back into the familiar comfort of the natural sciences. However, I am pulled forwards by my excitement to develop new kinds of relationships with the OHS management curriculum and my deep wish to develop a more humanizing and historical form of OHS education that is enriched with inclusive multiple perspectives, and less dominated by an exclusive singular view. Since texts are constructed within a given socio-historical context, I have learned to consider how I approach and read them, and to constantly test my assumptions and values. During my analysis, I continually participate in critical self-reflection, thinking carefully about where I see from (Prasad, 2005; Rose, 2001).

Gadamer's hermeneutic philosophy goes beyond authorial intention during the fusion of horizons that create a new perspective (as cited in Prasad, 2002). In my analysis of texts, I try to understand the factors that may have influenced the authors' writing. I examine the logic behind a certain perspective within the context in which it was forged. In analyzing the documents, I do not seek to retrieve the authors' intended meaning, but rather their context's dominant ideas about OHS (Prasad, 2002). My focus is on excavating and critiquing the hidden ideological elements and possible biases within the text (Alvesson & Skoldberg, 2000).

I am always aware that texts may have been created to conceal interests that benefit some people or groups at the expense of others. More specifically, I aim to reveal the manner in which people and groups try to position their interests as broader social goals.

Methods of Analysis

In my critical hermeneutic analysis of three corpus of texts (see Appendix A, B and C) in relationship to two historical periods, I draw on Thompson's (1990) and Phillip and Brown's (1993) three interpretive moments, and Prasad and Mir's (2002) four-stage process as I investigate the texts. I further draw on the writings of Foucault (1972), Kuhn (1962), and Mills (2006) in seeking to identify the historical social context in which OHS knowledge arose, creating the first step in my analysis. This results in my use of five interpretive moments: (a) an exploration of the origins of OHS to locate and select prominent OHS texts and the periods in time in which they arose; (b) consideration of the social, cultural, and historical context in which the OHS texts were created; (c) a conventional and structural examination of the texts; (d) a critical interpretation of the texts; and (e) the construction of a conceptual framework to explain the relationship between the text and the context. My analysis thus follows a complex process of interpretive moments that are consistent with the interactive circles of critical hermeneutic analysis. The five interpretive moments are integrated phases, i.e., they are not successive and independent steps of inquiry, but rather interpretive practices that interact with one another, the text, language systems, ideological frameworks, socio-historical contexts, and the situatedness of the researcher—myself (Madison, 1990).

I thus use these five hermeneutic interpretive moments to investigate the legal documents produced during the advent of the WCAs, as well as the legal documents

produced with the advent of the comprehensive OHS Acts. I further explore the OHS curriculum documents in relationship to the legal documents and context of the later 20th century. The hermeneutic process allows me to problematize OHS by continuously questioning practices, concepts, subjectivities, and perspectives offered. Findings and questions that emerge throughout each interpretive moment guide further analysis. While I begin at the turn of the 20th century, I constantly move back and forth between the early and later contexts and texts, allowing for a deeper exploration.

My critical hermeneutic analyses are guided by the theme *Perspectives of OHS*. I formulated questions that allow me to critically engage in the texts throughout all levels of analysis. The questions are listed in Appendix D.

Early Contextual Influences on OHS

My analysis begins by tracing the history of OHS back to the period of industrial growth at the turn of the 20th century, when health and safety first arose as a significant workplace concern, due to technology causing OHS problems faster than they could be solved. Through in-depth reading of historical texts, such as academic and practitioner articles, textbooks, professional association publications and designation competencies, literature reviews, news articles, government reports and investigations, public inquiries, legislative documents, annual reports, conference proceedings, and other publications relating to OHS, I found two time periods when social movements, government inquiries, and public unrest concerning the escalation of workers' injuries, disease, and deaths spurred a reorientation of Canadian OHS legislation (respectively, 1913-1923 and 1971-1986). The first workers' compensation laws that emerged in the early 20th century and the first comprehensive OHS laws that were enacted later in the century attempted to

address the crisis of human suffering caused by workplace technologies and the unhealthy conditions of industrial production. The emergence of OHS curriculum in business schools paralleled the implementation of the later OHS laws.

This analysis allowed me to create a narrative of contextual issues along temporal and thematic dimensions during these two eras (Prasad & Mir, 2002). That is, I searched historical documents to understand the social contextual issues faced by workers, business owners, labour groups, institutions, industries, and society as they were represented in OHS practices, movements, public inquiries, theories, events, and the emerging OHS laws of these historical periods. The OHS laws that emerged are inseparable from their socio-historical context, offering further understanding of OHS in the eras. The formation of the first laws and their reciprocal relationship with the rules, conventions, and resources in society can provide clues to the key people, events, and practices that prevailed during the early and later 20th century. I developed themes that represented the specific historical events relating to the emerging OHS regulatory reforms (Chapters 4 and 7).

Corpus of Texts and Historical Eras

The OHS legal documents produced in relationship to the advent of the first WCAs, first comprehensive OHS Acts, and the OHS curriculum documents that were introduced into business schools during the later decades of the 20th century are the archives of my research. Specific texts analyzed include government inquiries into the creation of the laws, the enacted laws, the annual reports and various publications produced by the agencies administering the laws, and the first OHS textbooks, chapters, and related course material presented in business schools.

For the first period my research covers, I analyze the documents created during the passing of the first Canadian WCA, passed in Ontario in 1914 and the later British Columbia WCA in 1916. While workplace injuries, diseases, and deaths have occurred over many centuries, it was the first workers' compensation legislations that changed the rules concerning OHS, making these legal writings significant throughout the 20th century and today. The WCAs defined who was to pay for workers' injuries, ill-health, and death, and who was responsible for making the workplace a safe environment for workers. The workmen's compensation documents analyzed in connection to the 1913-23 period are listed in Appendix A.

OHS rules were consolidated into one omnibus OHS legislation five decades later, creating several new dimensions to the laws. For the second period of my research, I examine the legal documents produced in the passing of the first three comprehensive OHS legislations: the Saskatchewan Occupational Health Act of 1972 and Health and Safety Act of 1978; the British Columbia Workers' Compensation Act and Regulations of 1979; and the Ontario Occupational Health and Safety Act of 1980. I review the CCOHS Act of 1978-79, as well as other related council reports. With the passage of these new laws, the Saskatchewan WCB (WCBSK) and Ontario WCB (WCBON) transferred their responsibility for accident prevention, respectively, to the provincial Department of Labour and Ministry of Labour responsible for OHS (for ease in reading, I will refer to both regulatory agencies as the Ministries of Labour—MoLs.) In contrast, the WCB of British Columbia (WCBBC) continued their role in accident prevention. The legal documents analyzed for the 1971-86 period are listed in Appendix B.

As part of my look at this period, I also analyze the certification competencies required for the first Canadian Registered Safety Professional (CRSP) designation. The Board of Canadian Registered Safety Professionals (BCRSP) was founded in 1979, when the first CRSP designation was issued, followed by the development of examination subject areas in 1980 and a mandatory exam in 1982. From their beginnings to the present day, these acts, regulatory administrative bodies, and CRSPs have dominated OHS practice and education.

OHS content appeared in Canadian business schools as a chapter in introductory HRM textbooks and courses beginning in 1982, followed by a textbook and course in OHS in 1996. The first OHS management textbook, *Occupational Health and Safety* by J. Montgomery (1996), and subsequent editions, are the primary OHS material available for business faculty, thus making them a foremost source of preserved and distributed OHS knowledge. With the advent of the Canadian Human Resource Management Association, OHS became defined as one of seven capabilities required to achieve a Certified Human Resource Professional (CHRP) designation in 1998. The curriculum documents analyzed for the 1974-98 period are listed in Appendix C.

The works of Phillips, Lawrence, and Hardy (2004) suggest that certain texts are more likely to influence discourses if they are associated with sense-making and legitimacy, if they originate from powerful actors, if they involve recognizable genres, and draw on existing discourses and texts. The collections of texts I have chosen to analyze are highly cited in various practitioner publications and textbooks over the 20th century. The texts are produced by individuals or groups who are understood as having a legitimate right to speak, who have resources, power, and formal authority, and are

centrally located in the OHS field. I have chosen legal, regulatory, and curriculum documents, as they are powerful forms of communication that attempt to change or reinforce certain OHS knowledge.

Government legislation, safety organizations, and professional organizations have considerable influence on OHS practices with regards to who is qualified to speak, what can and cannot be said and done in relationship to OHS. These regulatory bodies construct what OHS knowledge is normal and valuable, while indirectly deciding what knowledge is less important for professionals and the Canadian workforce.

The analysis of documents produced by the Canadian OHS legal and regulatory bodies illustrates certain OHS subject-knowledge boundaries. It further uncovers the techniques through which government and professional institutions use power and legitimacy to influence how people talk, think, and act about OHS in their lives. This influence may be consciously or unconsciously exerted (Carabine, 2001). Individuals actively involved in constructing knowledge and discourse are in a constant state of reconstitution and contestation. I analyze these historical documents for recurring content and symbols, as well as information that may have been omitted, which create certain ways of thinking about OHS during the 20th century and today.

An Interpretive-Hermeneutic Qualitative Content Analysis

Following my exploration of the social, cultural, and historical context and the selection of legal texts and historical periods, I conducted a formal qualitative content analysis of the texts. The qualitative content analysis I adopt is an interpretive and hermeneutic process that shares the views of social constructivists and their focus on the people and practices involved in message- and meaning-creation, since this involves

power relations (Baxter, 2009). It allows me as the researcher to explore the manifest and latent meanings within texts. This is a fundamentally different approach to quantitative content analysis that focuses on issues of objectivity, quantification, and replication, with the emphasis more on facts and numerical values than meanings. A quantitative analysis counts the phenomena, isolating the message from the audiences for and producers of the message, limiting the communication of the text. It further isolates the researcher, who must remain unreactive and objectively distant from the data, unlike under my hermeneutic position, which recognizes my subjectivity and co-creation of texts' meaning. I adopt an inductive open process focused on emerging concept and theory development in contrast to a quantitative deductive approach based on narrowly defined theoretical rationales. For simplicity, I use the term *textual analysis* to refer to my interpretative-hermeneutic qualitative content analytical process.

Under the *Perspectives of OHS* theme, I apply my analytical framework across the corpus of texts. I first develop a familiarity with the texts' content, topics, categories, concepts, organization, visual representations, references, covers and prefaces, producers, appendices, audience, priorities, debates, practices, and narrative tone, and proceed by identifying incidences of similarity, differences, and conflicts between texts. As noted, I focus on social practices, particularly those adopted by the regulatory agencies in their interactions with certain people, such as safety engineers and health professionals.

Workers' compensation and accident prevention practices are given predominant attention in the texts; I am interested in the practices that give texts particular meanings. Practices can include methods, techniques, regulations, scientific notions (i.e., threshold limit values or decibels), matrixes, language, calculations, terminology, ideas, schemes,

theories, metaphors, behaviours, illustrations, policies, procedures, letters, and many other actions used by the regulating bodies to create, enact, interpret, implement, and enforce these first laws. The analysis of OHS curricula further includes practices such as learning outcomes and activities. I give attention to the content of the written practices, how they influence perceptions and behaviours, and the meanings they construct.

Through an inductive process of reading and rereading the whole texts and parts of them, I develop and organize meaning units of recurring practices that have the same central meanings. Each different way a practice is constructed represents a meaning unit. During this process, I kept memos of my thoughts as a way to map and remap my interpretations. This process included writing broad interpretive elements (definitions), flexible inclusion and exclusion criteria, and examples of exemplar passages, visual representations, and coding guidelines. The resulting common perceptions, practices, and meanings are carefully founded, revised, and refined within an iterative and fluid process of analysis until theoretical saturation is achieved (Charmaz, 2006; Glaser & Strauss, 1967). These units of practices are further grouped together to capture themes of the broader conceptual ideas, beliefs, and perceptions presented in the texts. Through a more interpretive process, I search for thematic relationships, and explore gaps and emphases (Lincoln & Guba, 1985; Ryan & Bernard, 2000). I then reread the texts and gather everything said about the themes. I also reflect on what is not said in the texts, to identify underlying cultural assumptions, and further reflect on the relationships between the emerging themes.

While interpretive-hermeneutic qualitative content analysis is the focus of this study, I further examine the frequency in which common themes occur to support the

findings. If a statement occurs very frequently, it has strong effects and solidifies certain knowledge (Esterberg, 2002; Jager & Maier, 2009). Turning qualitative data into quantitative data allows the researcher to see patterns that may produce a deeper interpretation of meanings (Ryan & Bernard, 2000). Wallen and Fraenkel (2001) found that the frequency of texts can reveal the conscious and unconscious beliefs of the people involved in producing each text. Jager and Maier (2009) suggest that when analyzing the power effects in texts, it is important to look at the recurring contents, symbols, and strategies that lead to the solidification of knowledge and sustained effects. During this initial analysis of texts, I look for such recurrences.

One of the strengths of an interpretive-hermeneutic qualitative content analysis is that it allows the researcher not only to focus on the presence and meaning of practices in the texts, but also on the producer and receivers of the text within their cultural context. Focusing on the people who participate in the texts involves an exploration of the relationships between culture, communication, and power (Phillips & Brown, 1993). While various authors participate in the creation of texts, not all participate equally. The analysis can reflect attitudes, interests, and values, such as cultural patterns or influential groups of people (Berelson, 1952). The interpretive-hermeneutic qualitative content analysis assumes that cultural forms of ideas and expressions are represented in texts and, therefore, are representations of social reality (Bos & Tarnai, 1999; Krippendorff, 1980). This method allows me to explore the political and economic origins, as well as the social consequences, of the texts.

Furthermore, text analysis can also reveal the institutional structures and processes that serve social organizations (Krippendorff, 1980). It provides a longitudinal

view of historical events as discontinuous and not necessarily progressive (Bryman et al., 2011). Through an interpretive critical lens, the method further supports the researcher in uncovering the latent messages within the text and interpreting the hidden meanings of the texts within their context (Bryman et al., 2011; Holsti, 1969; Krippendorf, 1980).

Relationships of the Texts to the Contextual Themes

In the fourth interpretive moment, I consider the earlier findings and revisit the texts to discover possible relationships between their common patterns and contextual historical themes. I seek to reveal the texts' deeper hidden meaning. In the process, I work towards uncovering the powerful perspectives that have historically shaped the ways in which OHS is known today.

During this part of the analysis, I continuously question the statements, practices, ideas, and perspectives in the texts. My interest is in revealing tensions and uncertainties, while affirming the dominant linguistic and cultural community perspectives located in the language and the cultural spirit (Jardine, 1992). I strive to expose obstacles that may limit other points of view. My analysis is cyclical, which allows me to connect and interrelate the various micro- and macro-levels of analysis. The themes are continuously broken down and rebuilt. Each time this is done, the text's multiple meanings become clearer. Through personal reflection on the prevailing themes, practices and issues, I attempt to understand and map the power / knowledge networks that operate through the text.

The fifth interpretive moment completes my analysis. Here, I draw on the theories and concepts of critical hermeneutics, the social organization of knowledge, the new sociology of the curriculum and hegemony to explain the relationship between the texts

and their socio-historical contexts. I further discuss the effects of these texts within the context of today's business schools, as well as the broader society's thinking and actions concerning OHS.

This critical hermeneutic analysis enables me to conclude my dissertation by introducing an alternative approach to OHS curriculum in business studies that adopts the philosophies and methods used in this dissertation. This historical approach suggests that every student becomes engaged in an ongoing critical hermeneutic debate of the multiplicity of perspectives concerning OHS.

Chapter 4

The Origins of OHS in Canada: The Early 20th Century

Introduction

This chapter discusses the first of my two historical periods of OHS reforms, the early 20th century (the second period is covered in Chapter 7). I begin here by tracing the history of OHS back to its roots during the period of massive industrial growth at the turn of the 20th century, when health and safety concerns first arose socially over growing numbers of injuries, diseases, and deaths caused by mass mechanization. Early in the century, this realization of the danger of industrialized workplaces stirred government interest and legislative intervention into workmen's¹ compensation insurance and accident prevention regulations. The first set of laws appeared in the second decade of the 20th century. The ONWCA of 1914, followed by Nova Scotia WCA of 1914, and the BCWCA of 1916, were the first Canadian laws to provide monetary relief to injured workmen or their dependents in the case of disability or death. These new laws further aimed to reduce the opportunities for workplace accidents. While 14 workmen's compensation legislations emerged, the ONWCA is significant for my study because it was the first act, whereas the BCWCA is important here because it was the most comprehensive. Together, they provide narratives from eastern and western jurisdictions of Canada. I now explore the complex set of socio-historical events and conditions in which these legislations emerged, and how they formed a certain understanding of workmen's health and safety.

¹ I use the term *workmen* throughout Chapters 4, 5, and 6 to reflect the language of the legislative bodies during the early 20th century and to bring the reader closer to the historical context.

The Pursuit of Wealth and Dangerous Work

The birth of capitalism and industrialization in European and American societies occurred over several centuries, gaining momentum in the early 19th century. Industrialization occurred in Canada half a century later. Capitalist modes of production replaced simple commodity production, introduced new machine technology, and changed the ways in which work was organized and controlled. Such radical transformation at the turn of the 20th century was strongly influenced by the industrial capitalist free-market economic system. Business owners' decisions, including workmen's health and safety decisions, were made within the framework of the competitive market system, driven by owners' need and desire to maximize profits and accumulate capital. OHS was thus regulated with these values, with limited government restrictions.

Industrial safety trailed slowly behind industrial power. Management interest in new machinery and updated labour processes that could increase productivity and profits greatly exceeded their concern with controlling the escalating hazards created by the new equipment (Reasons, Ross, & Paterson, 1981). Such changes resulted in the death and ill-health of thousands of Canadian workmen (Tucker, 1990). The early OHS laws arose in response to the horrific injuries, diseases, and deaths in the development of railway, mining, and manufacturing industries that emerged in the mid-1800s. These industries were not only extremely dangerous, but were also the engines of industrial capitalist development in Canada during this era.

The traditional moral belief in doing no harm to others was being challenged by the economic idea of progress. Many believed that through economic development, growth of the sea-to-sea railway, the mining of coal, and the production of manufactured

goods, Canadian quality of life would improve. Canada was viewed as the new land of opportunity for those individuals who applied their skills and worked hard (Guest, 1980). The dominant thinking was influenced by a utilitarian doctrine professing that pain, suffering, and death were acceptable if they lead to greater happiness for a larger number of people.

Health and Safety Consequences of the Construction of Canada's Railway Network

The building of the transcontinental railway, the Canadian national dream, was thus a time of frequent workmen illnesses and injuries. Until the first decade of the 20th century, most of the Canadian population lived in rural agricultural communities, working on farms and in artisan workshops. The majority of other Canadian workmen, many of whom immigrated to Canada from Great Britain and China, were employed in the resource extraction industries, such as mining, lumber, and fishing. Construction work within these resource sectors was dangerous, but it was the construction and operation of the railway tracks that resulted in most horrific fatalities and disabling injuries. New, complex, heavy, and fast-moving machines and equipment, powered by steam and electricity, and new ways of organizing work implemented by profit-driven business owners, introduced new occupational hazards to workmen, and increased their risk of serious injury (Tucker, 1990). With the building of the railways came the deaths of thousands of workmen.

From Sea to Sea: Reducing Debt Over Deaths

The British North America Act, passed in 1867, created the political union between eastern and western Canada that resulted in the construction of the railway, a period of aggressive western development, and the building of a national Canadian

economy. Train networks and the transcontinental railway, viewed by business and government leaders as an absolute precondition for industrial capitalist economic development in Canada, were built to connect the resource-producing regions of Canada with its industrial and port cities (Krahn, Lowe, & Hughes, 2007). The railway companies became the largest employer in Canada during the mid-19th century (Tucker, 1990). In 1871, the revenue from Canadian railways was nearly equal to the revenue of Canada itself (Hicks, 1986); hence, railway institutions held a dominant role in Canadian industrial capitalist development. Extensive investment by Canadians into the railways was connected to the dream of economic and social progress.

The optimism that the railways would be profitable faded during the periods of recession from the early 1860s to the 1900s (Guest, 1980; Hicks, 1986). Most of the railways experienced financial difficulties and had to be directly or indirectly subsidized by the Canadian government (Hicks, 1986). Massive financial support from Canadian tax dollars included loans, guaranteed interests, land donations, municipal bonuses, and cash grants (Hicks, 1986). Railways became a semi-private-public enterprise. The government, through enormous financial support from Canadians, was actively involved in facilitating economic and business development, with little activity towards reducing injuries and deaths that occurred with this development. The focus was on reducing debt, not deaths.

It is important to note that increased public involvement led to the exposure of concealed railway company information concerning horrendous railway accidents. Media reports on rail catastrophes shocked the community and led to union activities and legislative reforms (Hicks, 1986). The tragedy and carnage challenged the myth of

progress held by Canadians indirectly involved through their support of the national dream of a Canadian railway transportation network. Moreover, the traditional moral principle regarding the wrongness of gaining advantage from the suffering and death of others created social unease. Exposing workplace accidents and practices, as well as hidden attitudes of the lawmakers and railway owners towards workmen's health and safety, were most important in understanding and deterring unsafe workplaces.

Deaths on the Tracks

The construction of railway tracks and the direct operations of trains was extremely hazardous work. From 1901 to 1918, an estimated 3,700 British Columbia labourers were killed during the construction of railway tracks, and it is estimated that four Chinese workmen died for each mile of railway track built through the Fraser Canyon in the late 1800s (Reasons et al., 1981). In 1914, 187 workmen died in the Alberta Hillcrest Mine explosion while working on the Crowsnest Pass railway tracks (McCormack, 1978). Railway construction workmen also died from diphtheria, mountain fever, rheumatism, cough, poor nutrition, and unsanitary living and working conditions in their work camps. Employees working on the new railways were at risk of injury every moment of the day (Hicks, 1986). The most dangerous work in operating the trains was conducted by brakemen, yardmen, and switchmen, who had enormous responsibility related to the coupling and uncoupling of heavy train cars and the application of brakes while the train was moving. Of the 3,051 Canadian workmen injured or killed in 1911, 485 were results of railway transportation accidents: 193 of these were injuries and 292 were deaths (Hicks, 1986). While these numbers expose the railway industry as being

particularly dangerous, we must recognise that these numbers underrepresent the actual situation due to limited reports during this era.

Adopting Hierarchical Managerial Models of Control

With the expansion and growth of railway networks came an increased number of distributed workmen who operated moving train cars and heavy equipment. Rail employees increasingly worked at distances and in isolation, and “were often strangers to each other” (Hicks, 1986, p. 20). This type of work organization was radically different from smaller artisan workplaces where employers hired and had close association with their employees, and used smaller, less complex equipment that was not particularly unsafe. Railway technologies were not always under the control of the workmen who used them, but were governed by workmen at remote locations. Cross-functional work experiences and competencies of many workmen were not recognized, and they had little control over unsafe and unhealthy work, resulting in dangerous environments.

To establish control over the widely dispersed workforce and to ensure timely railway operations, railway companies drew on the first classical management theories that emerged in the late 19th century. Taylor’s scientific management theory and Fayol’s managerial principles emphasized hierarchical managerial control and division of labour as methods to increase business efficiency and effectiveness. The planning, organizing, coordination, and control of work shifted from the workmen to various levels of management, and “[i]t was made absolutely clear to all that management was in charge” (Hicks, 1986, p. 20). Relationships tended to become autocratic and impersonal, with business owners and managers less and less acquainted with the habits, skills, and other capabilities of their workmen.

Decisions concerning workmen's health and safety were imposed on them by managers removed from the toxic fumes, excessive noise, and physical and mental demands of the workplaces. Workmen followed orders that stated the procedures and pace related to their specific tasks. Hierarchical managerial control perspectives neglected the contribution that workmen could make in identifying OHS issues, and led to workmen's disinterest and deferral of OHS deficiencies to management. The intrinsic value of work was lost to the extrinsic value of a wage, in contrast to much traditional artisan work. Contemporary OHS management systems often remain hierarchically designed and implemented (Quinlan, 2014). As historical railways showed, hierarchical OHS structures had serious flaws as a result of dominant interests and inequity of power, resources, and rewards.

Government Investigations Into Railway Accidents

Serious complaints were reported during government inquiries, and many recommendations were made concerning the dangers to which rail workmen were exposed, but government acted on very few of these recommendations (Canada & Kealey, 1973). However, these government investigations into construction and transportation accidents provide insights into perspectives on workmen's health and safety from railway company owners and ruling bodies funding the railway networks.

Canada's deadliest rail disaster occurred in 1864 in St. Hilaire, Quebec, when a Grand Trunk Railway train was unable to stop for an open swing bridge over the Richelieu River and landed on the deck of a barge, killing 99 and injuring 100 passengers. Newspaper and government reports on the causes of railway accidents demonstrate the significant financial pressures faced by railway owners and managers to

keep the trains operating despite substantial risk to workmen and public health and safety. While there were many causes behind the accident, from the overload of passengers to the insufficient warning light locations, the train engineer, while not charged, was blamed by the courts and company for failing to follow the standing order to stop the train. Investigations into the catastrophe indicated that the unqualified yard engineer operating the train was pressured to take the position because an experienced train engineer was not available (Grise, 2013). As the investigation revealed, “The engineer explained to his manager that he had no road experience what so ever, and the other crew members except the conductor were just as inexperienced. The manager insisted that the engineer go to work under threat of dismissal” (Grise, 2013, p. 1).

The owners’ and legislative bodies’ prevailing attitude during this era was that the employee had the primary duty and obligation to avoid an accident; it was believed that the workmen were in the best position to notice and adjust or repair dangerous operations or equipment (Hicks, 1986). Documentation from the Toronto Street Railway Union stated that between 28 and 51 percent of court cases found the workman to be the cause of the accident (Ontario Sessional Papers, 1912).

Railway accidents like the St. Hilaire crash actually occurred due to many causes, such as improperly maintained equipment, flawed rails, low bridges, inappropriate configurations of train cars, poor management and coordination, yet accident reports written by business owners and inspectors most often focused on the workman as being the cause of the resulting property damage, injuries, ill-health or deaths (Hicks, 1986). The reports indicate that “in the minds of the managers and owners, if the workers got hurt or injured it was not because the railways intend it, but because of their own

carelessness” (Hicks, 1986, p. 32). This individualization of responsibility diverted attention from workplace risks caused by work organization, equipment design, or other organizational factors.

A few OHS types of statute were enacted to attempt to force the railway company owners to deal with industry specific hazards. A growing number of employer liability actions were brought by railway workmen and their families against the railway companies, requesting compensation for injuries, ill-health, and death caused during work. Railway companies became one of the main defenders of employer liability suits. Hicks’s (1986) review of the statute books found that there was a high percentage of railway litigation. Even though many factors had contributed to the accidents, railway companies continued to argue that the accidents were caused by the unsafe acts of workmen. Therefore, very rarely did a workman receive compensation.

The railway companies had little financial incentive towards providing workmen’s compensation and injury prevention, and had major incentives to contain their operating costs and government debts. Railway owners gained substantial benefit as a result of activities which caused considerable injuries and deaths to other human beings (Hicks, 1986). Public awareness of the escalating railway accidents, and lack of compensation for many rail workmen and families who suffered from workplace disabilities and deaths, were catalysts for the development of workmen’s compensation legislation (Hicks, 1986).

The Canadian Engineering Standards Association

During the second decade of the 20th century, the first safety societies, associations, and regulatory institutions began to emerge to deal with the proliferating

accidents in Canadian workplaces. One such accident occurred in 1907, and again in 1916, when the Saint Lawrence River railway bridge collapsed, killing 83 men (Canadian Connection, 2012; Pearson & Delatte, 2006). The failure was attributed to improper design, the sole authority of the consulting engineer, the objection to hiring an independent consultant to check the engineering work, the reluctance to listen to the supervisor, and workmen who recognized the seriousness of the situation but did not report it (Pearson & Delatte, 2006). The bridge construction was under severe financial constraints, and it was concluded that “[o]n this project virtually every conflict between safety and economy was resolved in favour of economy” (Pearson & Delatte, 2006, p. 91). Yet at the time, human and economic losses due to the accident remained on the shoulders of many Canadians.

The Saint Lawrence River railway bridge catastrophe was an impetus for OHS standards. A new aspect of safety emerged. It was thought that the introduction of new machine technologies and the construction of Canada’s transportation infrastructure, and the relationship both had in relation to economic growth, should come under the review of qualified experts. A new institution emerged to set engineering regulatory codes related to public and workmen safety.

The Canadian Engineering Standards Association, now known as the Canadian Standards Association or CSA Group, emerged in 1919, and the first published Canadian standards—*Specification for Steel Railway Bridges*—in 1920 (CSA Group, 2017a). The association was federally chartered to produce voluntary national standards to replace laws and recommended practices that hindered accident prevention.

For 100 years this institution has assumed major responsibility for Canadian standards development, testing, certification, and training. Forty percent of the CSA group's national standards are reflected in Canadian OHS legislation today (CSA Group, 2017a), establishing the association as a dominant voice in OHS practice and education in the 20th century.

The Canadian National Safety League: “Safety Always”

In response to the many accidents related to rail, ship, and road transportation, the Canadian National Safety League (CNSL), now known as the Canada Safety Council (CSC), emerged in 1917. It created a permanent not-for-profit organization authorized to carry out safety work in the provinces of Canada under a special charter from the Federal Government (CNSL, 1920). Their aim was to safeguard and protect the public through education about the dangers of railroads, street railways, automobiles, and all other forms of vehicular traffic on the public highways in Canada. They sought to minimize the injuries and deaths of workmen employed in “all industrial and mercantile activity, by installing into the minds of employer and employee the full meaning of ‘SAFETY ALWAYS’” (CNSL, 1920, p. 1).

The Safety Always doctrine sent the message that it was best for individuals to avoid risks and thus keep safe from traffic, home, and industry dangers. As early as 1919, the CSNL produced and distributed thousands of films, bulletins, and other literature on accident prevention. This small but expanding group of volunteers encouraged all people and organizations across Canada to change their behaviours and attitudes towards safety. During this era, the dominant belief of individualized safety responsibility was linked to the prevailing views held by the courts, government, business leaders, and railway

promoters. Such a narrow view on public and workmen's safety was an inexpensive, less difficult, and arguably less effective approach to reducing the risks of injury, death, and diseases at the turn of the 20th century.

OHS education emerged as being the responsibility of all Canadian citizens, working and non-working, with the government and business leaders taking a hands-off approach. Yet even now, the CSC continues to be regarded as Canada's voice and resource for safety, following its 100-year-old mission to be the national leader in accident prevention and economic loss in public and private places throughout Canada (CSC, 2008). We must keep in mind that this has not been a neutral message, but rather one constructed by the interrelationship between the powerful actors and associations of those interested in OHS.

The Birth of Industrial Psychology

From 1880 to 1920, industrial psychology, also referred to as differential psychology or applied psychology, emerged as a sub-field within the discipline of psychology. Four leading American industrial psychology pioneers—Munsterberg, Cattell, Scott, and Bingham—applied psychological principles to the problems faced by businesses, government, and industry. They sought to identify the underlying elements of individual human behaviour, and researched areas such as human motivation and mental traits, industrial efficiency improvement, and work performance.

The psychologists published international research, as well as owned, edited, and wrote introductions for several psychology journals. They also wrote the first leading textbooks in the application of differential psychology to industry. Moreover, they established university psychology programs and the American Psychological

Association, where they took on leadership positions. These academics were also published in popular-press business magazines, participated in business circles, developed business training centres and programs for industry, created corporate research centres, and held positions in business schools (Landy, 1997). Their research on individual differences was applied to psychological testing on millions of soldiers during World War 1 for purposes of selection and military placement, and they worked towards ability assessments, training models, and organizational design (Landy, 1997). It was during this period that psychological knowledge became accepted as part of management practice, and currently the four pioneers' work continues to influence business research, practice, and education research, particularly in the discipline of OHS.

It is important to note that the academic-business connection influenced the research design of the early industrial psychologists. The early research was aimed at mitigating the effects of production efficiency techniques without changing workplace production methods or sacrificing productivity (Holloway, 1991). For example, Muscio (1917) found that fatigue had a negative impact on workmen's health, and devoted his studies to the effects of fatigue on productivity, addressing the economic interests of business leaders. OHS research that pays particular attention to management concerns and the interests of business productivity remains a current practice.

Industrial psychology has dominated the social science research in OHS for 100 years (Quinlan et al., 2010), and has had significant influence on the adoption of individual behaviour-change approaches applied to OHS practice and education today. Early industrial psychologists looked into the individual workplace and vehicle-operating behaviours that led to increased railway, automobile, and workplace fatalities. This

research was compatible with the interests of government and business owners at the time. Eric Farmer defined the concept of accident-proneness as a personal idiosyncrasy, predisposing an individual to a higher rate of accidents (as cited in Reasons, 1984). But dealing with workplace hazards through behaviour-modification interventions aimed at workmen detracted attention from more effective OHS practices. This unsafe-behaviour perspective put the entire burden of death, ill health, and injuries on individual workmen and their families. Moreover, these days the narrow focus on individual employees by academic, business, and government leaders continues to limit our understanding of OHS.

British Columbia Coal-Mining Disasters and Deaths

The railways were not the only source of workplace casualties in the early 20th century. The creation of the transcontinental railway led to a high demand for coal, a crucial energy source in Canada's transition to industrialization. In 1854, the first British Columbia mining operation—coal mining—opened on Vancouver Island. While the BC coal mines were the most productive in the world, they were also the most dangerous (Pethick, 1978). In 1887, two Vancouver Island coal-mining explosions killed 165 miners, which was not an uncommon catastrophe in the Canadian industry (Scott, 1974). It is estimated that for every one million tons of BC coal produced during these years, 23 miners died (Caragata, 1979). The mass deaths related to coal mining continued; in 1902, 128 British Columbia miners died in the Coal Creek mine (Hoegg, 2014), and in 1909, a Nanaimo coal mine killed another 32 men (Chaklader, 1998). Canada's worst coal-mine disaster occurred just beyond the provincial boundaries of BC in 1914 at the Hillcrest Mine, killing 189 men (Hoegg, 2014).

It is important to note that mass-fatality disasters were only a fraction of the actual number of workplace fatalities during the period (Quinlan, 2014). The number of mine-explosion fatalities in BC were reported to be half the number of fatalities caused by daily mining activities (Bryden, Boyce, & Lampman, 1903). It has also been estimated that for every fatality, there were 250 disabling injuries (Kelloway et al., 2014b). Diseases were not included in the Mine Acts; therefore, there were little investigation and reports into miners' ill-health (Province of British Columbia Ministry of Mines and Petroleum Resources, 1974). Many deaths and injuries were not recorded or reported during these years. Coal-mining catastrophes occurred across Canada. Considering the small populations within mining communities, it is difficult to imagine the horrific financial, social, and psychological suffering that coal miners' families and communities must have underwent.

Dangerous Underground Work Processes

As demand for coal increased, coal extraction transitioned from surface extraction to more dangerous deep-shaft mining. Mines became mechanized through the use of new machines and work processes. The workplace environments constantly changed, as the mining of coal progressed and required constant monitoring of gas and dust levels, for instance. The great variety of activities occurring in the mines required the adoption of hierarchal management principles, rules and procedures, and clear divisions of labour. With the increase of specialized, yet highly interdependent work processes, came the erosion of traditional skilled autonomous labour processes (Trist & Bamforth, 1951). Unskilled, less costly labour was replacing experienced miners. The use of low-paid

unskilled miners was a means for business owners to create greater profits; it also caused considerable injury and death to many miners.

The new coal-mining methods created high levels of anxiety, anger, and depression among workmen (Trist & Bamforth, 1951). Miners who complained about the work were usually terminated (Phillips, 1988); however, unlike many other Canadian workmen, miners who wanted to leave their work were not legally able to do so due to the Masters and Servants Acts (Reasons et al., 1981). Under this law, disobedient and absentee workmen could be sent to jail at a business owner's request (Morton, 2007). At the same time, the communication and decision-making autonomy vital to mining work processes became difficult for workmen applying the newer labour processes.

Disregard of the New Safety Regulations

In 1876, the first BC Coal Mine Regulation Act was introduced due to the deaths in the coal mining industry on Vancouver Island. The act was directed mainly at regulating safe mining conditions and practices. Regulations concerning workmen and public health did not emerge until several decades later (Province of British Columbia Ministry of Mines and Petroleum Resources, 1974). While inhalation of toxic dust and gases was extremely dangerous to workmen's health, concern about the risk related to mining explosives was government inspectors' dominant focus.

Investigations led to various statutes that unfortunately had limited impact on workmen's health and safety (Chaklader, 1998). For example, the employment of large numbers of immigrant mine workmen unable to speak and write English led to legislation that prevented mine owners from employing immigrants underground, yet such workmen continued to work in the first underground mines (Chaklader, 1998). The inquiry into the

deaths of 128 miners in the Fernie Coal Mine explosion in Victoria, BC revealed the common disregard among mine owners and inspectors of regulations that required a miner to “clearly understand instructions conveyed to him” (Robertson, Shepherd, & Faulds, 1902, p. 65). The inquiry stated,

Good discipline, which seems to be generally lax [sic] in all the mines more or less, and more particularly by the foreign workman, whose interpretation of instructions from the Statute Officials is far from what it ought to be. Dangers in many ways arise through this difficulty of imparting instructions to workmen, and can be improved upon by the Inspector of Mines. (Robertson et al., 1902, p. 65)

Of particular concern is the fact that owners and inspectors were aware that newly immigrated workmen were at greater risk of injury and death due to inexperience, limited training, and language barriers. The prevailing attitude was that “a great many foreigners in the mines . . . seem to think that if they have a safety lamp in their hand everything is all right, whether they understand it or not. In this much danger lies” (Robertson et al., 1902, p. 48). A low value was placed on the worth of the individual miner, particularly the foreign miner. Investigation reports revealed again that unsafe acts by workmen were almost always stated as a key contributor to the mining accidents, and “the personal equation must be so largely a factor in the safety of the mine, too great care cannot be exercised in such a matter as this” (Alberta, 1914, p. 169). Canada’s economic development during this era was dependent on the large-scale immigration government policies, but thousands of these new Canadian settlers were poorly treated.

Miners Take Initiatives to Protect Themselves From Ill-Health

In good economic times, miners' families, like other working-class families across Canada, often lived in small cottages without indoor plumbing, on simple diets of bread, potatoes, and cheese (Morton, 2007). During the numerous recessionary periods, miners were among the many Canadians who lived in poverty. Workmen embraced the myth of progress, as they were economically dependent on the market system. The success of mine operations and other industrial development also meant more income. Implicit in the belief in economic progress was the thought that some individual suffering had to occur for the greater social good. Not only did workmen accept the risks associated with the work they conducted, but for some, “[s]cars and stumps on fingers and hands were proudly referred to as badges of honour” (Schwind, Das, & Wagar, 2007, p. 527) in the economic march forward.

Within the market system, individuals were meant to look after themselves. The social expectation of the period was that individuals, families, and communities could obtain what they needed through the market system, without government intervention. This was evident in the early mining communities. In 1917, employees from Western Fuel, a BC coal-mining company, purchased an X-ray machine for the Nanaimo hospital, to be used by miners and their families, as well as the public, in diagnosing respiratory diseases caused by the poisonous gases and dust released while mining coal (Reasons et al., 1981). Government and businesses held little or no responsibility for the prevention of diseases killing miners.

Workmen's compensation and social welfare legislation for miners did not exist in BC, nor anywhere else across Canada (Guest, 1980). Ill and disabled workmen, and families whose fathers were killed, depended on private employer donations, pooled

workmen funds, union funds, and public community charity (Chaklader, 1998). Most workmen and families received limited or no compensation for the loss of health or life. Miners bore all the responsibility for their own health and safety (Chaklader, 1998). Similarly to the railway workmen, the injured miners and their families increasingly sued their employers for compensation, with limited success. Mining unions became more militant, and mining companies responded by hiring armed mercenaries (Chaklader, 1998).

Violence Spurs Government Inquiries

The extreme violence between company owners and workmen, influenced by mining disasters and increasing public concern, led to five BC government-commissioned inquiries and many other investigations and technical reports into BC mining disasters from 1902 to 1917. Several other inquiries were conducted during the 20th century. These investigations provided insights into commissioners' and mine owners' health and safety perspectives.

The inquiries revealed that the owners' continuous pressure to maximize production and profits led to a disregard towards workmen's health and safety. This was evident in observations revealed in the Coal Creek Mine explosion investigation reports, which found that the contractor "perhaps neglect[ed] safety for finance" (Robertson et al., 1902, p. 65). The mine-explosion report revealed that dry, dusty, and gaseous work conditions, unsafe methods of ventilation, unsafe lamps, and many other factors contributed to the explosions. The report also found that "probably the cause that has contributed more largely than any other to the explosive condition of the mine as a whole, is the fact that these miners were working double shift" (Robertson et al., 1902, p. 41),

which allowed for the increase of dust with no cooling or settling interval, thus creating dangerous conditions. The priority of business wealth accumulation over workmen's well-being was further evident in the mining operations, where "for the purpose of rushing a large output at the risk of losing the mine altogether" (Robertson et al., 1902, p. 65), workmen in almost all BC mines had to deal with inadequate structural design of the mining rooms. The investigation into the Hillcrest Mine explosion revealed that "there were considerably more men employed in these workings than the Act sanctions" (Alberta, 1914, p. 164). Such work arrangements indicated that the financial benefits of producing coal unsafely outweighed the costs of improving dangerous working conditions.

The mine owners gained substantial financial benefit as a result of the labour-intensive practices they adopted, which resulted in considerable injury and death to many miners (Hicks, 1986), as workmen realized. Catastrophic coal mining disasters were catalysts for the development of the workmen's compensation and OHS legislation during the period (Reasons et al., 1981).

The Rise of New Manufacturing Industries

Mining and other resource-producing industries were connected to the large urban centers of Toronto and Montreal through the development of the railways, opening new opportunities for commodity manufacture and export. In Ontario, during the late 19th century, there was an increase in manufacturing companies, the number of employees working for each company, and the capital invested in manufacturing (Tucker, 1990). Industrialization in central Canada advanced rapidly from 1896 to 1914, and new manufacturing industries in electronic equipment, chemicals, automotive, nickel,

aluminum, pulp and paper emerged with the primary milling and lumber industries (Easterbrook & Aitken, 1956; Marr & Paterson, 1980).

Factory Machinery, “The Best Friends of the Working People”

New machinery inventions and new labour-process techniques were introduced to lessen business production costs. Owners recognized that “[i]n a very few cases the cost of production by machinery is greater than by hand, but the rapidity of operation and superior quality of the work done warrant the additional expense” (Canada, 1889, p. 35). Restructuring workplaces to improve business profitability and drive the economy were widely thought to benefit the broader society; as a report stated, “Improved machinery and tools are the best friends of the working people, as well as consumers” (Canada, 1889, p. 35). There was an increasing belief in the need for machines to meet society’s production demands, including the idea that the work practices of earlier decades would not produce enough food and prices would be too high; therefore, “[p]eople would be compelled to return to simpler modes of life and to dispense with many comforts and luxuries they now enjoy” (Canada, 1889, p. 35). These Protestant work values of industriousness were aligned with the profit motive of businesses and the growth of industrial capitalism. There was great social importance placed on profit-seeking and wealth accumulation during the turn of the 20th century. Factories using dangerous technologies were the engines of industrial capitalist development.

Mass Mechanization and New Labour Processes Create Dangerous Work

The industrial work conditions that prevailed during the late 19th century were radically different from the mass mechanization processes transforming industrial workplaces during the first decade of the 20th century (WCB of British Columbia Annual

Report [WCBBCAR], 1918). Earlier employers personally hired their employees and had close association with them, the businesses were small, and equipment consisted of hand tools. The horse- and water-power applied to machinery was not complicated or particularly dangerous (WCBBCAR, 1918).

As the century turned, thousands of workmen were employed in factory environments, and business owners sought ways to increase their performance. Emerging management ideas, theories, and practices of organizing, supervising, coordinating, and controlling workmen were applied to larger industrial workplaces with the aim of increasing labour output. These changes demonstrated the “[h]ierarchical notions of social organization” (Canada & Kealey, 1973, p. xvii). The ideologies of scientific and bureaucratic management theories supported the use of well-defined hierarchal structures, clear division of labour, and rules that placed capital accumulation over labour.

Workmen’s tools now consisted of complex, rapidly moving machines, powered by steam and electricity. Using new mechanical technology, managers could pace, monitor, and increase workmen’s productivity. New labour-intensification processes included increasing hours, using less-skilled and low-wage employees, providing financial incentives, and standardizing jobs and work processes. Such practices and industrial processes had adverse effects on workmen’s health and safety (Guest, 1980).

The large number of workmen in factories created problems of ventilation, overcrowding, poor sanitation, and lack of ways to escape and extinguish fires (Tucker, 1990). Workmen faced dangers every working day; for example, early factories relied on high-pressure steam power running through shafts to machines, which facilitated production, but also frequently caused explosions (Tucker, 1990). Not only was operating

the new steam engines and boilers dangerous, but the work environment itself was extremely hazardous. Factory workmen were exposed to high heat, boiling liquids, toxic fumes, carcinogenic substances, high levels of dust, and other risks. In some industries, the manufactured materials themselves were toxic. The practice of permitting unskilled workmen, rather than certified engineers, to remain in charge of the new power engines and boilers created serious workplace dangers (Canada, 1889), thus taking a toll on workmen's life expectancy and health.

Other production changes created new dangers. The heavy and rapidly moving machinery was not always under the control of the workmen who used it, but was often governed by workmen at remote locations. These workmen followed directives telling them the purpose and pace related to their specific work task. The inability of such systems to allow workmen control created very dangerous work environments.

These new management approaches alienated workmen from the process and outcome of their work. The perception held in these practices was that workmen had little skill or interest in their work environments. This belief led to worker apathy and learned helplessness concerning workplace risks and dangers. In some cases, work became repetitive, meaningless, and narrow, consisting of tasks that required little skill and involved little responsibility. These conditions generated boredom, stress, and a sense of worthlessness that led to injuries resulting from reduced workmen mental alertness, as well as physical repetitive muscle strain injuries. Recent studies show that Canadian workplaces may still rely on these scientific and bureaucratic management approaches (Krahn, Lowe & Hughes, 2015).

As we have seen, the number of accidents and deaths increased with the advent of new machines and labour-processing techniques during the late 19th century. Business owners experienced pressures of competition within the industrial free market system that severely limited their concern for workmen's health and safety (Canada & Kealey, 1973). Injuries, deaths, and diseases spiraled to extremely high levels from 1900 to 1914 (Tucker, 1990).

Government Inquiry Reveals Oppressive Working and Living Conditions

Industrial factory growth was accompanied with the increase in concentration of families moving from the countryside to secure dwellings close to the factories. These congested industrial centers were unsanitary, and the housing arrangements were costly for workers (Canada, 1889). Most workmen and families were poor and in a constant struggle to acquire secure food, clothing, and housing (Lowe & Krahn, 1993). Children, women, and men resorted to dehumanizing factory work, often labouring under dangerous and unhealthy conditions to make enough money to support themselves and their families. The adjustment from independent farming and artisan work to industrial work and living conditions was harsh for workmen and families during the late 19th century (Canada, 1889). These conditions did not improve during the first two decades of the 20th century (Lowe & Krahn, 1993).

Workmen began to protest against their employers concerning wages, working conditions, new machinery, and new rules and ideas of management (Krahn et al., 2007). The Canadian government responded by conducting a two-year investigation, documenting 1,800 witness testimonies concerning workplace conditions. In 1889, the Royal Commission on the Relations of Capital and Labour in Canada reported shocking

and dehumanizing work conditions, particularly for children and women labouring in unsanitary and dangerous facilities. The inquiry found a high level of injuries among the employees of these facilities and widespread unsafe and unhealthy conditions, such as inadequate fire escapes, machine guarding, steam engine and boiler maintenance, and poor ventilation and sanitation. This was true for Canadian manufacturing and the mining, railway, construction, agriculture, fishing, and shipping industries (Canada, 1889). The Parliamentary study reported that men, women, and children were forced to work long hours and received low wages, and that no legislation was in place to deal with employee injury prevention and compensation.

The Royal Commission made several recommendations to improve OHS that included establishing OHS standards, mandating inspections, and creating a labour bureau for developing OHS regulations. The report also suggested the creation of a no-fault insurance scheme to compensate injured workmen. While many recommendations were made to improve working and living conditions, the government did not act on them. The federal government did not want to infringe on provincial authority or business operations. Such continued disregard for workmen's health and safety led to further public shock and an increased demand for changes. The broader society began to more deeply question the idea of economic progress through technical advancement at the cost of workmen health and safety.

Women Activists

Women and children, who traditionally worked within the family home unit in rural communities, began working in factories, as sickness, periods of unemployment, and low wages required most family members to become dependent on factory wages.

This was a radical transformation period, where women were not only forced to leave their traditional home maker roles, but had their new factory work resisted by skilled male artisans. Women's abilities and opportunities were defined by their traditional roles, and they were viewed as more vulnerable than men, subjected to higher levels of managerial control, and paid less (Tucker, 1990). Children's work further changed the composition of the factory workforce. Children had little experience and training, yet worked long hours at low wages and near dangerous machines (Tucker, 1990). Moreover, children employed in factories were frequently beaten and imprisoned (Canada, 1889). The shocking exposure of such abuse of children in Canadian industrial workplaces strongly contributed to the emergence of the first workmen's compensation and injury prevention laws.

The women who saw their husbands and children killed and maimed reported the darkest stories of worker exploitation. Beginning in the late 19th century, women activists began to resist brutal industrial working conditions, and sought greater democracy. Women became deeply involved in bringing about legislative reforms through monitoring and publicly reporting the unsafe day-to-day factory working conditions that existed within their respective workplaces. Women activists exposed records of extremely long work hours, unsanitary workplaces, high noise levels, exposure to toxic substances and thermal conditions, improper ventilation, poor lighting, and other injurious physical, mental, and social conditions, all of which are now defined as illegal in current Canadian OHS legislation. The women also exposed the economic trade-offs used to justify the cruel and inhumane conditions for workmen (Sass, 1998). Sass (1998) states that the tradition of women investigating and politicizing child labour and

dangerous working conditions was an essential factor in bringing about the prohibition of child labour and child hunger, implementing workmen's compensation for injury and illness, and insisting on reduction of work hours in Canada. Female activists played a leading role in the early formation of workmen-and-management health and safety committees, which became mandated in OHS legislation across Canada by the early 1980s (Sass, 1998).

Public Ill-Health: The Canadian Public Health Association

The beginning of public health education in Canada came at the turn of the century. Health Acts and Boards of Health were established in Canadian provinces and territories in the late 19th century, followed by the emergence of the Canadian Public Health Association in 1910. This voluntary non-governmental organization was formed by a small group of doctors concerned about the state of public health in Canada. During the early 1920s, they conducted public education campaigns targeting health issues and the prevention of diseases, including slowly developing illnesses from workplace exposures. It appears that while public safety, public health issues, and education are interconnected, they emerged and have developed as separate associations. Public health education was linked to health-related societies, and public safety education was linked to safety-related societies, such as the National Safety League discussed earlier in this chapter.

First Factory Acts

Throughout the late 19th century and onwards, reactive, ad-hoc, and periodic OHS legislation was introduced to deal with specific physical hazards in the more dangerous industries, such as machinery guarding, ventilation, and hygiene amenities.

Ontario and Quebec, which had the largest manufacturing activity in Canada, had their considerable and growing share of workmen's injuries, diseases, and deaths. The first Factory Act was established in Ontario in 1884, and by 1917 similar acts were passed in all provinces and territories except Prince Edward Island. The acts addressed female and child employment, hours of work, minimum safety standards and inspections (Reasons, 1984).

The emerging government regulations were fragmented across provincial jurisdictions and different industries, all with various levels of protection (Tucker, 1990). There were also low financial penalties and very few inspectors who could carry out inquiries into working conditions (Reasons, 1984). This resulted in minimal incentive for business owners to improve workplace health and safety (Reasons, 1984).

While government inspectors were appointed to enforce the mandated OHS standards, they took on an educational and persuasive role, seeking voluntary compliance over legal prosecution. Tucker (1990) found that the inspectors viewed accidents as being due to employer incompetence and uncertainty of the law, and continued to include workmen's carelessness as a major source of problems. The ongoing view that employers did not deliberately conduct their workplaces in unsafe and unhealthy ways and that accidents were caused by workmen's unsafe behaviours, rather than unsafe work conditions, supported inspectors' chosen advisory role. They influenced how workmen and employers understood and acted upon health and safety issues, as well as accidents in their workplaces. The continued massive exploitation of workmen and largely inoperative laws lead to further angry workmen and labour mobilization in factories (Canada & Kealey, 1973).

The Nine-Hour Labour Movement

The development of unions in Canada may be regarded as a century-long resistance by workers to unhealthy workplaces across various industries, beginning with the opening of the coal mines on Vancouver Island in the 1850s (Reasons, 1984) and the massive strike on the Grand Trunk Railway in 1877 (Canada & Kealey, 1973). The labour movement, with its roots in the resource extraction and railway industries, gained momentum and cohesiveness in manufacturing industries that were fueling industrial progress.

Workmen's protests against long hours and poor wages in the early decades of the 19th century ignited the labour movement in Canada. Unionism developed quickly from the 1850s to the 1870s, following and later linking to the progressive union movements taking place in Great Britain and the United States (Belcourt, Shermann, Bohlander, & Snell, 1996). Within Canadian communities, concern grew about the capitalist market framework that regulated the relationship between workmen and business owners and affected workmen's health and safety. Unionization weakened during the late 19th century as a result of economic depression and recession, then grew again rapidly between 1897 and 1904, and continued to strengthen in the early 20th century (Tucker, 1990). Canadian union membership grew from 8,381 in 1901 to 133,000 in 1911, becoming 5% of the non-agricultural population (Kruger, 1974). By 1921, union membership increased to 16% of the non-agricultural population. A number of union associations were formed, and governments began to pass labour legislation during the mid-19th and early 20th centuries. This era saw growing hostility between workmen and employers.

Conflict initially centred on wages, working hours, and the introduction of machinery and labour processes. Embedded in these conflicts were fears by artisan workmen over the loss of their skills, economic security, and social status, as they experienced the transition to capitalist industrial workplaces. These fears, along with dissatisfaction with the judicial and legal systems' inability to deal with employers' misconduct related to workmen's health and safety, led to the nine-hour workday labour movement in 1872.

Battye (1979) referred to this national organized resistance to excessive work hours as the true genesis of the Canadian labour movement, as the fight to reduce the working day from twelve to nine hours was one of the first efforts to coordinate labour struggles on a national level. Hundreds of workmen paraded in the streets of Montreal and Ontario's industrial towns. Further strike actions arose throughout the late 19th century by both artisans and non-skilled workmen in various industries across Canada. The nine-hour workday labour movement also facilitated the passing of the Trade Unions Act in 1872 that legalized unions and introduced Canada's first trade union centre in 1893 (Reasons et al., 1981). Excessive hours of work were recognized as a health concern, and many believed that

[L]ess hours of application to the production of a fractional part of a product will give more hours to the development of those muscles in the body in the self-employed home, and more time for the development of the moral and mental qualities through opportunities of civilization, observation and association.

(McNeill, 1887, p. 474)

These early conflicts provide insights into the perspectives of the skilled workmen during this era. The artisans valued the preservation of their own health and the well-being of their families and communities. There was a strong national resistance by workmen towards the mechanization of work. Trade union activism concerning work hours persisted, and was a major factor in the number and severity of union strikes.

Fierce resistance by businesses towards unions resulted in lockouts, long strikes, violent clashes between strikers and the police, arrests, and deaths. More than 400 strikes and lockouts occurred in Ontario's industrial cities from 1901 to 1914 (Heron, 1980; Heron & Palmer, 1977). Hundreds of other strikes occurred across Canada during the first two decades of the 20th century. The Winnipeg General Strike of 1919, supported by more than 300,000 public and private sector workmen, resulted in numerous arrests, 30 casualties, and one death. Bloody Saturday, as it is referred to today, shows the extreme labour unrest that occurred during the period. The fight was led by labour unions, but represented both organized and non-organized workmen experiencing exploitative working conditions. The government was increasingly involved in dispute settlements, but took a hands-off approach towards intervention into business operations, including workmen's health and safety (Reasons, 1984). The legal right of business owners to manage their workplaces with the aim to increase profits continued to dominate workmen's rights to a healthy and safe workplace. Workmen's compensation and injury-prevention legislation, enacted in the second decade of the 20th century, grew out of these earlier violent labour struggles and persistent union actions.

The Industrial Capitalist Market System and Free-Wage Labour Regulate OHS

The common law, known as the employer's liability law, was the legal framework the courts used to address workmen's legal action towards their employer to acquire compensation for the ill-health and injuries received at work. A workman could recover compensation from an employer only by showing that the business owner was negligent and failed to exercise proper care towards workmen's safety, and that the workman or men did not contribute to the accident. It was difficult for workmen to prove employer negligence, especially with the ongoing dominant social belief that workmen were the cause of workplace accidents. Few employers were found liable for workmen's injuries, ill-health, or death.

Aside from social beliefs, late-19th century legal and judicial systems established the governing of workmen's exposure to workplace hazards by the industrial capitalist market and free-wage labour system of regulation, in which the terms and conditions of employment, including OHS, were determined through employee-employer negotiation. This framework assumed that workmen and managers have equal power in the negotiation of the employment contract, a faulty assumption. The level of wages, working conditions, and employment security were determined by business owners whose concern was profitability within the constraints of the market system regulating the supply and demand of labour. The profit motive put pressure on employers to negotiate cheaper labour costs, including cheaper health and safety. This adopted legal doctrine has become known as the assumption of risk, under which employees voluntarily assume the risks of being injured by workplace hazards in exchange for their wages (Schwind et al., 2007). Canadians living in poverty during this era would feel pressure to sell their health and safety for wages to feed themselves and their families.

This legal expression of workmen's acceptance of risk further presumed that workmen were informed about workplace dangers, hazards, and risks, another faulty assumption. In many cases, companies knew about the toxins in their workplaces, but did not disclose this information to workmen (Smith, 2000). Business owners decided how work was organized, and as we have seen, it was more profitable for them to organize work in unsafe ways, as evident in the escalating injuries, diseases, and deaths experienced by workmen in the railway, mining, and manufacturing industries during this era. The judicial and legal systems did not obligate employers to take reasonable care with their workmen's safety and health. Within this regulatory framework, most workmen and their families did not receive compensation for injuries, ill-health, or deaths. In a few cases, they may have been able to receive some compensation contributions through employer discretionary funds, union donations, insurance schemes, or charitable help from other workmen and the community (Tucker, 1990), but financial and medical compensation and social insurance services were virtually non-existent for workmen injured during the course of their employment contract.

Enacting Workmen's Compensation Legislation in Canada

Throughout Canada during the late 19th and early 20th centuries, provincial governments made various attempts to provide injured workmen with some form of compensation, such as the Workmen's Compensation for Injuries Act (1886) of Ontario and the Employer Liability Act (1891) of British Columbia. While these and other acts provided some limited compensation, they had many shortcomings, one of which required workmen to prove company negligence in order to receive necessary compensation. Workmen found it costly and difficult to prove that their employer had failed to take reasonable care to protect them against unreasonable risks, which brought

about further workmen unrest and union agitation. The injustice of the business-biased legal system became a matter of distress among the massive working class.

The number of injured workmen and dependents seeking compensation from their employers through the legal and judicial system increased during the first decade of the 20th century (Chaklader, 1998; Reasons, 1984). A few large court awards to injured workmen became a threat to private businesses, stirring some owners into accident prevention (Chaklader, 1998). Business interest was spurred by the possibility that a single liability case could destroy their company financially. While the legal and judicial systems were becoming more sympathetic to injured workmen and their dependents, most workmen continued to shoulder the burden of work-related injury and disease (Chaklader, 1998).

Royal Commissions Investigate Workmen's Compensation Insurance Schemes

Catastrophic workplace disasters and deaths continued, sparking workmen's protests, union agitation, and public intolerance. The growing unrest and extreme polarization between workmen and employers, as well as the increased conflict between workmen and business owners in and out of the courts, led to Justice Meredith's 1910-1914 study on a compensation scheme for workmen who suffered injuries and illnesses in or as a result of employment (Reasons, 1984). This massive four-year study involved a hands-on labour-management negotiation process led by Meredith in Ontario, who gathered information from 72 witnesses from manufacturers' associations, employers' associations, organized labour associations, insurance commissions or boards, medical professionals, and other experts with interest in workmen's compensation (Ontario, *Final Report on Laws Relating to the Liability of Employers* [ONR], 1913). The Canadian

Manufacturing Association, founded in 1871 to promote the interest of Canadian industries, played a leading role in drafting Ontario workmen compensation scheme. The ONR, known as the Meredith Report, outlined the principles for a workmen's compensation insurance legislation, and it was followed by the first officially released Canadian statute, the Ontario WCA of 1914.

From 1912 to 1914, the province of British Columbia appointed the Royal Commission on Labour to investigate the conditions of workmen across the province. The inquiry documented the testimonies of 419 witnesses. The Commission reported on the inadequacies and injustices of the legal remedies dealing with workmen's OHS, the need to create a system for compensating victims of accidents regardless of who was at fault in the accidents, and the need for industry to bear the financial costs of accidents as part of their production costs (British Columbia, Royal Commission on Labour, 1914). In 1915, a second BC commission, which included labour union representation, was appointed to investigate the workmen's compensation laws in the United States, Ontario, and British Columbia. The BC investigation results, the *Report of the Committee of Investigation on Workmen's Compensation Laws* (BCR), known as the Pineo Report, included 79 interviews with workmen's compensation experts and government officials, and featured hearings from labour groups, employers, medical doctors, and insurance companies, with a final suggestion that the province should build on the Ontario workmen's compensation model (BCR, 1916). The resulting BC workmen's compensation model provided expanded accident prevention measures and medical aid to injured workmen, and was passed in 1916.

The BC system was the most comprehensive and progressive WCA in North America, and served as a model for other Canadian and international jurisdictions (Chaklader, 1998). Workmen's compensation legislation was enacted in every other province and territory in Canada from 1917 to 1977. The early workmen's compensation legislations were Canada's first social insurance scheme, and one of the earliest forms of government involvement in the areas of health and income policy (Guest, 1980; Reasons et al., 1981).

Authority and Influence of the Workmen's Compensation Boards

The passing of the WCAs and the establishment of WCBs to enforce the acts changed the rules for OHS. It became profitable for a business to put time, money, and effort into managing OHS, a practice that had previously been profitable to neglect. There was unanimous agreement between business, labour, and government leaders that the cost of workplace accidents should be paid by the industry (BCR, 1916; ONR, 1913). OHS was reorganized under a new regulatory government-administered compulsory mutual insurance scheme. Autonomous WCBs appointed by the provincial Lieutenant Governor in council (within each province and territory or federal jurisdiction) were given authority to administer the WCAs. The WCB was given exclusive and final power over the classification of industries and assessments, scales of compensation, investment in accident funds, making health and safety regulations, and determining the workmen's right to compensation. The viewpoints of the WCB were influential in determining government, industry, and professional association OHS policies and practices across Canada. While many amendments have been made over the past 100 years, largely for

the purpose of increasing coverage and benefits, the first workmen's compensation insurance structures continue to exist today (Montgomery, 1996).

Workmen's Compensation Legal Principles and Provisions

The workmen's compensation insurance scheme is known today as the historical compromise, under which the workmen's right to OHS compensation replaces their right to sue the employer for damages. This compulsory compensation insurance was provided to workmen without regard to either their or employer responsibility. It was a no-fault insurance with an employer-oriented legislation, protecting employers from litigation. The workmen's insurance compensation fund was financed exclusively by employers, and based on collective liability in the employer's industry classification. Thus, if an employer was in a hazardous industry and sought insurance claims, then the employer would pay more insurance premiums. At the time this was introduced, accidents became a predictable employer insurance-premium cost. Fixing the cost of accidents onto industry was thought to increase business owners' interest in accident prevention. While the WCBs had some responsibility for accident prevention, their primary focus was on providing monetary compensation to workmen for injuries they received in the course of their employment.

It may be assumed that the majority of the WCBs and employers' interests lay with ensuring lower costs for workmen's compensation premiums, rather than with their health (Sass, 1998). The dominant thinking behind this practice appeared to be that workplace illnesses and injuries were predictable and mathematically measurable. Furthermore, the fixed cost could be understood as placing a price on an employee's health and wellness. It is also important to consider that within this insurance regime,

business owners, managers, and workmen may have felt pressured to not disclose OHS accidents or seek OHS insurance coverage, knowing it would increase the employer's insurance premiums. Business cost-containment pressures and interests may have dominated over workmen health and safety. Sass (1998) stated that OHS continued to be driven by workmen's compensation costs, rather than prevention.

While the workmen's compensation legislation provided workmen with financial short- and long-term compensation, including lump-sum pension payments, there were limits to the insurance. Most important, not all workmen were covered. The insurance also often had no non-wage benefit coverage, had waiting periods prior to payment, and included maximum wage-loss and pension benefit payments. Moreover, insurance did not generally offer job security for workmen, had restrictions as to rehabilitation, and inadequately recognized occupational diseases and mental health. WCB premiums were based on these limitations, which, in turn, offered a significant financial benefit to business owners. The limitations also created significant costs to workmen, such as with waiting periods that required the disabled employees to cover their income for that time. The scale of compensation provided to workmen was just a measure of financial relief, and one that did not involve a heavy tax on employers (BCR, 1916). For example, the rate of payment for workmen was a percentage of their earnings, from approximately 55% of net earnings in the early 20th century, to as high as 90% of net earnings in the early 21st century. Such a rate of payment posed a significant disadvantage to high-wage earners. The workmen's compensation insurance scheme was bound tightly by the constraints of a market enterprise economy that was not too burdensome to employers. This historical compromise continues to define OHS today.

Workmen's compensation insurance boards adjudicated workmen's claims based on reports by employers, medical doctors, and the workmen themselves. While the insurance boards had full authority and power over workmen's claims, they ultimately relied on doctors' reports. Medical doctors shaped our thinking about workplace health and safety by defining what industrial injuries and illnesses were compensable. This situation still exists today, when medical doctors decide whether an illness or injury is work-related, a judgment crucial in enabling employees to attain access to vital compensation for injuries sustained at work. Today, compensation insurance boards and medical professionals continue to influence current employee OHS protection, coverage, and rehabilitation availability and limits.

Safety Inspectors

In the early days, the newly created Canadian WCBs relied on assessment guidelines operating in other places, but immediately readjusted their industry classifications and the employer premium assessments based on the actual accident experience of specific industries. The WCB hired inspectors from specific industry classes to conduct inspections and investigations that included detailed reports on hazards, risks, causes, and prevention of accidents. These field inspectors' reports were used by the WCB to classify the industry risks according to hazards, so that accurate insurance rates were charged to owners of companies. These reports allowed the WCBs to analyze the causes of accidents and define safety rules and regulations (BCR, 1916; WCBBCAR, 1918). Employers were required by law to adopt the WCB safety rules, measures, and devices (WCBBCAR, 1918). The workmen's compensation scheme

continued to support an educative and advisory approach over a prosecution and penalty approach towards accident prevention and enforcement (BCR, 1916).

The Ontario inspectors were appointed by employers' safety associations in collaboration with the WCBON, while the WCBBC worked with the existing government inspectors within the existing government departments. These inspectors became increasingly knowledgeable about the quantitative assessment and measurement of workplace risks, while perhaps not recognizing the human interactions necessary to understand injury and ill-health risks. Their experiences led them to act as technical advisors to employers who wanted to be informed on ways to prevent accidents to reduce their insurance premiums. The workmen's compensation insurance boards and their inspectors therefore became providers of safety information to businesses and industry associations.

The first WCBs, through their inspectors' work, started safety campaigns to educate employers on the provision of the law, accident reporting, assessments and audits, accident-prevention methods, and accident statistics (WCBBCAR, 1918). These campaigns were spread to workmen too, and included practical publications on specific safety techniques to be used in particular branches of industries, such as information on machine guarding. The legal-prescriptive focused literature continues to dominate OHS education today.

The Industrial Accident Prevention Association

Spurred by the new workmen's compensation legislation, safety societies grew across Canada. Their practices were aimed at workmen, not just business owners. In 1915, the Canadian Manufacturing Association initiated the creation of the Federation of

Safety Associations, now known as the Industrial Accident Prevention Association (IAPA), continuing their dominant involvement in the development of the Ontario workmen's compensation scheme. The IAPA was formed in 1917 to represent and act for 19 industry safety associations acting to prevent accidents. While other safety societies have since emerged across Canada, the IAPA has had a century-long influence on OHS practice and education. The societies began with providing safety education and services to their communities, ranging from conferences and trade shows that exhibited safety products and equipment, to injury reports, statistics, and accident-prevention literature. The IAPA adopted an educational campaign model to advocate for and promote workplace health and safety among workmen (IAPA, 2007). One example was IAPA's 1917 poster of a clown pointing its finger at a workman reading the poster with the bolded words "LEAVE STUNTS FOR CLOWNS" (IAPA, 2007, para. 2).

OHS education was introduced through such visual images on safety posters and pamphlets, directed at the workmen and their individual responsibility for decreasing workplace accidents. Behavioural theories developed by industrial psychologists began to emerge at this time, and were applied to OHS education. These theories and approaches continued to dominate OHS practice and education throughout the 20th century.

What has Been Discovered so Far?

This historical inquiry has shown how our understanding of OHS has been linked to the hegemony of the 20th-century industrial capitalist free-market system and its production of income, goods, and services and the economic idea of progress. Workmen's labour, and their health and safety, were viewed as commodities to buy and sell in the most economical way possible. The ways in which industrial work was mechanized and organized by business owners created serious dangers to workmen's

health and safety. In the late 19th and early 20th centuries, the government, through its legal, judicial, and social policy practices, supported this market-regulation system that facilitated the business wealth-accumulation process to the detriment of workmen's health and safety. Even as union activities and government inquiries exposed oppressive and exploitative working conditions, the government took few steps to improve dangerous industrial work practices or compensate workmen for loss of income and health resulting from their work (Canada & Kealey, 1973). Workmen assumed the risks associated with wage levels, unemployment, income loss, disability, and unsafe work present in the market system. These practices that individualized workmen's responsibility for their own safety were associated with the dominant social belief that workmen were the cause of workplace accidents. This prevailing perspective that transferred the costs of OHS onto workers helped maintain the hegemony of business in the employment relationship. The injustices in the judicial, legal, and social systems led to extreme unrest, and eventual government intervention through the enactment of the first WCAs.

The first WCAs had many professional, technical, academic, and community influences: safety engineering; industrial psychology; classical management; industry; public inquiries; labour groups; safety societies, and others. Many voices were heard during these years, but not all had equal influence on the workmen's compensation insurance scheme. Changes to OHS laws did not negatively affect the overall capitalist system and the superiority of business relations, continuing to support the dominant capitalist power relations. The costs of workmen's injury compensation insurance were

assessed on business owners who could transfer their insurance premium costs to the consumer of their products and services.

What resulted is what is known today as the historical compromise, where the workmen gave up their right to sue business owners to gain legal rights to compensation for the injuries, ill-health, and deaths they sustained during their work activities. The WCA was a no-fault insurance legislation protecting employers from litigation. Workmen's compensation insurance law was more closely linked to insurance loss prevention rather than workmen accident prevention. Cost containment related to compensable injuries influenced OHS activities. OHS costs, embedded in legal practices, were diverted away from business owners.

Safety inspectors assumed an advisory role and took on educational activities in seeking business owner's compliance to safety regulations. While it appears that workmen's health and safety were being seriously addressed, the low-cost compensation scheme and low-cost educational campaigns offered little financial incentive for business owners to engage in accident prevention practices. The level of OHS continued to be determined by business owners who sought to utilize technology, work processes, and wage labour as cost effectively as possible.

The perspectives embedded in these historical events and institutions raise questions that guide my further critical hermeneutic inquiry into the workmen's compensation insurance scheme, which I further analyze in Chapters 5 and 6.

Chapter 5

Safety Pays

Introduction

In Chapter 4, I contextualized the historical events related to the emergence of the first workmen's compensation legislation in Canada. This allowed for a deeper critical hermeneutic analysis of the Ontario and British Columbia commissioners' reports on workmen's compensation laws, the Ontario and British Columbia WCAs and the WCBs' annual reports produced from 1913 to 1923 (the corpus of texts is listed in Appendix A). In Chapters 5 and 6, I simultaneously analyze the reciprocal relationship between the first WCAs and related documents and the socio-historical events driving this regulatory change during the turn of the 20th century. This involves a deeper interpretation of the new legislative workmen's compensation structure, the practices and exercise of regulatory power, and their influences on shaping society's understanding of OHS.

The WCAs adopted two prevailing perspectives towards workmen's health and safety that reinforced the industrial capitalist market system and beliefs. The first was an economic perspective, where workmen's compensation practices and accident prevention initiatives were evaluated according to their costs and benefits to business productivity interests—a *Safety Pays* doctrine. The Safety Pays argument asserted that regulatory and industry OHS practices were driven by economic cost-benefit reasoning where business owners maintained the legal right to determine the level of OHS. The second was a behavioural perspective that individualized the responsibility for workplace injuries, ill-health, and deaths—a *WorkSafe* doctrine. These perspectives supported the interlocking processes of industrial capitalism, where the concentration of economic power and expansion could undermine workmen's health and safety.

I explore the Safety Pays perspective of OHS here, followed by the second perspective, WorkSafe, in Chapter 6. These chapters provide the narratives of the WCBs during the implementation of the first compensation legislation. The included text passages are representative of the views, tones, and practices taken by the WCBs towards workmen's compensation and accident prevention during the turn of the 20th century. I have chosen at times to include the terms and language used in the 20th century to bring the reader closer to the historical context.

An Economic Cost-Benefit Perspective

Operating a business could be viewed as a drive for wealth accumulation or as a thrust of the profit motive. Within the capitalist economic market system, business owners faced pressures to remain competitive through the maximization of productivity. OHS required an investment of time, money, and effort by business owners. Within an economic framework, owners viewed workmen's health and safety in financial terms, weighing the costs and benefits of workmen's injury compensation and prevention against their own need for increased production and profits. Therefore, in this system, investment in OHS had to exceed other business costs; that is, business owners would choose the cost of prevention over the costs of workmen's ill-health and death. While workmen's health and safety concerns ethical issues that cannot easily be monetized, workmen's injury compensation and prevention legislation was communicated in financial and economic terms. The WCBs drew on capitalist market values rather than moral or humanitarian values, constructing a narrow business-oriented view that set the conditions of how OHS was communicated. The WCBs did not question the maximization of business wealth as a morally legitimate framework to guide OHS decisions and practices.

The aim of WCBs was to mitigate the financial losses of business owners related to OHS. They maintained a loss-prevention (not accident-prevention) perspective on OHS and were driven to reduce business insurance costs. The WCBs used various profit-preservation practices designed to reduce preventable losses to meet this purpose. The workmen's compensation insurance scheme was further built on the premise that business owners who sought to minimize their insurance premium costs would engage in accident-prevention practices, a Safety Pays motivational mechanism. Rather than intruding on business owners' activities relating to workmen's injury compensation and prevention, the WCBs appealed to business owners with an economic market system cost-benefit argument. The WCBs drew on the language and practices of businesses operating in society at the turn of the 20th century. This language was contorted and hegemonic serving as a barrier to other non-financial views.

Cost-benefit analysis meant that the non-monetary worth of benefits must be valued and quantifiable. The calculation of costs and benefits would have needed to include both direct and indirect types. However, even then there were many incalculable costs, such as those of human suffering and pain, showing that not all costs and benefits could be assigned a monetary value. The cost can often be defined in economic terms, such as calculating the cost of a machine guard to protect workmen from the dangers of operating the machine. The benefits, on the other hand, were difficult, and likely impossible, to determine in monetary terms, as they were related to reducing workmen's ill-health and deaths. The WCB also stated this concern when considering paying the cost of business interruptions resulting from workplace accidents, where "there are many

difficulties to be overcome before it can be expressed in terms of dollars and cents” (WCBBCAR, 1919, p. 16).

Placing a price on human pain and suffering was problematic in many ways. If the value of saving a life was calculated as priceless, analysis would be incomplete, inaccurate, or biased. Alternatively, if workmen’s health and safety were viewed as having limited worth, they would not even be considered in the analysis. Hence, it was impossible to calculate these costs. The logic of maximizing monetary benefits and minimizing costs could, thus, lead to intentionally leaving workmen unprotected from the risk of injury, illness, and death.

Under this Safety Pays perspective, cost-effective workmen’s compensation and injury-prevention measures received consideration, while practices that were not cost-effective did not. Implicit in this perspective were that higher levels of workmen’s compensation and injury-prevention practices may not have been considered if they did not increase profits or reduce the costs of business production.

These hurdles suggest that the Safety Pays framework may have been an inappropriate approach to improving workmen’s health and safety. While it may have been flawed, it was part of the WCAs and remains central to OHS practice and business studies today. Ethical, humanitarian, and other broader approaches to OHS have remained invisible.

Workmen’s Compensation Insurance Must Not Financially Hurt Employers

Using the Safety Pays ethos, the WCA established the first form of social security organization in Canada. It was not surprising that the new workmen’s compensation system emerged in harmony with the values of industrial capitalism and adopted a hands-off approach by government that did not threaten business wealth accumulation. The

WCB implemented the WCA as a minimal-intervention social insurance system to address workmen's injury compensation and accident prevention. While the business owners were liable for paying injured workmen's compensation insurance premiums, the intent of the law was to avoid harming business owners by passing the cost of the insurance to the purchasers of the business's products or services.

The British Columbia Pineo Committee investigating workmen's compensation laws proposed that "industry should bear the burden of accidents, and that the cost should be assessed on the employers to be ultimately distributed among the consumers of the products of the respective industries the same as other elements of the cost of production" (BCR, 1916, p. 5). The bill proposed by the Ontario Meredith Committee on how best to provide compensation to injured workmen or those who suffered from industrial diseases during their employment stated that "under a just law the risks arising from these causes should be regarded as risks of the industries and that the compensation for them should be paid by the industries" (ONR, 1913, p. v).

The WCBs stated that the general theory of workmen's compensation is that "industry should bear the loss of life and limb incurred in the production of its finished product, just as it bears the expense of replacing worn-out machinery" (WCBBCAR, 1918, p. 8). The view of workmen's health and safety was linked to the industrial capitalist mode of production, in which workmen's wage labour was simply a production commodity. Workmen's compensation insurance was thus viewed as a mere cost of doing business. Businesses could budget for their insurance premiums and pass these costs onto consumers, and so the workmen's compensation insurance system had little financial impact on employers. The WCBs reinforced the belief that legal governing

bodies should not restrict how, what, where, when, and why businesses produce their goods and services. They promoted the market system and the superiority and dominance of a business worldview.

An Underwriting Role

Industry assessment rates were adopted by the WCBs according to what they believed to be the probable hazards in a particular industry. The first assessment rates were determined using experiences from other insurance boards, and then revised by the information gathered by inspectors in the field. The inspector's first responsibility was to inspect and write reports on loss-producing conditions and practices, not on all hazards found in the industries, so that the newly established WCB statistical departments could establish rates of insurance and assist in claims-adjudication processes. This underwriting role was the focus of the WCB with the advent of the WCA, primarily benefiting the WCBs and businesses. Collection of evidence of hazards for underwriting purposes (loss prevention) created a different perspective of OHS, and diverted attention from the use of the information for accident prevention purposes. Loss control dealt with the mitigation of actual business losses related to workplace injuries and illnesses, whereas injury and disease control dealt with the mitigation of OHS hazards and risks. The insurers' focus was limited to controlling their financial losses related to compensable injuries, not non-compensable injuries and diseases. Their industry assessment calculations were further determined over three to five years' experience using long-term risk evaluation strategies, which limited the immediacy of new OHS knowledge. Compensable injury claims therefore represented a small picture of OHS.

The WCB and business owners were both driven to reduce insurance costs. As workplace hazards were detected, industry classification levels and business premiums were adjusted upwards. The WCBs were highly motivated to bring down their losses, which could be achieved through fewer workmen's compensation claims or increasing business insurance costs. Business owners were interested in containing their costs, which could be done by reducing or not disclosing hazardous conditions. Within this framework, undetected hazards were a financial benefit to workmen's compensation insurance agencies and business owners. A limited number of field inspections and reporting of hazards could allow unsafe and unhealthy conditions to remain hidden.

Legal Asymmetry: Business Financially Contributes to the WCBs

The emergence and continuity of the WCA depended, and still depends, on the financial contributions of Canadian industries. Then, as now, the WCBs received a government grant to partially cover administrative costs, yet the boards were primarily reliant on industry funding. WCBs, therefore, have had a responsibility to contain insurance costs for business owners. This financial structure has created a conflict of interest, where the interest of employees (health and safety) might be dismissed in favour of the interests of business (profits). The asymmetrical relationships between responsibilities / duties and costs / benefits of the WCBs could result in poor enforcement of OHS regulations. They could also lead to a focus on minimizing compensation costs instead of minimizing accidents. Industry financial support has been crucial to the continued operation of the WCAs, and their power has been written into the acts.

Close Relationships Between the WCBs and Businesses

WCBs' approach to workmen's health in economic terms may have appeared so natural that it was difficult to recognize it. For example, a provision was added to the ONWCA in 1915 that enabled the WCB to provide specific surgical treatment to a workman when it felt this was the only means to avoid the higher payment for permanent disability. Workmen's health was considered through a cost-benefit analysis process that valued cost reduction in insurance expenses as a priority. Changing the legislation occurred because it was believed that it would reduce the insurance costs to employers. This way of thinking and acting about OHS reflected the dominant character, values, and attitudes of the market system operating in society at the time. While the changed legislation appeared to benefit the workman, the employer was the main beneficiary. This reference also reflected the close relationship and shared interests between the enforcing regulatory body, the WCBs, and business owners, and their joint distancing relationship from workmen.

The Legal Profession is Ruled Out of Practice in Connection to WCB Claims

As we have seen, prior to the first WCAs, workplace accidents were cheap for business owners. Few workmen were compensated for the injuries they sustained during work, and industrial workplaces developed with little reference to workmen's health and safety. Hence, OHS did not impact the productivity, competitiveness, and sustainability of businesses at the turn of the 20th century.

As the century moved forward, a growing number of BC and other provincial injury compensation lawsuits against employers were won by injured workmen, creating financial hardship for businesses (Chaklader, 1998). It was the first time in Canadian

history when businesses feared the possibility of a workman successfully suing them for compensation for injuries caused by dangerous work operations. The Canadian economy was often in recession, thus adding additional pressures to businesses' wealth accumulation. The vulnerability of financial instability or bankruptcy resulting from a successful lawsuit by an injured workman was removed with the enactment of the WCAs.

Since "[e]mployers are immune from the expense and annoyance of litigation" (WCB of Ontario Annual Report [WCBONAR], 1916, p. 6), the elimination of high litigation expenses, while a benefit to both workmen and business owners, was primarily an advantage to owners. Nevertheless, the legal inability of workmen to sue their employers in relation to compensation and unsafe and unhealthy work practices was interpreted by the WCBs as a benefit. WCBs stated that handling cases "through a legal practitioner could not but be regarded as a very wasteful practice, entailing either an undue percentage of expense to the workman or unremunerative work for the solicitor" (WCBONAR, 1919, p. 62). The WCB presented stories of solicitors taking advantage of injured workmen, and insisted that to save "the workman from unnecessary expense" the best approach is to put the matter "directly into the workman's hand and [with the] compensation which the Act provides he shall have for the benefit of himself and his family" (WCBONAR, 1919, p. 62).

The laws removed the capacity of workmen to have legal recourse against their employers for the unsafe and unhealthy practices that caused their injuries. Workmen were unable to recover damages for pain and suffering, or any claims beyond those contained in workmen's compensation law. While the WCA was presented as a significant victory of labour over capital, it rather supported the existing social capitalist

structures and the financial interests of industry and business owners. For a small calculable insurance premium fee to cover workmen's compensation, business owners were isolated from their responsibility to prevent workmen injury, illness, and death.

The Equalization of Insurance Costs Between Business and Labour

The Meredith and Pinoe inquiries into workmen's compensation laws provided insights into the conflicting interests, compromises, and power between business and labour leaders concerning employer liability towards workmen's injury compensation and prevention. Business leaders contended that workmen should contribute to the cost of the insurance scheme, and labour leaders argued that the pain, suffering, and loss of wages experienced by injured workmen was ample contribution (BCR, 1916). While the aim of the WCA was for industry to bear the burden of its accidents, the vigorous attacks by business leaders and the defensive reactions by labour leaders resulted in a compromise that left a significant financial and emotional burden of workplace ill-health for individual workmen (Reasons et al., 1981).

Both the Meredith and Pinoe Reports gave significant space to the voice of business and the language of capitalist markets over the voice of labour and the language of moral humanitarian principles. A dominant voice in the Meredith inquiry was the Canadian Manufacturing Association, which played a leading role in the form and scope of the ONWCA. While they viewed and favoured an accident insurance scheme that diminished their risk of liability, they demanded that workmen contribute financially to the compensation insurance fund. "The employers insisted that a part of the assessments to provide for the payment of the compensation should be paid by the employees," and

there was practically a unanimous opinion by compensation insurance experts that “this burden should be borne equally by employer and employed” (ONR, 1913, pp. vi-vii).

The perspective that insurance costs should be equalized between business owners and employees dominated the negotiations during the inquiries. The accepted belief during this era that accidents were caused by the careless actions of individuals supported the argument that workmen should assume the costs related to their injuries. While it was primarily business leaders demanding the equalization of insurance costs, there were also occasions when labour gave into this view.

Years of tense negotiations during the inquiries showed how business leaders fought to contain workmen’s compensation insurance costs and how business wealth considerations prevailed over employee health considerations. These inquiry hearings, reports, debates, and presentations by business leaders in Ontario and British Columbia reflected their self-interests and their valuing of money and power over workmen’s health.

The inquiries revealed how the workmen’s compensation scheme was negotiated in ways that limited the degree of compensation and health and safety protection provided to workmen. Before this legislation, workmen suffered great hardship, pain, and suffering, with limited consideration by employers for their health. It was not surprising that workmen and their representatives accepted the limited measure of relief provided by the new insurance scheme.

Low Assessment Rates

The outcome of the Meredith and Pineo inquiry debates resulted in the WCAs adopting a mutual insurance fund, the least costly form of insurance. Since it was

compulsory and collective liability insurance, the assessment rates could remain low. Ontario and British Columbia insurance funds also received a provincial government grant to cover a large part of the WCBs' administrative expenses, further reducing the assessment costs to employers. The lack of comprehensive coverage for workmen created even lower assessment rates for business owners. For example, many costs not covered under the WCAs were not included in the assessment calculations, such as benefit coverage, maximum wage loss, pension benefit payments, and waiting periods. The WCBs' scale of compensation and method of assessment was another significant financial benefit to business owners. Many costs related to workplace injuries, illnesses, and deaths remained the workmen's responsibility. Since the assessment rates did not reflect the real costs of workplace ill-health, there was no economic incentive for employers to be interested in OHS. It did not pay for businesses to improve workmen's health and safety.

For the Betterment of All Society

Regarding workmen's injuries and deaths during the early 20th century, the chairman of the WCBON stated that "no matter in what proportions the direct loss may be borne by workmen and employers the result is economic waste, with usually everyone very much the loser, and the producing power of the country is diminished" (WCBONAR, 1922, p. 65).

During this time, the WCBs tapped heavily into the myth of progress and industrial capitalist ways of thinking. Rather than presenting workmen's injuries and deaths as morally wrong, they presented the reduction of workmen's ill-health as the best economic solution for Canadian society. Higher moral principles towards OHS were

evaded in favour of economic principles. Implicit in this perspective was the assumption that business owners believed workmen's health and safety was of economic value to meet their productivity goals.

The WCBs also presented the workmen's compensation insurance scheme as cost savings that benefitted all Canadians:

It is better for society at large, because under its operation a vast sum of money is saved that was expended under the old system in the way of law costs, Court costs, jury and witness fees, and for the caring for those who had been incapacitated on account of injuries and as a result thereof become public charges.

(WCBBCAR, 1918, p. 8)

The WCB further drew on the financial fairness of the legislation to society in that the WCA was presented as a fair and just law through the lens of cost effectiveness. The annual report itself stated:

Properly carried out, this system should be cheaper, more beneficial, and more equitable than any other. Profits and unnecessary expenses are eliminated. The administrative body in such a system has no motive to give the workmen or his dependants less than they are entitled to, and no motive to charge the employer more than he should pay. (WCBONAR, 1918, p. 8)

The tenor of communication was that the act serves as a monetary benefit to both workmen and business owners through "the furnishing of compensation without expense to workman and at actual cost to the employer" (WCBONAR, 1917, p. 8). The underlying (and false) assumption was that the employer was paying the full and fair cost of workplace accidents.

The WCAs were presented as being for the betterment of society, providing the greatest benefits for the greatest number of people. It was implied that some level of worker ill-health is needed for industrial progress, and assumed that the enactment of the law would financially benefit everyone because of the reduced financial burden on society at large. This perspective disregarded how the benefits and burdens were distributed. The horrible consequences of industrial progress on workmen's and families' lives were eclipsed by the myth of economic progress.

Benefit or Legal Right?

During the late 19th and early 20th centuries, workmen who became disabled and unable to work were limited to employee relief funds and charitable donations, leaving many families with no financial support. Living in poverty or asking for help when society valued industrial capitalist notions of hard work and economy carried a demeaning social stigma of personal failure and incompetence (Guest, 1980). This was evident in the actions of some workmen who did not apply or accept compensation insurance for their injuries when it was introduced as Canada's first social security system. The dominant social values and practices of the industrial market system were being challenged. It was not surprising that there was resistance to both the implementation and acceptance of the workmen's compensation system and the resultant minimal level of regulatory intervention into business operations. The common belief that employees caused accidents and, thus, did not deserve financial social assistance further supported the lawmakers' hands-off approach and the received view that workmen's compensation was an employment gratuity, not a legal right.

While the WCA provided injured workmen with guaranteed entitlement and access to financial and medical support established by legislation, WCBs and employers continued to consider it an employee benefit, even a generous offering. The term benefit was used synonymously with the workmen's compensation scheme, beginning with the Pineo and Meredith inquiries, and continuing during the first seven years of its implementation. For example, WCBs' annual reports state that with regards to workmen's compensation, "the benefits are in lieu of action at law for damages" (WCBONAR, 1920, p. 56), and "the benefits have amounted to nearly \$28,000,000" (WCBONAR, 1922, p. 65).

While it was an employer's liability insurance scheme, the compensation was portrayed as an act of kindness by employers towards employees who sustained injuries during employment. Framing workmen's compensation as an employment benefit diminished the workmen's legal power concerning OHS issues. The view that workmen's compensation was a historical, social, and legal entitlement received by workmen through their pain, struggles, and expressed concerns over OHS quickly became extinct in business OHS practices and studies through hegemonic processes. Instead, the common perception that workmen's compensation was a benefit still meant that workmen might unquestionably accept compensation with nothing but appreciation. This long-established perception of OHS may be contributing to why compensation has remained accepted by employees for over 100 years.

Compromise or Collaboration?

One of the aims of the WCAs in the early 20th century was to mitigate the conflict between labour and business owners "while protecting the employer against

personal-injury claims and ensuring the employee an enlarged and better measure of compensation, [and] in their common interest exercise a constant and direct force tending to improve personal relations between employers and their employees” (BCR, 1916, p. 5). While the needs and interests of workmen and business owners were incompatible and required compromises, the WCBs presented the implementation of WCAs as being a collaborative process where differences between all parties were accommodated. The WCA was presented as accepting differences, rather than being divided by them, hence adopting a perspective where one party was not advantaged over another, and both were treated equally. The act was thus presented as building on commonalities, downplaying or ignoring differences.

The WCB presented all parties as having a common interest in workmen’s compensation and injury-prevention. It was assumed that everyone believed health and safety was of paramount importance, which links to the social beliefs of the broader community. As we have seen, however, business owners’ primary motive was profitability, while workmen and communities sought to be able to work in safe and healthy conditions, so that they did not experience the devastating consequences of wage loss resulting from ill-health. However, the implementation of the WCA was presented as successfully addressing mutual interests of the business, the workmen, and all other parties involved.

WCBs at the time went further, presenting the act’s outcomes as collaborative. They considered that the act’s principles “are in general regarded with favour,” and that the implementation of the new law has “been cheerfully met” (WCBONAR, 1916, p. 44). The majority of employers were seen as being “in hearty-cooperation with the working

Act” and the workmen had a “sympathetic attitude” to the law (WCBONAR, 1920, p. 8). The act was presented as providing gains to both workmen and business owners, and the first annual report states that the “benefits of the new system of law to both workmen and employers are recognized and appreciated” (WCBONAR, 1916, p. 6). The report adds that “the general advantage to both workmen and employers and to the community at large seems to be unquestioned” (WCBONAR, 1917, p. 8). Moreover, the “practical working of the Act has probably exceeded the expectations even of its authors” (WCBONAR, 1919, p. 8). All parties were presented as wanting to support the WCA and having positive experiences with the act. Any experiences of conflicting interests between employers and workmen were concealed.

The act was further portrayed as improving the relationship between workmen and business owners. Regarding the accident-prevention committee, the WCBBC stated that “[i]t is a source of great gratification to be able to report that employers and workmen are heartily-co-operating in their efforts to prevent accidents” (WCBBCAR, 1920, p. 20). The WCB further stated that the act resulted in the “removal of causes of friction between employer and workmen” (WCBONAR, 1917, p. 8). The WCA was presented as de-escalating conflict and repairing relationships in that the “workmen’s compensation has very materially assisted in bringing capital and labour together” (WCBBCAR, 1920, p. 48). Such documents suggested feelings of connectedness and friendliness between all parties.

The administration of the WCA was further presented as enhancing a collegial atmosphere among all parties; “With very few exceptions there has been a most harmonious feeling between the members of the medical profession, the hospitals, and

the Board. This good feeling has very materially assisted in the success of the Act” (WCBBCAR, 1921, p. 12). The WCBs’ extension of appreciation to all parties was a recurring narrative in the annual reports. For example, one report reads that the “Board wishes to thank publicly the medical practitioners of the province, the employers, the workmen, the accident prevention inspectors, the first aid men, and all those who have consistently worked in harmony to attain the best results under the Act” (WCBBCAR, 1921, p. 30). The WCBON annual reports included short stories of the successful compensation awards provided to injured workmen and their families, as well as pages of thank-you notes from employees and employers. The language, actions, behaviours, and experiences described in the documents emphasized collaboration, inviting further cooperation.

In thus presenting the WCA as a collaborative approach that satisfied all parties’ interests, the WCB sought to reduce the intensification and expansion of conflict between all parties and in the broader society, presenting an image of harmony between the workmen and business owners. Reports suggested that health and safety issues were being resolved and no further solutions were required. Yet the cooperative, non-adversarial tone diverted attention from the existing compromises within the law that favoured the demands of business owners over the safety and health of workmen. It hid the sense of loss, such as injury prevention, experienced by workmen. The tension and fears concerning the dangers in the workplace were suppressed in the communication of the WCBs.

The WCBs’ communications also hid existing clashes between employees and employers, and failed to acknowledge conflicts about differing values and needs. The

term *conflict* and related words did not appear in the WCBs' reports between 1913 and 1923. Clarifying, rather than concealing, opposing interests was required to generate potential options towards resolution. For example, if workmen's interests were not acknowledged, options to address their interests became of less concern. If substantive issues were not identified and resolved, then conflict, debates, and disagreements would re-emerge, and so tension, negative feelings, and hostile actions between workmen and business owners would continue to exist. Some diminishing of OHS underlay the WCAs, and these unsettled compromises and conflicts were locked into the law.

While the first WCB "realized that the bringing into effect of the provisions of the Act was to overturn the long-established habits of employers, workmen, doctors, and lawyers--a truly revolutionary proceeding" (WCBBCAR, 1918, p. 6), the working of the act was presented as a polite transition for businesses and their workmen, conflict-free and workable for everyone. These favourable perceptions toward the WCA became the reality that formed our attitudes and beliefs about the enactment and implementation of the WCAs.

The underlying problem of escalating injuries, diseases, and deaths that resulted from dangerous workplace practices was buried beneath the communication focused on the de-escalation of conflict. Constraining the eruptions of workmen and business-owner discontents ensured the continued operation of industrial capitalist market systems and their relationship to business wealth accumulation. The WCBs continued to mediate the conflicting interests of workmen, business owners, and government in ways that benefited business owners over workmen's health and safety. Presenting the workers compensation laws as equally meeting everyone's interests suggested that OHS issues

were resolved and that no further resolutions were required. It was this manipulation of communication that appears to have diminished and contained public OHS concerns during the first half of the 20th century. Workmen's experiences with ill-health, injuries, and deaths continued also.

Bad Accident Experiences

Tucker's (1990) analysis of Ontario factory inspectors' reports found that there was a dramatic increase in workplace accidents and diseases from 1900 to 1914, and concluded that the escalation of injuries, ill-health, and deaths was associated with the transformation of workplace technology and labour-intensive processes. A review of the Ontario and British Columbia WCBs' annual reports shows that the number of serious workplace accidents, fatalities, and diseases continued to be significant not only in Ontario manufacturing industries, but in all the industries insured under the Ontario and British Columbia workmen's compensation legislations from 1915 to 1921 (Table 1).

Table 1

WCBON and WCBBC: Total Number of Accident and Fatality Compensation Claims 1915-1921

Year	Accidents Compensated		Fatalities Compensated (*reported)	
	Ontario	British Columbia	Ontario	British Columbia
1915	9,829		251	
1916	18,208		256	
1917	28,702	12,684	233 (*454)	(*217)
1918	40,930	22,498	382 (*440)	111 (*240)
1919	39,070	18,185	390 (*429)	134 (*277)
1920	47,851	20,905	387 (*452)	93 (*216)
1921	40,266	16,883	343 (*386)	102 (*162)
Total Compensated	224,856	91,155	2242 (*2,668)	929 (*1,112)

The chairman of the WCBON presented a paper in 1922 on the accidents that occurred during its first seven years in operation. The paper stated that the workmen's casualty list was a "heavy one" and that the "sufferers were very numerous" (WCBONAR, 1922, p. 65). On average, one out of 10 workmen got injured every day in 1921, and at that rate, "[i]t would take only ten years to have an accident for every workman in employment" (WCBONAR, 1922, p. 66). From 1915 to 1921, there were 224,856 accident claims compensated in industries covered by the ONWCA, a 310% increase over this period of time (WCBONAR, 1915-1921). Since the BCWCA came into effect in 1917, within a span of five years a total of 91,155 accident claims were paid, an increase of 31% over these years (WCBBCAR, 1918-1921). These numbers did not include the many non-reported or non-compensated accident claims and deaths in Ontario and British Columbia (Table 1). The number of reported and compensated fatal accidents remained significant.

While most of the data related to injuries and fatalities, some data also provided an insight into workplace ill-health, such as cases of diseases related to blood poisoning. Table 2 not only indicates the increased number of blood poisoning diseases claimed through the WCBON during their first seven years of administering the Acts, but also brings attention to the lack of acknowledgment of prevalent industrial-workplace hazardous substances and conditions causing workmen illnesses.

A pattern of escalating sickness and continued deaths experienced by workmen in western and central Canada during the second decade of the 20th century revealed that limited progress was being made in preventing workplace injuries, diseases, and fatalities, even with the new workmen compensation and accident prevention regulations.

With the advent of the laws, disabled workmen were more likely to receive compensation for their ill-health, but their health and lives continued to be at risk for the benefit of industrial development.

Table 2

WCBON: Total Number of Blood Poisoning Compensation Claims 1915-1921

Year	Claims	Relative Frequency	Permanent Disability	Fatalities
1915	773	8.8	20	4
1916	1,090	8.3	29	10
1917	1,293	6.2	58	10
1918	1,527	6.67	49	8
1919	1,412	6.77	36	12
1920	2,308	9.08	93	24
1921	2,380	9.4	77	12
Total	10,783	7.89	362	80

While this increase in accidents may be partially explained by the expansion of industry and the possible improvement in reporting accidents, it was likely that the ongoing ill-health of workmen was due to the exposure to hazards resulting from operating new and dangerous machines, and the new labour-intensive processes used to increase business productivity. The WCBON stated that the “heavy increase in claims was accounted for, not so much from the increase in industrial activity, but to the fact that the character of industry and the working population has greatly changed” (WCBONAR, 1917, p. 24).

Most workmen were not even included in the new workmen’s compensation scheme, and those who were part of it were not necessarily compensated. The WCBBC confirmed that “only a small proportion of the total volume of a workman’s disabilities is within the scope of the Act” (WCBONAR, 1921, p. 30); therefore, many accidents remained unreported. The statistics of the insurance scheme showed that WCBs further

excluded injuries that occurred, but did not require compensation. In some cases, workmen in BC were not entitled to compensation for lost work time if they had missed less than three days of work. In Ontario, no compensation was offered for accidents where workman had missed less than seven days of work; for example, in 1915, the WCBON reported 9,829 accident claims and 6,087 accidents that did not involve payment of compensation because the workman was not absent from work for more than seven days (WCBONAR, 1916). Moreover, hundreds of injuries were not accepted by the WCB as being compensable, such as back injuries or diseases caused by certain chemical and biological exposures (WCBBCAR, 1918, p. 14).

It is important to recognize that the construction of fatality statistics was equally misleading, as it represented not the actual number of employee deaths, but instead, either compensated or reported WCB fatal accident claims. In fact, many more workmen were killed in workplaces. Table 1 further shows that the WCB numbers on compensated fatalities significantly under-represented the reported number of fatalities. We see that the numbers, while significant, also present a limited picture of the enormity of injuries, illness, and diseases experienced by workmen at the time. The WCBs' statistical representation of accidents omitted certain injuries, diseases, and fatalities in ways that benefitted business wealth accumulation. Withholding information, such as presenting compensated fatalities in accident statistic reports rather than under-reported fatalities, presented a picture that may have reduced workmen and public concern, serving the interests of the WCBs and business owners. This under-representation of worker ill-health is likely to have contained radical legal change until the mid-20th century

Speeding Up to “a Higher Notch of Productivity”

Some industries were considerably more dangerous, as evident by the increased number of accident claims in those industries. These industries were analyzed in more detail by the WCBs due to the high costs and the resultant increase in the industries' assessment insurance rates. The narratives in the WCB reports provided insights into the perspectives held by business owners, as well as the workmen's compensation commissioners and inspectors, towards extremely dangerous working conditions.

Mechanization, labour processes, and the fast pace of work caused most of the accidents and were exposing workmen to the high risk of serious injury, disease, or death. During the first years of WCB operation, from 1915 to 1921, the majority of accidents in Ontario and British Columbia were caused by machines and equipment, and “a distressingly large number of these partial permanent disabilities were of a very serious nature” (WCBBCAR, 1919, p. 11).

The WCBON reported that the increase in accident claims was accounted for by the fact that there was great change in the working population, with a considerable number of workmen withdrawing from industry; those who remained were “speeded up to a higher notch of productivity by reason of higher wages, etc.” (WCBONAR, 1917, p. 24). There was a shortage of labour in the face of industry demand. This resulted in businesses hiring a workforce with little experience in working with moving machines, and with pressures to produce at a very high level. It was thought that these conditions attributed to the increase in claims reported (WCBONAR, 1917, p. 24). As seen in the annual WCB reports, the machine accidents that occurred in British Columbia were the result of similar labour-intensifying practices due to the “war-time demand for quick production, a shortage of skilled men, and a lack in many instances of the required

material, necessitating the use of second-hand goods or makeshifts” (WCBBCAR, 1919, p. 23).

Tucker’s (1990) analysis of Ontario factory conditions from 1850 to 1914 found that wood manufacturing was one of the most hazardous industries, and woodworking machinery was likely the most dangerous single source of accidents. Accidents in the wood-processing industry continued with the advent of workmen’s compensation legislation, resulting in unprecedented adjustment to industry insurance levels from 1915 to 1917. Increased lines and diversity of products were caused by war demands and the improved economic conditions. WCB field inspections revealed that the management was “mostly preoccupied with the more pressing responsibilities of production and marketing” than the safety of employees (WCBONAR, 1919, p. 56). Workmen assigned to tasks were often those “who [could] best be spared rather than one who is best qualified” (WCBONAR, 1919, p. 56). The safety inspectors further found that business owners failed to maintain and safeguard machines, which resulted in a high percentage of preventable accidents (WCBONAR, 1919). The dangerous experiences in the woodworking industry provided insights into the necessity of a productivity mindset. Business owners were driven to keep their machines operating and people producing at maximum capacity by using unqualified workmen and inadequately cared for equipment. This thinking was also evident in the WCB analyses of other industrial accidents occurring during the early 20th century.

The operation of power saws was responsible for more than half of the machine accidents during this period (WCBONAR, 1917). In the analysis of the accident data, the WCBON brought attention to the dangers to workmen caused by the pressure to keep

power saws working even if they required repairs. The WCB inspectors and industrial commissions found that even though workmen were familiar with how to properly fit a saw, they often did not reset or sharpen it, but instead “force[d] the same through a cut of any kind” (WCBONAR, 1917, p. 44). Not only were employees under pressure to work quickly, but most were unskilled at working in a quick-paced environment with fast-moving saws. The lack of experience of power-saw operators was evident in that 41% of the injured workmen were employed for less than one month prior to an accident, and 71% were employed for less than six months. The WCB recommended that the “setting and sharpening of saws should be done by someone familiar with the work, not only for the sake of the operator, but for the sake of the saw” (WCBONAR, 1917, p. 45). This recommendation was clearly linked to the market system, where business owners use machines and labour power as cheaply as possible to extend the scale of production. The low level of workmen’s knowledge, skills, and abilities did not allow for the safe operation of the power saws. Nevertheless, the high job requirements and manufacturing demands affected business owners’ decisions to prioritize production over workmen’s safety.

One example was the proper guarding of the saws, a difficult task, as guards had to be adjusted for different operations that occurred in the streamlined and standardized work procedures and processes. Regarding the difficulty of properly guarding a saw in use, the WCB reported that “[w]hen it must be adjusted to each different operation, it may take longer to adjust the guard than to perform the work requiring the use of the saw. One employee may remove the guard and invariably the next operator fails to put it on” (WCBONAR, 1917, p. 44). The dispersed, specialized, and isolated work activities

inhibited the sharing of workmen's knowledge and experiences, thus increasing risk of injuries and death.

Many workplace accidents also involved the use of abrasive wheels. An analysis of the causes of increased accident claims arising from grinding wheels found that wheels were operated at too-high rim speeds and in ways not designed for their purpose. The WCB concluded that "[i]n the operation of the wheel it should never be over-speeded, even with a desire for increased cutting" (WCBONAR, 1918, p. 45), and further recommended that wheels that require operation at lower speeds should not be substituted with other wheels. The focus was on establishing rules concerning the technical aspects of production, which diverted attention from the level of risk embedded in the social relations of production. The reasons why workmen were operating grinding wheels at dangerously high speeds were not explored.

However, the WCBON found that the pulp and paper industry was more dangerous than any other industry at the beginning of the 20th century. Machines used in the industry caused on average about a third of all mechanical accidents in Ontario from 1915 to 1917. An analysis of the pulp and paper industry data revealed that business owners succeeded at intensifying labour production through the use of machine-paced work, such as the use of self-acting incline planes and chain conveyor belts. These practices required workmen to keep pace with the machines for long periods of time, leading to adverse effects on their health and safety. During the first three years of the implementation of the Ontario WCA, the mechanical and chemical steps in the high-scale production of pulp and paper products resulted in 1,672 workmen becoming disabled and 41 being killed (WCBONAR, 1918, p. 49). The pulp and paper industry data further

revealed that accidents resulting from non-mechanical causes were increasing “due no doubt to labour dilution and labour turnover”; moreover, “[t]he influx of alien labour has shown itself in this and in other industries and, together with the speeding up process has left its mark in the accident experience” (WCBONAR, 1918, p. 58).

Despite the advent of the WCBs, it appears to have been cheaper for employers to continue to organize work unsafely and to disperse the cost of injuries and diseases onto employees. The cost-benefit economic model motivated business owners to do so. The point that this was a conscious decision in many cases, in spite of owners’ awareness of dangers in their workplaces, is disconcerting.

Trivializing Workplace Accidents

Business owners’ disregard and lack of obligation towards workmen’s health and safety continued to shape their practices within the new regulatory framework of workmen’s compensation insurance. They went on avoiding and trivializing compensation and injury-prevention as the period progressed. As noted in a 1919 annual report,

Even the most cursory glance at the table of causes of accidents impels the belief that a great many of them could have been prevented by safeguarding or proper care of apparatus or by a little care. For example, an employer in reporting a fatal accident stated: “He was holding the loose end of a rope that was wrapped twice around a revolving shaft, the other end attached to a car loaded. The rope became fouled and both ends wound up, he retained his grip on the rope and was drawn into the shaft, resulting in his instantaneous death. All he had to do to be in perfect safety was to let go of the rope.” Asked as to suggestions for preventing such

accidents, the employer stated: “Nothing except not to use this method.” At the coroner’s inquest it was found that this was the deceased’s first day at this particular job; the equipment used was a temporary arrangement. (Witness, superintendent of plant, said the reason for changing it was to make it less dangerous and to save labour.) The day before a man narrowly escaped being killed. (WCBONAR, 1919, p. 56)

To business owners, the capital costs of introducing new machines into workplaces were likely higher than the cost of a workman’s accident. If the cost of the accidents was higher than the cost of the new machines, there would have been more interest by business owners in reducing accidents, which would have resulted in fewer WCB accident claims. Why and how employers trivialized accidents may be explained by the 100-year-old Safety Pays doctrine. It did not pay for business owners to devote time, energy, and money towards accident prevention.

Aside from dangerous machines and processes, workmen also continued to be exposed to other hazards, such as breathing in dust that caused respiratory problems, coming in contact with oils and metallic dust that caused skin irritation, vibrations that caused white finger, and noise that damaged hearing. Workplace hazards required control measures, yet few were implemented. Since there was minimal mention of illnesses and diseases during the implementation of the WCAs, the information missing from reports limited how OHS was discussed and practiced. The limited attention given by the WCB to diseases contracted by workplace toxins merits further discussion.

Resistance by Business Owners to Acknowledge Industrial Poisons

Mechanization of labour processes in factories and resource-extraction processes in mines brought workmen into more frequent contact with toxic substances that caused ill-health. While the WCBBC reports from 1920 and 1921 recognized and stated that sickness was more prevalent and more preventable than accidents, mention of occupational diseases was resisted throughout the planning, enactment, and implementation of the WCAs.

Government inquiries into workmen's compensation laws revealed the strong resistance by business owners to acknowledging illnesses employees contracted through exposure to industrial toxins. The British Columbia and Ontario employer associations strongly disagreed that compensation should be paid to workmen suffering from industrial diseases. The exclusion of illnesses and diseases that often resulted in high income-replacement compensation costs would mean significant cost savings for business owners. Diseases affecting workmen's cardiovascular, digestive, respiratory, immunological, and skeletal-muscular systems were related to long-term disabilities and death. The WCBON reported permanent disabilities and deaths as only a small percentage of the accidents reported, yet together they represented three-quarters of the total amount of claims awarded (WCBONAR, 1923). The report calculated the average claim cost of all accidents to be \$135.80, the cost of temporary disability accidents to be \$47.21, that of permanent disability accidents to be \$708.87, and deaths to be \$3,092.37 (WCBONAR, 1920, p. 9). While business owners did not agree on the proposition to include workmen's diseases, it became a provision written into the first Ontario and British Columbia WCAs.

Despite the implementation of new laws, there was little acknowledgement of the long-term effects of ill-health. WCB reports contained limited information on occupational diseases and, as such, there was no analysis concerning the protection of workmen from poisons in their workplaces. There were no regulations concerning the monitoring of toxic substances during these initial years. The token few accident claims for industrial diseases and deaths administered by the WCBs declined from 1915 to 1921 (Table 3), yet the number of overall accident claims for injuries increased significantly (Table 1).

Table 3

WCBON and WCBBC: Total Number of Disease Compensation Claims 1915-1921

Year	Disease Claims Compensated	
	Ontario	British Columbia
1915	13	-
1916	25	-
1917	19	141
1918	13	132
1919	14	72
1920	10	76
1921	12	97
Total	106	518

During the first seven years, only six diseases were viewed as compensable by the WCBs. Reports stated that “[d]isease by itself is not reason for compensation unless it is one of the industrial diseases provided for in Schedule 3 of the Act” (WCBONAR, 1917, p. 48). The limited discussion about toxic exposures causing diseases hid ill-health issues that existed in workplaces. The limited extent to which knowledge (ideas, attitudes) of workplace toxic substances and related diseases was acknowledged and available inhibited action toward improving workers ill-health for decades. Through hegemonic

processes the WCB's controlled the meaning of OHS, with health being diminished within what was understood as OHS.

Existing Knowledge and Detection of Diseases Ignored

Workplace health hazards were known prior to the industrial growth at the turn of the 20th century. In the early 18th century, Bernardino Ramazzini, known as the father of organizational medicine and the author of the first comprehensive textbook on occupational diseases, brought attention to common trade illnesses. During the late 19th century, Canada was a leader in research on occupational diseases (Guidotti, Cowell, & Jamison, 1989). Moreover, during this time, statutory medical exams were required by factory, mining, and railway workmen exposed to toxins such as lead, white phosphorus, explosives, and rubber (Holness, 2016).

While information about occupational diseases was available, there was limited acknowledgment of workplace toxins during early government and WCB investigations into accidents. For example, stimulated by government and the economic importance of coal production in Canada, research and extensive writings were published on coal miner pneumoconiosis (black lung disease) and silicosis as early as 1876 (Guidotti et al., 1989). However, government inquiries into mining industry accidents focused mainly on ventilation, dust, explosive powders, and other causes of accidents related to gas build-up and explosions, not in connection to workmen's health (British Columbia, Commission on Causes of Explosions in Coal Mines, 1903). Miners, communities, and medical doctors across Canada also had knowledge of workplace toxins, as evident in their proactive purchasing of diagnostic equipment such as X-ray machines to detect lung

tissue scarring and inflammation for the purposes of disease prevention during the late 19th century (Norcross, 1979).

All occupational diseases were preventable, as was known even in the early 20th century. The main obstacles to prevention were usually cost, and business owners' lack of motivation and disinterest in seeking information. Success in preventing occupational illness rested with the businesses accepting their responsibility to reduce workmen's exposure to health risks.

The *Health* in OHS is Missing

Occupational diseases resulted from exposures to psycho-social, biological, chemical, and physical hazards in the workplace, and they affected workmen differently. They were distinguishable from occupational injuries and disorders that resulted from physical hazards in the workplace which affected workmen in similar ways. Occupational diseases developed gradually over time through poisons absorbed during production processes and resource extraction, making them difficult to link to certain workplace factors. Occupational injuries, on the other hand, were immediate and easy to link to workplace factors. The natures of occupational diseases and occupational injuries were significantly different, yet the WCAs adopted the principle that diseases, for the purpose of compensation, were treated as equivalent to a workmen's injury resulting from an accident (ONWCA, 1914; BCWCA, 1916).

With the enactment and implementation of the WCAs, the *Health* in OHS became marginalized, and OHS was understood as occupational *injury* safety. Workmen's compensation structure and all accident-prevention strategies and regulations adopted by the WCBs in their early years were focused on workmen's safety, rather than health. The

primary focus of WCB and inspectors from 1915 to 1921 was to reduce accidents and injuries that resulted from the more visible physical causes, such as unguarded machinery and equipment.

The terms “injury” and “accident” dominated the workmen’s compensation documents. “Safety” was the term used in relationship to injuries and accidents, such as “safety methods,” “safety regulations,” “along safety lines,” “safeguarded,” “safety measures,” “safety devices,” and “safety apparatus” (WCBBCAR, 1918). “Health” was a term minimally used in the reports and regulations, as was “disease,” mentioned a few times in relationship to the provisions of the WCAs. Health hazards, which were more prevalent but less visible, were ignored by the WCBs. To isolate and prioritize safety over health could put workmen in conditions that could potentially harm their health.

The ONWCA regulated the formation of employer associations for accident prevention, which were named safety associations or accident prevention associations (WCBONAR, 1916). Inspectors were referred to as safety inspectors with acquired expert knowledge in safety, and, as discussed previously, safety associations and safety inspectors were linked to safety practices, not health practices. Educational campaigns and initiatives focused on safety risks and controls, rather than health risks. “Personal safety” and “safety committees” were terms used in relation to workmen’s injury prevention activities. This narrow focus on physical safety shaped how OHS was viewed and experienced during the early implementation of the WCAs. The restricted view limited what was perceived as a compensable injury or illness, supporting businesses’ financial interests at the exclusion of workmen’s interests in the prevention of ill-health. Until a disease was recognized by the WCB as compensable, workmen continued to be

exposed to toxic substances in what became accepted workplace practice. Even today, OHS regulations continue to focus on physical injuries, influencing modern industry practices and business schools' curricula.

Indicators of Exposures Causing Hearing Loss are Not Addressed

Some diseases were almost entirely ignored. The Pineo and Meredith commissioners imposed a duty on the WCBs to ensure that “no workman is retained in any such employment a sufficient length of time for him to become a chronic sufferer from the disease” (BCR, 1916, p. 16). The reports further stated that workmen should be suspended with compensation if it was found that they had contracted an occupational disease (BCR, 1916, p. 16). Hearing loss was only sometimes considered; from 1915 to 1921, there was a small total of 29 cases of hearing loss in which workmen received compensation from the British Columbia and Ontario WCBs. This was an important indicator that many other workmen may have been exposed to dangerously high noise levels and that action should have been taken to prevent its occurrence, yet there was limited discussion by the WCBs concerning protection or monitoring of workmen, before they, too, became ill.

Hearing loss was a permanent disability and required significant financial compensation, as the workman remained deaf for life. The lack of information disclosure and control measures concerning hazardously high noise levels at workplaces operated in opposition to the intent of the law. It reflected the views of business owners who opposed the inclusion of workmen's diseases under the workmen's compensation insurance scheme. Keeping less visible diseases hidden did not serve the interests of workmen. While the legislation stated the WCB should take proactive measures to ensure

employees were not exposed to health hazards, they remained slow in reacting to insidious hazardous substances and conditions harming workmen in this way.

Blood-Poisoning Costs Escalate

While the WCB took a quiet stance on the more hidden occupational diseases, it took active steps towards the escalating costs of blood poisoning, a more visible and costly disease that was easily linked to an injury. It was found that the number of infections caused by small wounds “forms a large and very expensive list, which a little care and attention should greatly reduce” (WCBONAR, 1917, p. 8), therefore reducing the amount of accident claims.

In 1917, recognizing that injuries that did not receive prompt attention could lead to blood poisoning and subsequent disability and death, the ONWCA was amended to include first-aid services regulations (WCBONAR, 1918, p. 7). In British Columbia, such regulations became effective in 1920. The WCBs’ focus was on reducing high workmen’s compensation claim costs through low-cost regulations and first-aid controls. Immediate first aid for cuts, scratches, and punctures was a reactive and inexpensive response that diverted attention away from proactive approaches to deal with the more serious hazards related to the small cuts.

In time, small wounds that did not result in an accident claim became of little significance to the WCBs. It was concluded that “several thousand trivial accidents in which first-aid service only was rendered, and in which there was no doctor required or time lost and no claim” could be seen as “inconsequential” (WCBBCAR, 1921, p. 10). It appeared the intent of the new provision was to reduce workmen’s lost-time claims costs. While this provision appeared to benefit workmen, it placed them at more risk of future

injury. Attention on fixing a small wound diverted attention away from the cause of the small wound, likely a very dangerous machine or work process that in time could kill a workman. Hence, in a long run, this approach proved again to benefit the business owners.

While the WCBBC reported that “[e]fficient first aid service and prompt medical attention, both of which have been encouraged by the Board, have gone far to reduce blood-poisoning and other complications which follow neglected injuries” (WCBBCAR, 1921, p. 8), the number of blood-poisoning cases among workmen continued to increase. Business proved itself more interested in profit than in workmen’s well-being, once again supporting the Safety Pays ethos.

Accident Prevention

Actions related to workplace accident prevention were led by the new WCBs and conducted by their inspectors. While the main objective of the WCB was to provide income protection and medical care to workmen with work-related injuries and diseases, considerable attention was to “be given to the fostering of conditions which will prevent or minimize the evils which give rise to the necessity for compensation” (BCR, 1916, p. 8). It was further stated by the Pineo Committee that while laws that provided compensation for the victims of industrial accidents were commendable and desirable, “laws which will prevent the happening of such accidents are of more vital importance” (BCR, 1916, p. 8). The WCBs sought to motivate business owners to adopt accident-prevention practices by raising their awareness of how occupational injuries and deaths could impact a business’s profitability. Accident-prevention practices were determined by business owners in relationship with manufacturing, industry, and WCB representatives, who sought the most cost-effective methods, a response to the business profit pressures

under capitalist economic markets. The particular language and actions of the regulatory bodies made them appear to be taking action to reduce workmen's injuries, ill-health, and deaths, yet the chosen mechanisms were not necessarily the most effective way to protect workmen's well-being. In turn, some workmen accepted that some degree of safety, while minimal, was better than no safety mechanisms, a common experience during these industrial years.

A Business Case

A statement by the WCB that "[t]here can be no doubt that accident prevention pays as a matter of good business even apart from its effect upon the rates of assessment and apart from the higher humanitarian aspect" (WCBONAR, 1920, p. 10) reveals the Board's appeal to business owners to improve workplace safety using an economic cost-benefit analysis perspective. The WCBs used the financial and economic language of business to present a business case to industry for accident prevention.

While the WCBs publicly explained that the WCA "appeals strongly to all economic and humanitarian grounds" (WCBBCAR, 1918, p. 6), the act was discussed on financial grounds. The moral grounds of ensuring the well-being of working people was not mentioned in the early years of the administration of the WCAs. An excerpt from a WCB annual report showed how accident costs were presented in financial terms, often followed by a description of the economic loss to business owners and society:

The economic loss from the above tabulated accidents is another angle of viewpoint. The total time loss was 6,317 working days--the equivalent of one man's time for 21.057 years, or, stated differently, the time of 21 men for over a

year. In addition 24 men suffered permanent impairment of producing capacity.
(WCBONAR, 1918, p. 45)

The first page of the WCB annual reports presented the total financial costs of workmen compensation and the average lost-wage cost for each working day of the year, followed by the number of industry sector accidents, assessment costs, and further calculations based on the average lost earnings in each accident case. The WCB presented business owners with the high costs related to lost-time wages (income replacement) to injured workmen. Accident statistics were categorized based on time loss, age, duration of disability, resultant of disability (temporary disability, permanent disability, and death), together with the number and costs. The section detailing with the WCB's administrative expenses was titled "Full Benefits at Bare Costs" (WCBBCAR, 1918, p. 6), and rates of assessments were reported as deficits and surpluses. In various ways, the WCB was clearly presenting an economic case for accident prevention to business owners.

We must keep in mind that this approach was a weak economic incentive, as business owners' premiums were based on the risks and classification of their industry, not the individual business owner's health and safety practices. The compensation scale, which excluded many costs, kept business owners' premiums low. Thus, throughout the workmen's compensation scheme, for a low insurance cost, business owners were safeguarded from high costs of liability for workmen's injuries, diseases, and deaths. It was a weak argument to suggest to business leaders that it makes good economic sense to prevent accidents.

Acceptance of Reasonable Risks

The BCWCA (1916) stated that “suitable safety devices or other reasonable means or requirements for the prevention of accidents shall be adopted or followed in any or all employments or places of employment” (p. 364). There were, however, problems with the notions of “suitable” and “reasonable” standards for the prevention of workplace injuries, illnesses, and deaths. Such vague language was susceptible to biases and perceptual errors, and the terms were likely to be perceived differently by the various parties involved in accident prevention. The high costs of accident-prevention measures might have been viewed as unreasonable to business owners whose priorities and motivations might have been more aligned with wealth accumulation. While this view would have been unreasonable to workmen, business owners defined what was reasonable.

Today, it is important to reflect on the idea that if a reasonable level of accident prevention is accepted, then it is implied that some degree of harm to employees is acceptable and, perhaps, allowable. It further implies that improvements to unsafe and unhealthy work conditions do not need to be made. Given the diversity and complexity of what is viewed as reasonable, it may be worthwhile to broaden our understanding of OHS. This can be achieved by using an inclusive and harmonizing framework that incorporates multiple views and experiences of the various parties interested in employee health and safety.

Goggles or Blinders?

From the point of view of businesses, machine manufacturers and the WCBs, the definition of “reasonable” could also be understood through the acceptance of less

expensive and less effective hazard-control strategies. Managing workplace hazards followed a hierarchy of control strategies, beginning at the top with elimination (redesign) and substitution (replace), followed by engineering controls (isolate or guard). At the bottom of the hierarchy were the least effective controls, which included administration approaches (training and work scheduling) and the provision of personal protective equipment (PPE).

My review of the WCBs' analyses of accidents included in their annual reports revealed that most of the control strategies suggested to prevent accidents related to operating procedures, warning signs, maintaining and guarding equipment, education and training, supervision, emergency preparedness, personal hygiene practices, and the use of PPE. These approaches did not remove the hazards, but rather sought to limit workmen's exposure to them. PPE and administrative controls were significantly less expensive, but also less effective, and could increase the risk of injury to workmen. On the surface, it appeared that the industrial hazards were being regulated by the WCB and controlled by business owners, but these were weak, cheap, and simple hazard controls. Moreover, due to high capital costs associated with higher levels of hazard control, there was limited effort to remove or replace the workplace conditions that produced the hazard.

The following excerpt from an annual report concerns the causes and controls of serious eye injuries sustained from fragments flying off grinding wheels, and provides insights into the WCBs' and manufacturers' perspectives concerning hazard control strategies:

The eyes are particularly susceptible to serious injury from flying fragments whose presence would hardly be noticed if they struck other body parts. Even if

particles are immediately extracted following injury, a minute cut may result and constant repetition may cause a conglomeration of corneal scars sufficient in time to cause serious impairment of eyesight. Furthermore, there is a strong probability of minor injuries to the eyes becoming serious through irritation, inflammation and ulceration Although manufacturers of abrasive wheels have gone perhaps farther than manufacturers of other machines towards the incorporation of safety devices, there is but one known way to prevent eye injuries from flying fragments, and that is the wearing of goggles by operators. This is as much true for chipping, reaming, punching, riveting, stone cutting, etc., operations as it is for processes involving grinding. Unfortunately, many workmen who are among the most enthusiastic supporters of reducing machine hazards very often positively refuse to wear goggles or “blindners” as they term them. This may come from ignorance, carelessness, prejudice, or a genuine fear. (WCBONAR, 1918, pp. 45-46)

Workmen expressed many reasons as to why they refused to wear goggles, ranging from infection transmission to vision impairment and eyestrain. Manufacturers, on the other hand, felt that if “goggles are fitted with optical glass ground neutral, eye strain is caused by a defect in the vision of the operator”; therefore, the workman should consult an oculist (WCBONAR, 1918, p. 46). However, workmen’s refusal to wear goggles was on occasion viewed by manufactures as

quite justifiable, for a great many marketed goggles are in themselves dangerous, and many instances have been reported in the general literature on industrial accident data in which the goggle itself has been the cause of the seriousness of

the injury. Every employer owes it to himself, to his employees, and to the community at large, to provide proper goggles and then to insist that they be worn. (WCBONAR, 1918, p. 46)

The annual reports also suggested business owners use common sense when workmen refused to wear protective goggles, and, depending on the circumstances, “the insistency of the employer should meet the obstinacy of the employee” (WCBONAR, 1918, p. 47).

Even though workmen’s concerns and fears of operating machines at very high speeds, such as grinding wheels, were expressed, they were, for the most part, disrespected and disregarded by the WCB, machine manufacturers, industry associations, and business owners. While workmen’s interests were in personal health and life, business and industry interests, as well as their relationship with machine manufacturers and WCBs, were in finding the least costly approach to accident prevention. The WCBs, for instance, accepted the low testing standard of goggle manufactures, where “[o]ne dozen out of each gross of goggles is so tested and three out of the dozen must stand the test without breaking” (WCBONAR, 1918, p. 46). We can observe the powerful link of interests between industry and the WCB, which marginalized workmen’s concerns about the workplace hazards they experienced, and their need for knowledge about how to control these hazards. These narratives brought attention to the imbalance of power between employees, business owners, and the WCB.

Through conflicts and compromises, a minimal level of workmen’s eye protection against workplace hazards was accepted as *most* reasonable by the WCB, inspectors, and business owners, and *minimally* reasonable by workmen, even though they clearly viewed themselves as unprotected from workplace dangers. Today, safety glasses are

common practice, with many employees experiencing a false sense of being protected; the underlying issue has not truly changed.

An Intentional or Unintentional Act?

The word “accident” is problematic in its very definition, which is unclear as to whether an accident is an intentional or an unintentional act. The *Merriam Webster Dictionary* defines accident as “a sudden event that is not planned or intended and that causes damage or injury” (“Accident,” n.d.), whereas at the beginning of the 20th century WCAs defined an accident precisely and technically as “a willful and an intentional act, not being the act of the workman, and shall include a fortuitous event occasioned by a physical or natural cause” (ONWCA, 1914; BCWCA, 1916). Furthermore, an accident was interpreted by the WCB commissioners and inspectors as an unintentional behaviour, linked to the belief that “many injuries or deaths are bound to occur under modern conditions, even when the utmost care is exercised by both the employer and the employee” (WCBBCAR, 1918, p. 8).

In spite of this confusion, inspectors during the period thus viewed accidents as being caused by unintentional events that ranged from workmen’s recklessness and carelessness, to lack of supervision and knowledge of regulations. Business owners’ violations of the act were not perceived as blatant, planned, or deliberate actions intended to harm workmen. The aspect of unintentionality regarding accidents was a recurring narrative in the workmen’s compensation documents and was linked to the general social view of accidents as being mishaps, errors, or mistakes.

This view freed employers from responsibility for workmen’s ill-health, as it was difficult to prove that a business owner’s violation of the law was willful and purposeful.

It further implied that workplace accidents were unpredictable and unavoidable, which was often not the case, as business owners could make decisions to avoid dangerous practices that cause injury to workmen. Using the term “accident” obscured and legitimized unsafe and unhealthy workplace practices used by business owners for purposes of wealth accumulation. Allowing workmen’s ill-health and injuries to be regarded as unintentional was further linked to the economic perspective of Safety Pays, which conceded that some degree of workmen ill-health was acceptable.

While the different meanings of accidents created more complexity when written into a no-fault insurance scheme, if an injury, disease, or death was not the fault of the workman, employer, or any other person, then no one was held responsible for actions or decisions that led to human suffering. This no-fault perspective supported the educational and non-prosecutorial enforcement strategy adopted by WCB inspectors.

We must consider that such thinking was not acceptable under other Canadian insurance schemes; for example, the person driving a vehicle was held criminally responsible and prosecuted for unsafe actions that injured or killed someone. The driver was not asked to simply take a driver training course. Defining workmen’s health and safety in terms of accident prevention provided no incentive for business owners to take responsibility towards adopting less risky work practices, as they were not held accountable for workmen’s health and safety. The term “workplace accident” was socially constructed and produced by the WCBs in ways that maintained a business oriented worldview.

Reducing Inspectors' Expenses

While the Pineo Committee recommendations and the workmen's compensation laws in BC gave more prominence to accident prevention, both the Ontario and British Columbia WCAs assigned inspectors to carry out the provisions of the legislation. The inspectors were given authority to act on behalf of the WCBs in inquiring into workplace accidents, and they had the power to recommend and enforce safety rules and regulations. In 1915, the WCBON hired 15 inspectors from 17 industry employer safety associations formed under the act (ONWCA, 1914), and in 1916 the WCBBC began working with the existing government inspectors employed to enforce the various industry acts (BCWCA, 1916).

Within a year of the new legislation, the WCBON expressed concern that "the salaries of the inspectors and the expenses in some of the associations are very large in proportion to the amount of money collected and as compared to the amount of compensation paid in the classes to which they belong" (WCBONAR, 1916, p. 29). This reference reflects the WCB's immediate interest in containing employer compensation costs by limiting accident-prevention expenses. Such a measure reinforced the thinking that OHS was about minimizing workmen's compensation costs, not preventing workmen's ill-health.

The WCBON expenditures allocated towards the work of the inspectors was limited, gradually declining from 2% of the total annual WCB expenditures in 1915 to 1% in 1921. While the WCB experienced a significant increase in compensation claims, the number of inspectors involved in accident prevention declined from 15 in the first year to 9 in the seventh year of administering the Act. This action further supported the

capitalist market system that presented less intervention by regulatory agencies as desirable.

An Educational Approach to Gain Compliance

The 1916 BC government inquiry into workmen's compensation insurance laws stated that accident prevention efforts by the WCB and inspectors must not create friction, annoyance, or confrontation with business owners; in addition, cooperative methods were to be used to ease business owners towards safety rules (BCR, 1916). The aim of accident prevention was to "develop a favourable attitude" in which rules were framed so that they were not looked at as "being imposed on the industry" (BCR, 1916, p. 8). The Pineo Committee recommended that the

[a]dequate enforcement of these rules is furthered by a campaign of education carried on by the Board by way of illustrated bulletins, safety exhibits, short talks to groups of workmen assembled in their own factory, and by evening lecture-entertainments to workmen accompanied by lantern slides and moving pictures especially illustrative of the subject. (BCR, 1916, p. 9)

The WCB inspectors' accident prevention concerns began with a focus on basic measures to guard machines, and extended determinedly to educational campaigns directed at workmen. In the 1920s, the WCBBC reported:

Efforts directed towards removing the causes of accidents have been maintained. Literature has been distributed where it was felt it would be of assistance; circulars, personal letters, personal instruction and advice have been used in cases where the hazard is reducible. Much has been accomplished in this manner, and

the Board is vigorously pursuing its campaign in this direction. (WCBBCAR, 1921, p. 8)

WCB inspectors adopted an educational approach towards inspections and enforced rules through voluntary compliance that did not strain their relationship with business owners. This approach supported the mindset that business owners were simply unaware of health and safety issues as well as regulations, even though they were informed and may have decided to not comply with the legislation. Violations by business owners continued to be viewed by the inspectors as oversights due to lack of information.

As an annual report stated, the “opposition to the instalment of this safeguard was, we believe, more a cause of ignorance than deliberate desire to impede the work” (WCBBCAR, 1919, p. 23), thus supporting the belief that business owners did not understand their legal obligations. Implicit in this thinking, and a somewhat questionable assumption, was that business owners were good corporate citizens and would not intentionally compromise workmen’s health and safety for business profitability. While such an approach could be explained by the newness of the act and regulations, it was more likely to come from the reluctance of the WCBs and inspectors to confront business leaders on the ways they managed and organized their workplace operations. This was particularly evident in Ontario, where the inspectors were hired from and worked closely with the associations of employers.

Other factors may explain the collaborative instructive approach taken by the British Columbia and Ontario inspectors towards enforcement of the legislation. An educational approach required less time and effort than a prosecution role and was less

costly, while enforcing the open-ended language used in the standards and regulations was difficult. Moreover, only a limited number of regulatory requirements for machine and labour processes existed and were accepted by workmen and business owners. The non-imposing educational approach also supported the aim of the WCAs to create no financial harm for business owners. Education was a very public approach that enhanced the social perception that the WCBs and business owners were actively working to reduce workplace deaths and injuries. While the WCAs contained provisions for inspectors to prosecute, there was little discussion concerning OHS penalties and fines during the administration of the acts from 1915 to 1921.

While there was limited documented evidence of improvements to workmen's health and safety during the period, the education and non-prosecution approaches adopted by the WCB were presented as successful from an economic perspective. An annual report stated that "[a]ccident prevention measures have not only meant fewer injuries and consequently less suffering and distress to workmen and their families, but has increased the efficiency of the plants operation, so economic gain is followed" (WCBBCAR, 1919, p. 22). It is worth noting that the preferred education perspective and non-prosecution perspective operated together in powerful synergistic ways that weakened business owners' motivations to improve dangerous work conditions.

(Un)Safety Pays

With the introduction of workmen's compensation legislation, OHS came to be viewed not only in legal terms, but also in economic terms. It was thought that the WCB insurance premium costs would be a financial incentive for business owners to become more interested in and responsible for OHS to reduce their labour costs. Unfortunately, the benefits of accident prevention did not outweigh the costs of workmen's injuries,

diseases, and deaths, and workmen continued to experience unsafe and unhealthy conditions. Within a financial framework that included profit-preservation practices and insurance against the high costs of liability, there was limited incentive for business owners to engage in OHS practices. It paid for business owners to intensify work processes and expose workmen to toxic substances and conditions, rather than prevent their disabilities and deaths, otherwise business owners would have taken steps to reduce any negative effects to their financial bottom line.

While it appeared that the enactment and implementation of the WCA was inclusive of the many voices of concerns expressed over OHS during the early 20th century, the mechanisms adopted by the WCBs towards workmen injury compensation and prevention did not impede business owners' profitability. OHS practices and language surrounding benefits, collaboration, progress, prosperity, fairness, and cooperation hid the underlying business profit preservation techniques operating in these communications. The planning and implementation of the WCAs were understood in ways that placed the economic and financial interest of business owners over the health and safety interests of employees. The tone adopted by the WCBs was distorted in ways that influenced particular representations of OHS. Within the workmen's compensation framework, there was little motivation or incentive for businesses to put energy, time, and money into the prevention of workmen's ill-health.

Even though the WCB commissioners had the authority and power to create the rules concerning workmen's compensation and accident prevention, they chose a legal framework that was compatible with the industrial capitalist market system that placed business wealth-accumulation at the centre of society. The underlying perspective written

into the WCAs was an acceptance that private enterprise motivated by profit was inherently superior and moral, whereas human health and life were secondary. This Safety Pays perspective was constructed and produced by the effects of power and spoken in terms of truths.

In a framework in which money was all that mattered, priceless benefits, such as human life, limb, or health, were not valued, and were not seen as a sensible way to make decisions about OHS. Yet other decision-making approaches and broader OHS frameworks could be considered. Workmen's health and safety raised complex ethical questions and challenges that relied on humanitarian standards, not economic standards. There was much space in the workmen's compensation documents devoted to economic values, yet limited discussion on supporting ethical values concerning the care, respect, and dignity of human health and life. The economic worth of employees' health and safety was emphasized above all else. Moral standards and humanitarian concerns became subservient to the businesses' bottom line.

OHS continues to have to prove its economic worth in contemporary workplaces and studies. The constant talk and action dedicated to improving the business bottom line diverts attention from humanitarian activities and conversations. It seems that community and social perspectives are unthinkable in a world biased by production and profits. It may seem a poor message to say that employees' safety is about dollars, yet this is what we teach in business schools. We might ask ourselves why we justify employees' health and safety in financial terms when they should be justified on moral grounds alone. Cohering with the Safety Pays doctrine is the WorkSafe doctrine, which I discuss in the next chapter.

Chapter 6

WorkSafe

Introduction

In Chapter 6, I provide the WCBs' narratives as I continue to simultaneously analyze the reciprocal relationship between the corpus of workmen's compensation texts and the socio-historical events driving OHS regulatory change at the turn of the 20th century. Through a deeper textual analysis, I reveal the practices and meanings held within the legislative texts that place responsibility for accident causation and prevention on workmen. I begin by defining and locating the individualization of responsibility within the socio-historical context in which the WCA was enacted, and explore how the context and legislation together reproduced and maintained a particular dominant understanding of workmen's health and safety. I then discuss how the values of individualization of responsibility manifested in the workmen's compensation practices and accident prevention approaches taken by the first WCBs.

Individualization of Responsibility

Individualization of responsibility was the dominant capitalist opinion held towards workmen's health and safety during the advent of the industrial era. It implied that individuals, by way of unsafe and unhealthy behaviours, were responsible for the ills that befell them. As we have seen, the capitalist opinion was linked to the origins of workmen's compensation law and its reciprocal relationship with other events occurring during the early 20th century. This dominant perspective was held by legislators, government, and industry and business leaders, as well as pioneering researchers in the areas of engineering, management, and industrial psychology. It was in this historical context that we can appreciate how the allocation of OHS responsibility became attached

to the individual and disconnected from the organizational and structural causes and solutions related to workmen's ill-health. Such a narrow view towards OHS diverted attention from the broader complex issues, problems, and solutions related to workmen's compensation and injury prevention. It further benefitted business profitability interests and made it increasingly difficult to address workmen's health and safety concerns. The ideology of the individualization of responsibility towards OHS has remained the predominant focus in contemporary practice and business studies. This is evident in OHS governing agencies' logos, such as WorkSafeBC, and WorkSafe Saskatchewan. A further discussion is required to illuminate how the judicial, legal, and social practices, as well as academic theories operating during the turn of the 20th century, supported the view of the individualization of responsibility.

The Legal Doctrine of Assumption of Risk

During the late 19th and early 20th centuries, the body of common law, known as the employer's liability law, regulated OHS. Within this legal framework, it was implicitly assumed that the relations between industrial workmen and employers, including OHS, could be regulated through the capitalist market system. Within this market-regulation system, the workmen assumed the risks of the job when they accepted employment. This legal doctrine of assumption of risk was closely associated with the perspective of the individualization of responsibility.

Individualization of responsibility made workmen feel they were accountable for their health and safety, and assume that accidents existed because they choose to act in unsafe and unhealthy ways. Telling a workman to operate a dangerous grinding wheel more safely was an example of such practice. As a result, it became easier to think that

workmen were undeserving of financial compensation for their injuries or ill-health, and to believe that they should contribute financially to workmen's compensation insurance. Such thinking dominated in the judicial and legal systems of the time.

During the period, the employer was not held responsible for workplace injuries unless deliberately negligent. Under the defense of contributory negligence, the employer was relieved of liability if workmen contributed in any way to their injuries, ill-health, or death. To avoid financial liability for workmen injuries, employers would often argue that employees' actions were a determining factor in sustaining their own injuries. While there were many contributing factors to workplace accidents, employers would focus more on the workmen's unsafe acts to divert attention from the unsafe situations, operations, and practices in the workplace. Blaming the victim became a dominant legal defense of employers. This rule had been established as a legal defense in non-employment contexts, particularly with insurance dealing with the high number of railway and road injuries and fatalities.

The law did not address several underlying assumptions about the workplace and the relations between employers and employees that were embedded in the legislation and inhibited workmen's health and safety. The law's first assumption was that the workmen, not the employers, were more likely to be aware of the workplace hazards and, therefore, were in a better position to protect themselves from dangers. The introduction of new mechanical technologies and labour processes divided labour among large numbers of workmen and required increased management coordination and control over the production processes. Such practices made it very difficult for workmen to know the hazards created by unknowingly negligent coworkers and employers, and directly

impacted the workmen's health and safety. While most workplace injuries were caused by unsafe working conditions due to the mechanization of work and labour processes under the control of the business owner, the legal responsibility for OHS remained on the shoulders of individual workmen.

Secondly, the law assumed that workmen were under no obligation to risk their safety because they could refuse work that they perceived as dangerous. However, many workmen and their families lived in poverty and were desperate to keep their jobs. Workmen's ability to refuse work was restricted by several factors: their need for financial and employment security; their need for food and shelter; and their limited job opportunities. Unfortunately, most industrial and resource-related work involved dangerous tasks, tools, processes, and conditions. Since hiring and terminating workmen was at the inclination of the business owners, workmen were less likely to complain about unsafe work for fear of retribution.

A third assumption was that workmen could negotiate the terms and conditions of their employment contract, such as higher wages for incurring workplace risks, or safer and healthier work conditions. The market regulation system did not consider the inequities of power that existed between business owners and workmen, and limited the workmen's ability to negotiate better working circumstances. Business owners could always hire employees at lower wages and intensify work to increase productivity according to their need for profitability. Under a market regime, workmen's health and safety were to be negotiated between business owners and workmen. Workmen with little power assumed the risk of being injured by hazards present in the workplace.

The Genesis of Scientific Management and Industrial Psychology

The market regulation system viewed work as an impersonal exchange of labour for money. The human element in production—the individual workman—was known by its contribution to the productivity of the business. This thinking was connected to the first management theories, where workmen were viewed as a commodity to be managed in ways to increase their performance. Scientific and bureaucratic management theories adopted in industrial workplaces determined that workmen’s knowledge and practices were unimportant, inadequate, and inefficient. Fredrick Taylor (1911) believed that workmen perform below their abilities and that they require well-defined directions on job tasks, clear performance standards, and financial incentives for them to increase their work productivity. Taylor complained that “hardly a workman can be found who doesn’t devote his time to study just how slowly he can do the work” (as cited in Mitchell, 2007, p. 1). These dominant management theories focused mainly on improving workmen by modifying their behaviours. Workmen training, formal rules and procedures, management authority, supervisory support, and job aids were the techniques thought best to achieve workmen efficiency and productivity. The underlying message that workmen were dumb, lacked capabilities, and needed to be closely monitored was linked to the belief in the individualization of responsibility.

In Canada, the field of industrial psychology emerged simultaneously alongside the field of management. Aims and research in these disciplines both focused on a better understanding of individual human behaviours that could contribute to efficient business operations. Industrial psychology, as a professional discipline during the late 19th century and up to World War 1, had a strong influence on government and business leaders. Psychological knowledge of work design, and selection and efficiency of workmen, was

being introduced into organizations searching to increase employee efficiency and productivity. Businesses also sought ways to deal with the adverse effects of scientific management methods that were hurting workmen's productivity. The early industrial psychology researchers studying individual characteristics and their tendency towards injury introduced the term *accident proneness*. It was thought that some individuals had unchangeable characteristics that predisposed them to a higher rate of workplace accidents (Reasons, 1984). Medical doctors, judges, lawyers, business owners, and academics avidly accepted that individual workmen's actions were the cause of accidents (Surry, 1979). These events are significant for our understanding of their effect on the first workmen's compensation laws and regulation of employment relations.

Poverty is a Personal Failing

Social welfare at the turn of the 20th century was linked to competitive market forces and the notion of equal opportunity for all Canadians who work hard. Implicit in this thinking was the notion of individual competitive struggle for income to meet the conditions for a healthy and good life. Workmen whose income was terminated were not protected by government social welfare institutions, regulations, or policies. Those who became unable to work due to injury or ill-health were expected to support themselves and their families through personal savings, community charities, or borrowing from a financial institution.

The government resisted intervention in the market system and any shifting of the mindset concerning how income, goods, and services should be distributed. Workmen who did not practice the market values of self-reliance, self-discipline, and frugality were not able to acquire as many goods and services. It was thought that if workmen chose to

be idle, imprudent, or irresponsible, they would become impoverished and dependent on society. Seeking charity was a demeaning and stigmatizing experience, and regarded as a personal and moral failure, harming both the individual and society. Poverty, like accident-proneness, was viewed as being caused by individual character flaws, not by broader social and economic structures.

This approach marginalized any thinking around the numerous other possible causes of poverty. The solution to poverty was not viewed as a government issue, but rather as an individual matter, as it was seen to be individually caused. It was further thought that a government social security system would support dependence and not independence, thus weakening the economic market system. Such values dominated social welfare practices during this historical period. The perspective that individualizes responsibility of human well-being played a dominant role in shaping the WCA and how workmen's health and safety were understood by society. With this belief held in judicial, legal, business, and academic institutions, it was natural for the new WCBs to interpret and implement new legislation in ways that adopted this view.

Scheme of Compensation

While the WCAs pioneered the first form of social policy in Canada, they undermined the compassion and humanity fundamental to protecting people facing workplace injuries, ill-health, and deaths. The ideology of individualization of responsibility limited the scheme of compensation for injured and sick workmen, leaving a significant financial and emotional burden with the workmen. It was frequently true that workmen, viewed as being the cause of accidents, were treated as undeserving of compensation for their injuries or ill-health. This thinking was evident in the debates and discussions related to the equalization of compensation costs between business owners

and workmen that took place during the government inquiries into workmen's compensation laws. We have seen that workmen were pushed to accept some of the burden of their ill-health, an underlying message that dominated the planning and implementation of the first WCAs. Another message was that individual sick workmen, not employers, were responsible for managing their workplace disability. These views served the interests of business, not workmen's compensation and health.

When the individual employee was viewed as the sole cause of a problem, it was difficult to implement a system where the employer, or legislation, supported the sick employee. This notion that individualized workmen's responsibility could inhibit the sharing of information, critical to understanding and resolving unsafe and unhealthy workplace issues. Changing individual workmen's behaviours was a narrow view of OHS, and did not adequately address the complexities of reducing workplace injuries, diseases, and deaths. Yet these perspectives underlay the practices adopted by the WCBs in implementing the WCAs.

Workmen's Compensation Limits

The aim of the first workmen's compensation legislation was to provide "every employee injured in the course of employment the right to secure something in the way of compensation for his injury, and as soon as possible after he sustains his injury and at a minimum expense" (WCBBCAR, 1918, p. 8). The message of the WCAs was that the workmen's rights to compensation would be limited to "something." The law sought to ensure the "employee [received] an enlarged and better measure of compensation" (BCR, 1916, p. 2) compared to the minimal and rare compensations granted prior to the enactment of the WCAs. In their socio-historical context, workmen may have readily

believed they were undeserving of higher compensation. Believing they had at least partly caused their own troubles, they may have accepted that *some* compensation for their ill-health was better than *no* compensation.

Financial limits were written into the first workmen's compensation insurance scheme, which stated that there was no non-wage benefit coverage, there were waiting periods prior to payment, there were maximum wage-loss and pension benefit payments, there was no job security for workmen, and there were restrictions to rehabilitation. Moreover, the scheme did not adequately recognize occupational diseases and mental health. WCBs' premiums were based on these limitations, which offered a significant financial benefit to business owners, as discussed in Chapter 4. Data gathered and presented during the Pineo inquiry (BCR, 1916, p. 7) showed that only 30% of all accidents resulted in a disability of over 14 days. The Meredith inquiry (ONR, 1913, p. xviii) presented similar data, showing 56.9 % of all accidents did not incapacitate workmen for more than four weeks. The inquiries expressed that there should not be any "reasonable ground for the apprehension of the Association that the employers will be unduly burdened with payments for compensation" (ONR, 1913, p. xviii). It was apparent that the waiting periods withheld a large sum of money from workmen, and cost savings were transferred to employers.

The compensation limitations also created a direct financial burden for ill and injured workmen; for example, monetary compensation was estimated to be about 55% of a workman's average income. While it has increased today, it remains much lower than what the employee earned prior to the accident. Even though some of these compensation limitations have been removed in subsequent legislations, many remain

unchanged from the early 20th century. Injured or ill employees continue to face challenges related to inadequate financial coverage. There remains minimal imposition and obligation on the employer to take responsibility for their employees' health and safety.

The WCB paid business owners for their interruption and replacement costs based on the lost-time wages for workmen affected by accidents. This payment covered the production paralysis occurring in workplaces during the first few days after the accident. Underlying this practice was the belief that businesses were more deserving of accident compensation than workmen were.

Claimants Communicate Directly With the WCB

Prior to the implementation of the WCAs, the settlement of injured workmen's legal action against their employers occurred through battles in the courts, where employers sought to escape all liability and workmen sought the largest possible compensation. It was thought by the first WCBs that the new workmen's compensation insurance plan reduced the escalating conflicts between employees and their employers, and that the tensions dissipated because of their common interest in "seeing that those entitled to compensation receive precisely that amount due them under the provision of the law" (WCBBCAR, 1918, p. 9). Workmen's disputes for personal injury were removed from the realm of the employer to the realm of the WCB. However, the individual workman, not the employer, remained responsible for the management of their ill-health.

The first WCBBCAR (1918) stated that a great many difficulties were resolved by the WCB having direct personal contact with the people affected by an accident. The

WCB established a process by which ill and disabled workmen communicated directly with claims officers. “Claimants are encouraged to present their complaints or their requests direct to the Board” (WCBBCAR, 1918, p. 6), thus removing business owners from the administration of the insurance claim and the management of workmen’s disabilities.

After a workman suffered an injury or the onset of disease, the WCB claims process created a disconnection between them and the business owner. All responsibility for pursuing a compensation claim remained with the workman. There was no legal obligation for the business owner to support the injured or ill workman through a possibly lengthy and difficult recovery process. This was both a financial and emotional burden on ill workmen and their families. Sass (1998) found that it was and remains rare for business owners to express any moral obligation or accept responsibility for their employees’ compensation. The WCA was constructed as an individual matter, supporting the individualization of responsibility perspective, again disincentivizing businesses from investing money and effort in OHS.

The individualization of workmen’s responsibility for managing their WCB claims reduced the opportunities to share OHS information with other workmen and with employers so that the unsafe and unhealthy workplace practices could be better understood. The framework of workmen’s compensation claims management again diverted attention away from improving OHS.

Workmen Must Prove Workplace Diseases Are Compensable

During the early 1900s, diseases such as silicosis or black lung caused by poisons like arsenic and lead arose in Canadian mines, factories, and railways. While

occupational diseases were a serious problem, between 1915 and 1921, only 624 workmen from both Ontario and British Columbia received compensation for diseases acquired while working (WCBBCAR 1918-1922; WCBONAR 1916-1923). Since such diseases developed slowly, their symptoms were not always apparent right away. Knowledge about them was inadequate, and proving the illness was work-related was challenging, so limited numbers of workmen's compensation disease claims were accepted during the advent of the new WCAs. Occupational diseases were an underestimated workplace issue during the industrial era.

The WCBs were also the determiners of "legitimate" occupational injuries and diseases. Only seven diseases were compensated by the British Columbia and Ontario WCBs from 1915 to 1921: lead poisoning, anthrax, mercury poisoning, phosphorus poisoning, cedar poisoning, sulfur poisoning, and trinitrotoluene poisoning (WCBBCAR 1918-1922; WCBONAR 1916-1923). Workmen who suffered from one of the listed diseases received compensation with little dispute. All other diseases would require the workman to prove the illness resulted from the workplace to receive compensation. To show the connection between their work activities and disease was a difficult task for ill workmen who would be required to gather information on exposure levels, durations, and work history. We must keep in mind that the ill workmen were not only physically sick, but likely emotionally unwell due to fears concerning permanent disability and wage loss. The task to prove that a disease was compensable became even more difficult for an individual workman when it was advocated by experts as being non-compensable. For example, during the early decades of 20th century, the dominant thinking by the WCBs was that back injuries were not compensable diseases. An annual report states that

“[e]mployers and insurance companies looked upon this class of injury with doubt, the medical practitioners with suspicion, the lawyer with uncertainty,” and surgeons claimed that “a good many alleged sprained-back conditions are undoubtedly due to rheumatism” (WCBBCAR, 1918, pp. 7-8). All other WCBs across Canada had the same view (WCBBCAR, 1918). With experts and WCBs holding this belief, gathering evidence showing the relation of ill-health to employment would have been insurmountable for most workmen. By limiting the number of claims related to acceptable diseases, the WCBs extended the liability protection for business owners and transferred the emotional and financial responsibility for disease recovery to the workman. Such a mindset concerning workmen’s compensation for illness further obscured disease prevention efforts.

Treating the Individual Sickness

The doctor’s role as medical expert was written into the WCAs. A medical division was established by the first WCBs, revealing that medical professionals were needed to carry out the terms of the WCAs. The WCB paid doctors to complete medical reports on injured or ill employees, and the employees’ claims were adjudicated by the WCB based on these. The WCB described the physician’s role as being the “eyes and ears of the board, the expert on the ground” (WCBBCAR, 1918, p. 8). This reference expressed the close relationship between the WCB and medical doctors, while possibly indicating a lesser relationship between these and ill workmen. Doctors have defined which WCB industrial injuries and illnesses are compensable for over 100 years.

While there are many health care models, such as social models, holistic health models, and well-being models, the medical discipline generally has preferred the clinical

science model. This model has shown to be more reactive than proactive, seeing the absence of the signs and symptoms of ill-health or disease as indicating an employee's health. The focus of this model has been on the primary treatment of the individual employee's ill-health and less on the prevention of the ill-health. A curative, rather than preventive, focus on individual symptomatic relief diverts attention from the causes of the illness. Within this medical model, there has been limited focus on the complex social and organizational factors affecting employees' ill-health. The perspective of individual diagnosis has been portraying occupational illness as an individual problem, rather than the outcome of the organization of work. Moreover, this perspective relieves business owners from creating more healthy work environments. The focus on individual care offers only partial understanding of OHS.

Preventing Workmen's Accidents

The individualization of responsibility also manifested itself in the accident-prevention approaches adopted by the first WCBs. Since the dominant view was that workplace accidents were caused by workmen's unsafe acts, the first accident-prevention approaches and regulations were implemented to "eliminate 70 per cent of the accidents which now occur through carelessness, bad judgment, inexperience, unsafe practices, violations of instructions, indifference, and insufficient inspection by employer" (WCBBCAR, 1920, p. 12). Simple psychological explanations that frame workmen as lacking in care, appreciation, and prudence led to the WCBs' adoption of educational campaigns, accident prevention committees, and behaviour change practices directed at workmen. These ideas were related to the Safety Pays perspective, as it was less costly to blame a workman and provide broad workforce education, than it was to repair dangerous machines or adjust management labour practices.

Workmen are Perceived as Careless and Dumb

The WCB clearly accepted the dominant idea that individual workmen's deficient characteristics and behaviours resulted in workplace accidents. The reproduction of reports and regulations that blamed individuals for the horrific accidents occurring on the railways, in factories, and in mines further fostered the thinking that certain workmen were incompetent. Narratives that blamed the employees as the main problem behind their own injuries, diseases, and deaths persisted in the WCB annual reports from 1915 to 1923.

In reference to the high number of accident claims that stemmed from the operation of grinding wheels, for instance, workmen were referred to as lacking an appreciation of abrasive machines:

A close analysis of the causes of accidents as reported shows that in nearly, if not all, of cases the accident might have been avoided if a little care, judgment or understanding had been brought to bear. It seems a safe statement to make that if more stress was laid on the personal factor or on the exercise of care of the appliance or on the knowledge of the operator, grinding wheel accidents could be reduced to an absolute minimum. (WCBONAR, 1918, p. 45)

This perspective was supported by the largest companies in Canada and the US manufacturers of abrasive wheels, who warned of a "lack of appreciation among many users of abrasive wheels," and urged employers to recognize that "this lack of appreciation is responsible for many easily preventable accidents" (WCBONAR, 1918, p. 45). We must keep in mind that it was to the manufacturers' advantage, as it was to employers', to emphasize human culpability in accident events, and downplay or deny

any role the products, materials or environment might have in causing the workmen's injury.

It was thought that if workmen exercised reasonable care, then at little cost, wheel-grinding accidents could have been reduced to a minimum or entirely avoided (WCBONAR, 1918). According to the WCB,

Contact with wheel is caused by catching work between the rest and wheel, due to the improper adjustment of rest, improper handling of work, such as side grinding when the rest is not designed for it, and pushing work under the rest, and generally by the [workmen's] lack of prudence and attention in operating.

(WCBONAR, 1918, p. 45)

In another example, increased accident claims related to the use of woodworking machinery were thought by the WCBON and inspectors to indicate a need for ensuring workmen operated the machines safely. The WCB pointed to a safety news article by the Industrial Accident Commission of California stating that the "joiner guards so generously provided by the employers are not used as they should be by the employees" (WCBONAR, 1919, p. 58). Not only were workmen perceived as not acting safely, but business owners were perceived as "generous" for supplying what safety equipment they did.

Regarding the high accident claims resulting from the operation of power saws, the WCBONAR (1917) went further, stating that "[r]ecklessness, horseplay, throwing of wood to hear the saw sing are prolific causes of accidents" (p. 46). Recommendations that "[s]aws should not be stopped with sticks when the power is off" and that the "proper

instruction of employees and external vigilance will add to “safety” dividends” (WCBONAR, 1917, p. 46) downplayed the workmen’s intelligence and capacities.

The image of the “dumb workman” resonated beyond accident prevention into the administration of workmen’s compensation insurance practices. Workmen were perceived as a class of wage earners “unaccustomed to the handling of large sums of money, and where compensation is paid in lump sums it is liable to be dissipated through extravagance or improvident investment” (WCBBCAR, 1918, p. 12). Such a view portrayed workmen as ignorant and incapable of making decisions concerning their compensation. For workmen, these assumptions were demeaning and upsetting.

The ideology of the careless and deficient workman shifted any blame for workplace accidents away from business owners, the WCB and inspectors, medical professionals, and all other bodies connected to workmen’s injury compensation and prevention. Ignoring the social, organizational, and structural causes of accidents allowed for unhealthy and unsafe business practices to remain unchallenged and unchanged. Within the WCBs’ documents, there was little mention of workplace, community, or institutional contexts as possible causes of accidents. These simple psychological descriptions of workmen having poor safety attitudes and behaviours constrain our understanding of OHS today.

Behavioural Approaches to Accident Prevention

Given these beliefs, education campaigns, safety committees, close supervision, safety incentives and regulations focused on changing workmen’s behaviours were the primary accident-prevention interventions adopted by the WCB during the early 20th century. These behavioural approaches were aligned with the emerging early-20th

century management and industrial psychology research and practices that sought to improve business production through improved workmen's performance. The focus on mechanisms aimed at modifying workmen's behaviours through education, rules, and incentives hides the other many causes of workmen injuries and illnesses, such as work organization flaws.

Educational Campaigns

Education campaigns were the primary approach to accident prevention. As one of several reports stated:

Tabulated records of accident experiences from a number of large industrial plants in which mechanical guarding regulation are enforced reveal the startling fact that not more than 15 percent of the total accidents which occur can be prevented by mechanical guard. This means that the main responsibility for safeguarding life and limb rests with the foreman and workmen themselves.

Therefore, accident-prevention is fast coming to mean an organized educational campaign to reach these foremen and workmen. (WCBBCAR, 1920, p. 11)

Educational campaigns de-emphasized the need for institutional or structural change for OHS. They further promoted the value of individual responsibility, and suggested that workmen must actively pursue improvements to their behaviours. Implicit in educational approaches was the idea that once workmen received safety information, they would be able to protect themselves from workplace dangers, a faulty assumption.

Such campaigns were heavily used by the emerging safety societies during this era, such as the CNSL. The CNSL paralleled the emergence of the early WCAs, with the aim to safeguard and protect the public from the dangers of vehicular traffic on public

roads through their Safety Always educational campaign (as discussed in Chapter 4, The Canadian National Safety League: “Safety Always”). It would have been natural for the WCB to build on this dominant educational perspective towards public safety.

Workmen were the major target of the OHS education campaigns, as evident in the IAPA poster that illustrated a clown pointing to the workman, with the bolded words “LEAVE STUNTS FOR CLOWNS” (IAPA, 2007). The poster suggested that accidents could be prevented if workmen stopped joking around in the workplace and took accident-prevention more seriously. Moreover, the poster also served as a warning for workmen to heed the advice of the WCB commissioners, safety inspectors, and other OHS specialists. It is important to consider that these WCB professionals defined what information was contained in the educational campaigns and, as such, defined OHS. What work was dangerous and unhealthy, and how workmen should act and behave, was regulated and reproduced within the WCB practices. Promoting employee awareness of workplace hazards dominates OHS practice and education today.

The perspective of promoting workmen’s awareness rested on the assumption that increased familiarity with hazards would change the way workmen thought and acted regarding their safety and health. It further assumed the workmen were lacking and in need of the particular knowledge presented to them, yet failed to understand the needs of the workmen within their work context. There were many causes of accidents where education solutions would have only been a very small element in addressing OHS issues. Even if workmen were highly informed, dangerous machines and work organization processes could still lead to injuries, illnesses, and deaths. Although OHS information was valuable in creating workmen awareness of hazards and understanding

ways to protect themselves from hazards, this approach did not deal with the broader complexities concerning workmen's health and safety. It did not eliminate the hazards, but rather focused on trying to reduce the likelihood that an accident would happen.

What was missing was an understanding of the root causes creating the OHS problems. Excavating the underlying issues required an investment of time, energy, and money by business owners. The failure of owners to take time to understand the root problems led to inaccurate OHS solutions. Promoting OHS awareness was cheap and required little attention, and was overall an inadequate way to address workmen's OHS.

Yet from its beginnings in 1916, through to 1921, the WCBs increasingly pursued educational campaigns targeted at changing workmen's unsafe behaviours. As stated in an annual report,

[C]irculars, personal letters, personal instruction and advice have been used in cases where the hazard is reducible. Much has been accomplished in this manner, and the Board is vigorously pursuing its campaign in this direction. (WCBBCAR, 1922, p. 8)

The education campaigns were highly public and presented the WCB, and to some degree business owners, as actively taking steps to improve the health and safety of workmen, while, in reality, placing sole OHS responsibility on the shoulders of workmen. Business owners' duty to design and organize safe and healthy work practices was obscured. The individualization of responsibility was further put into practice through workmen accident-prevention committees.

Workmen Accident-Prevention Committees

The WCBs, in contrast to the prevailing hierarchal management thinking during this era, stated that “[b]y reason of the workmen being the ones most interested in accident-prevention, and being on the spot where the work in question is being done, and also realizing in many cases what is the best thing to do to prevent accidents in their particular place of employment” (WCBBCAR, 1918, p. 15), workmen should be involved in “making suggestions as to how best to improve their condition, as well as to protect against injuries of their fellow-workmen” (WCBBCAR, 1918, p. 15). Accident-prevention committees became mandated in BC workplaces employing more than 50 workmen, and required the involvement of at least three workmen. The safety committee’s role was written into the first WCBBC regulations:

This committee’s duty is to receive suggestions from the workmen as to conditions and methods of work, pass on these recommendations, determine their practicability, and, with the co-operation of the management and the workmen, familiarize themselves and their fellow-workmen with the cause of accidents in their own plant with a view to avoiding the repetition of similar accidents. The committee should be composed of live [sic] employees who appreciate the extent of the present economic waste and the needless sacrifice of life and limb, the majority of which can be eliminated by a properly organized and carried-out campaign for more careful, safe, and sane methods of doing their work. The aim of every Accident-prevention Committee should be to make their particular establishment as nearly 100 per cent safe as it is possible to make it.

(WCBBCAR, 1920, p. 12)

While the legislation placed the responsibility for recognizing hazards and recommending measures to control them in the hands of voluntary workmen advisory committees, the decision-making authority over their suggestions remained with the business owners. The legislation did not address the inequitable balance of decision-making power between workmen and business owners in work environments. Pressures and practices in the work environment that promoted production and discouraged workmen's disclosure of unsafe conditions, such as fears about job security and wage loss, were given little acknowledgement. While the law was presented as expanding the voice of workmen, it drew on the decades of business activities that deprived workmen of opportunities to voice concerns related to their health and safety.

The high level of skill and knowledge required of individual committee members to be able to deal with the complexities and technologies surrounding OHS was a barrier to the effective operating of the committees. The success of the accident-prevention committees depended on how effectively the committees worked together, and on their ability to cooperate with business owners, to advocate and negotiate OHS concerns, to have technical knowledge with respect to workplace hazards, to feel secure and confident enough to report concerns, and to tolerate possible confrontations and retaliation by people with different interests. The workings of the committee therefore depended highly on the capabilities of the workmen rather than the business owners.

Workmen's accident-prevention committees transferred some of the responsibility for workplace inspections and control from the WCB safety inspectors to workmen themselves, supporting the WorkSafe ethos. Less reliance on WCB safety inspectors further supported the dominant market-system principles of the early 20th century. The

responsibility for OHS remained internal to business organizations and under the control of business owners.

Placards, Supervision, and Safety Incentives

Following the era's ethos, many of the regulations written by the WCBs during their first years focused on modifying workmen's behaviours when operating equipment and machines. The instructions that the "[f]loorman shall, wherever possible, walk ahead of moving load and warn people to keep clear of it," (WCBBCAR, 1920, p. 15) are just one example. The displaying of placards that defined workers' acceptable and unacceptable behaviours was a recurring aspect of such regulations and workplace practices. Placards listing the WCBs' rules made workmen responsible for the prescribed standards of performance. The regulations and placards shifted the responsibility of OHS farther away from business owners and more directly onto individual workmen.

The early classical management approaches introduced the idea that close supervision of workmen's performance would result in increased business production rates. The WCBs adopted this mindset, stating that the large amount of accident claims could be reduced through close supervision (WCBONAR, 1919). In the WCBON's analysis of accidents caused by grinding wheels, which produced a high number of accident claims, the emphasis was on the need for workmen supervision to prevent future accidents. It was thought that "failure to maintain guards, lack of supervision of operation, and want and care of machines are the reasons why mechanical causes have taken a toll in so high a percentage of accidents" (WCBONAR, 1919, p. 56). It was further believed that non-mechanical causes should be attributed to the lack of close supervision of individual behaviours. The focus on ensuring workmen followed formal

rules, procedures, and regulations through close observation inhibited workmen's control over their tasks, and could lead to indifference, learned helplessness, and powerlessness in relation to OHS (see Chapter 4).

Scientific management premises also purported workmen to be economically motivated, which led to the WCBBC's and business owners' adoption of financial or competitive safety incentives to modify workmen's behaviour through group competition and rewards. Several large BC plants, for instance, posted accident statistics in prominent places, so that each department had an opportunity to view and compare results. Based on a statement in an annual report, the incentive approach to accident-prevention seemed to work for the business owners and the WCB inspectors; "[t]his work from an educational standpoint cannot fail to produce good results, as well as create a desire on the part of the different departments to establish the best record for the next month; therein the benefits of the educational work is shown" (WCBBCAR, 1919, p. 17).

While this incentive scheme appeared to serve as a motivator for workmen to act more safely, it could also serve as a disincentive to report accidents, especially if a workman felt pressured from coworkers and business owners to lower the accident statistics in their department. We must keep in mind that the outcome of fewer accident claims reported by workmen reduced the business owners' premium costs, thus becoming a business incentive. This system further assumed that the individual workmen are always in control of their behaviour, even though business owners' decisions relating to unsafe production and labour processes and the use of faulty equipment were not likely to be within workmen's control. The appeal of this accident-prevention approach may have

been due to its relatively low implementation cost to business owners, and once more, its focus on the individualization of responsibility.

The individualization of responsibility wove its way through the WCB regulations, supporting the many other WCB practices aimed to address workmen's unsafe actions. While OHS responsibility remained on the shoulders of workmen, these highly public accident-prevention mechanisms gave the appearance that business owners were taking action to improve the health and safety of workmen.

Unsafe Workmen

This chapter explored ways in which the first workmen's compensation legislation reflected the individualization of responsibility. The underlying belief was that workmen's injuries and diseases existed because workmen chose to act in unsafe and unhealthy ways. Such thinking often led to the WCB adopting injury-prevention solutions and practices that focused on changing individuals' behaviours, not the workplace. As a result, attention was diverted from the physical working conditions, management practices, and work organization, which, in turn, rendered invisible the more comprehensive and integrated approaches to OHS that address the underlying environmental and organizational origins of injury, illness, and disease. This blame-the-workman thinking naturally led to a mindset that workmen did not deserve compensation for their injuries and ill-health. It was, therefore, easy for the first WCBs to limit the scheme of compensation for workmen.

This narrow perspective towards OHS did not stifle the industrial capitalist market system and its emphasis on business wealth accumulation. It further maintained the hegemony of business superiority in the employment relationship. The WorkSafe ethos was socially constructed by WCB practices of power in which OHS knowledge was

embedded. This educative perspective went unchallenged, and other ways of thinking and acting about OHS became more difficult. OHS problems continued to exist because they were bound by a narrow individualist perspective.

The various WCB OHS mechanisms interconnected with the Safety Pays and WorkSafe ethos were presented as universally meeting everyone's interests, as being free of conflicts and compromises, as being a benefit to workers, as being a contribution to the betterment of society, and as creating a harmonious relationship between all parties. Conflicts were hidden by collaborative communication techniques, where all OHS issues appeared to be addressed and no further resolutions were required. The way in which OHS was socially constructed during this period of massive OHS regulatory reform negated further social OHS concern as the 20th century progressed. Major legislative reform did not occur for five decades, until the enactment of the first comprehensive OHS Acts. The next chapter analyzes the documents related to these laws within the socio-historical context in which they emerged.

Chapter 7

The *Health* in OHS Surfaces: 1970s and 1980s

Introduction

Chapter 7 continues my historical readings and analysis. I move between the texts and socio-historical contexts related to the first compensation laws examined in Chapters 4, 5, and 6, and the events and documents related to the first comprehensive OHS laws in Canada: (a) the Saskatchewan Occupational Health Act of 1972 and Health and Safety Act of 1978; (b) the British Columbia Workers' Compensation Act and regulations enacted in 1979; and (c) the Ontario Occupational Health and Safety Act of 1980. I simultaneously analyze the socio-historical events that forced regulatory change in the 1970s and 1980s, and the enacted OHS legislations, the annual reports and related documents produced by the regulating agencies—the WCBs and MoLs—as they implemented the first omnibus OHS legislation (the corpus of analyzed documents is listed in Appendix B).

The first part of this chapter explores the complex set of socio-historical events and conditions in which these workers'² compensation and comprehensive OHS laws evolved in the later 20th century. The second part of the chapter involves a deeper analysis of the WCBs' and MoLs' practices undertaken in the implementation of the new laws, and looks at how worker health continued to be constrained within the Safety Pays and WorkSafe ethos as they wove their way through the new OHS laws.

² As the legislative shift took place, the legal bodies adopted the term *workers* to replace the previously used term *workmen* to acknowledge more women entering workplaces. As my analysis moves forward to incorporate more recent OHS documents, I adopt this linguistic shift in Chapter 7.

The Struggle to Acknowledge Occupational Diseases

As the 20th century progressed, technical developments occurred frequently and on a large scale, bringing new hazards that affected the health of workers and the natural environment. New technology was being introduced faster than any remedies for its associated hazards could be produced. It was not until the late 1960s and 1970s that the introduction slowed down, as more studies began to be conducted before technology was accepted into workplaces (Sexty, 1979). Knowledge of slowly developing work-related illnesses, of which asbestosis, silicosis, and various cancers were but a few, brought renewed attention to hazardous substances and conditions found in work environments since the turn of the 20th century. The numerous workers' deaths caused by insidious workplace toxins became increasingly unsettling and feared by Canadians. At the same time, there was an increase in social concern with the relationship between poor work organization and management approaches, and the declining physical and mental health of workers. It was at this time that thought about OHS in Canadian workplaces changed, putting *Occupational Health* into Occupational Health and Safety.

During the second half of the century, important movements sought to bring health to the forefront of OHS. Unions, government inquiries, health promotion, Quality of Work Life (QWL), and occupational health psychology movements actively negotiated workplace health along with safety during the 1970s and 1980s. The dominant agencies regulating workers' compensation, as well as injury and disease prevention—the WCBs and MoLs—also negotiated and constructed how health was understood. As the lawmakers attempted to provide solutions to OHS problems, it became possible to see how OHS was socially constructed in concept and practice. Before exploring these events

and legislations further, I first take a brief look at the prevalence of industrial injuries and diseases in Canadian society during this era.

Work-Related Industrial Diseases Increase Tenfold

As Atherley notes, “workers’ compensation costs, one measure of failure in occupational health and safety—had risen so steeply over the prior decades [between 1972 and 1983] that several workers’ compensation boards were technically bankrupt” (1987, p. 392). As a result, the WCBs were under pressure to reduce workers’ compensation claims, which increasingly acknowledged the newly discovered work-related diseases. The WCB data (Tables 4, 5 and 6) reflected that there were still few compensable claims for workplace diseases compared to injuries, suggesting that many workplace diseases were delayed in being acknowledged by the WCBs. However, these few accepted workplace diseases were creating a great deal of concern for the WCBs. The WCBBC stated that the “number of diseases recognized as resulting from industrial exposures or conditions has increased more than 10-fold” (WCBBC News Bulletin, 1973b, p. 3). The concern seemed to emanate from the escalation of the more hidden worker ill-health costs, such as longer duration worker disability and wage-loss costs. It was also likely to be caused by the many non-compensable illnesses existing in workplaces that were being brought to the attention of the WCBs. The concern for workers’ health mingled within the insurance loss-prevention agenda and the anticipation of escalating worker disease-related claims.

Wage-loss compensation for diseases was treated similarly to injuries in that workers were awarded claims if the diseases caused a reduction in the workers’ earnings (WCB of Saskatchewan Annual Report [WCB SKAR], 1974). Workers who continued to

work with a disability, such as back pain, partial hearing loss, or other diseases, were not included in these statistics. It could be argued that most workers experiencing ill-health were unlikely to have received wage-loss compensation, regardless of whether they received medical aid. Moreover, many diseases that arose directly from the workers' tasks were also left out of the WCB statistics.

The term "lost-time accident rate," linked to how the first WCBs presented their insurance claim data, had become so common that few questioned or viewed OHS beyond this representation. This safety measurement revealed on average less than half of all workplace illnesses and injuries. It further indicated that reducing the frequency of lost-time claims was the desired aim, not reducing workers' ill-health. OHS was viewed more as the amelioration of lost-time wages—the controlling of insurance losses so as to protect the escalation of business premiums—and not human suffering. This term and related calculations hid all other OHS issues not included in this measurement, conveying an image of workplaces as safer and healthier than they might have actually been.

The total of WCBs' worker compensation payments escalated in the 1970s and 1980s. In British Columbia, the WCB expenditures for compensation claims more than doubled between 1975 and 1980, increasing from 104,782,746 dollars (WCBBCAR, 1977) to 234,252,614 dollars (WCBBCAR, 1981). The WCBON's total expenditures for compensation claims increased significantly, from 372,379,000 dollars in 1977 (WCBONAR, 1979) to 2,227,205,000 dollars in 1985 (WCBONAR, 1986). From 1972 to 1979, the WCBSK claims expenditures increased from 7,211,635 dollars to 22,784,476 dollars, an increase of 215% (WCBSKAR, 1973-1980).

In 1970, a total 96,432 work injuries, diseases, and fatalities were reported to the WCBBC; this included 213 fatalities. In 1980, the number of reported accident claims increased to 197,115; fatalities increased to 220. This represented a 104% increase in injury and disease claims in a decade. The number of wage-loss claims involving time off work followed a similar pattern (see Table 4). These provincial patterns reflected the general pattern that occurred in all 12 Canadian jurisdictions. The number of days lost due to work-related injuries and diseases increased on average from 6.2 million in 1968 to 11.9 million in 1974 (Sexty, 1979, p. 103).

Table 4

WCBBC: Total Number of Reported and Compensated Injuries, Diseases and Fatalities 1970-1980

	Claims reported	Lost-time Claims (% of total claims reported)	Fatalities reported
1970	96,645	30,386 (31.4)	213
1971	109,186	31,968 (29.3)	222
1972	117,211	40,881 (34.9)	220
1973	129,282	50,712 (39.0)	240
1974	145,908	56,124 (38.5)	242
1975	135,324	54,464 (40.2)	246
1976	142,270	56,260 (39.5)	182
1977	149,653	60,443 (40.4)	176
1978	162,068	66,233 (40.9)	208
1979	187,528	77,237 (41.2)	260
1980	197,335	85,343 (43.3)	220

In 1975, the *Labour Gazette* reported that 1,044 Canadian workers were killed on the job (Department of Labour Canada, March 1977, p. 129-32). This death statistic—an average of more than two workers dying each day as a result of their work—continued into the 21st century (Krahn et al., 2007). In Ontario, it appeared that the increase in wage-loss claims was a more telling figure (see Table 5).

Table 5

WCBON: Total Number of Reported and Compensated Injuries, Diseases and Fatalities 1980-1985

	Claims reported	Lost-time Claims (% of total claims reported)	Industrial Disease Lost-time Claims for <i>Temporary</i> Disability	Industrial Disease Lost-time Claims for <i>Permanent</i> Disability	Fatalities compensated
1980	444,647	165,221 (37.1)	4,343	407	311
1981	415,044	163,366 (39.4)	4,399	562	265
1982	349,747	148,713 (42.5)	4,255	799	226
1983	344,578	147,666 (42.8)	3,617	828	232
1984	388,845	172,002 (44.2)	4,154	1,109	234
1985	426,880	188,451 (44.2)	5,238	977	195

The WCBs payments for workers' medical aid were small, compared to the payments for workers' wage losses. Of the total claims received by the WCBON in 1980, 62.9% were for medical aid only, i.e., for accidents that necessitated medical treatment but no time off work beyond the day of the accident, and 37.1% were for lost work time. This shifted in 1985, with 55.8% of claims being accepted as no-lost-time claims and 44.2% of the claims reported being accepted as lost-time claims. This represented a decrease of 11.29% in medical aid claims and an increase of 19% in wage-loss claims over a five-year period.

The WCBSK reported similar patterns of increasing temporary and permanent work-related disease claims (Table 6). It is thus evident that the WCBs' wage-loss payments related to diseases that resulted in permanent disability compensation claims were generally increasing. It was during this period that workers' health, an appendage of OHS for five decades, became joined to OHS.

Table 6

WCBSK: Total Number of Reported and Compensated Injuries, Diseases, and Fatalities 1970-1980

	Claims reported	Lost-time Claims (% of total claims reported)	Fatalities compensated (*reported)
1970	24,946	11,545 (46.3)	34 *36
1971	26,034	10,239 (39.3)	34 *37
1972	26,755	12,106 (39.5)	49 *54
1973	29,054	11,486 (39.5)	31 *49
1974	31,513	13,308 (42.2)	53 *65
1975	33,039	14,145 (42.8)	45 *57
1976	37,062	15,519 (41.9)	40 *66
1977	35,997	19,730 (54.8)	32 *66
1978	36,481	15,436 (42.3)	47 *61
1979	40,167	16,951 (42.2)	42 *58
1980	41,589	17,669 (42.5)	58 *58

The data, while only a fraction of the ill-health experienced by workers (see Chapter 5, Bad Accident Experiences), suggested that business owners organized work processes in ways that negatively affected workers' health. These figures further reflected the inability of the WCBs, the dominant OHS legal institutions, to deal with the escalating workplace OHS problems. Even though the WCB accident-claim data on its own would have acted as a catalyst for the comprehensive OHS legislation that emerged in jurisdictions across Canada beginning in the 1970s, for WCBs it was also an economic catalyst to increase their efforts towards preventing occupational diseases and resultant workers' compensation claims. In response to these mounting concerns, the WCBs expanded their health staff, which had not been developed during the first half of the 20th century.

Safety Engineering, Ergonomics, and Industrial Hygiene Roots Spread

Safety engineering, ergonomics, and industrial hygiene staff filtered into newly established divisions, laboratories, rehabilitation facilities, and other WCB arenas to develop and introduce new standards, regulations, and practices related to workplace hazardous substances and conditions. These professionals defined the minimum legal responsibilities of business owners concerning aspects of workers' health. Treated similarly to safety and injury-prevention, health was about discrete physical exposures to harmful agents in the workplace, as well as disease-prevention. While these technical fields were distinctly different in their views and approaches to occupational health problems, they shared an almost exclusive focus on the interaction between workers and their physical work environment. Their aims were similar in that they sought to optimize individual worker health to improve business production processes and performance, and their work involved scientific methodologies, such as risk assessment and hierarchy of controls, as mechanisms to deal with the physical, biological, chemical, and ergonomic hazards in workplaces. The WCB engineering, ergonomics, and industrial hygiene technical practices operated in tandem with their education practices. These specialists had limited focus on the social and behavioural aspects of worker ill-health or the connection between worker illness and injury, which were linked to the earliest OHS laws, regulations, standards and codes written by the WCBs during the first half of the 20th century. Psycho-social health hazards were not compensable or regulated and, as such, were disconnected from the mandates of injury and disease compensation and prevention during these years. These OHS disciplines have prevailed for 100 years, influencing OHS content presented to business school students.

Safety Engineering

The safety engineering discipline had an early and continued authority in OHS, playing a leadership role within the WCBs at the turn of the 20th century and seeking to ensure that workplace-engineered systems provided acceptable levels of safety. The discipline aimed to minimize the probability of worker injury or illness through machine-operation controls, lockout procedures, ventilation installations, and other engineering controls. The human considerations of job design, such as workers' physical and mental capacities, were neglected in favour of technical engineering concerns centered on efficient production processes and work method improvements. The role of safety engineers involved conducting inspections and investigations, training, promoting safety, and writing bulletins on safety standards and topics. They acted as consultants to the various WCB departments, as well as external organizations, and their knowledge was sought in the development of OHS laws and the training of officers responsible for enforcing the laws. For example, 1970s WCBBC engineers "actively participated in the final drafting of the new Health and Safety Regulations and the training of the new Accident Prevention officers" (WCBBCAR, 1978, p. 7). Engineering knowledge defined the content of the laws and training.

The Canadian Society of Safety Engineering was founded in 1949 by a small group of engineering professionals drawn together by a common interest in accident prevention. The society served as a catalyst in professionalizing the field of safety in Canada through the early distributions of safety information and education for safety engineers and professionals. Its publication, *Canadian Occupational Safety*, was one of the earliest Canadian OHS publications. The Canadian Society of Safety Engineering was the first to advocate for training, accreditation, and certification of OHS professionals. In

1976, after an expressed need by the society, the BCRSP was formed to certify qualified safety practitioners and trainers (BCRSP, 2015; BCRSP, personal communication, January 5, 2015). These safety specialists have come to dominate the field of OHS (Storey, 2015). Today, it is the leading and largest national professional association for health, safety, and environmental practitioners in Canada.

Ergonomics

Ergonomics is the study of the physical and cognitive relationship between people and their physical work environment and increased worker efficiency and productivity (Lahiri, Gold & Levenstien, 2005; Oxenburgh, 1991). Rather than adapting workers to machines, human-factors engineers design equipment, furniture, and work processes to the worker. Ergonomics expanded in the mid-20th century to include worker safety and productivity. As new technologies and machines created jobs with risk factors that included repetitive and overexerting body movements, the WCBs experienced an increase in workers' health-related compensation claims. Ergonomists were involved in worksite analysis and projects, worker rehabilitation, and research related to back pain and strain, as well as other overexertion and repetitive strain injuries and illnesses during the 1970s and 1980s. They were further involved in establishing regulations concerning manual lifting and other ergonomic practices, followed by promoting these methods through education campaigns.

The Association of Canadian Ergonomists was established in 1968, setting standards in training, experience, and education for professional ergonomists.

Ergonomics has since become an influential expert technical approach linked to OHS practice and business education.

Industrial Hygiene

The first workers' compensation legislation played an important role in the development and progress of industrial hygiene practices in Canada. As part of the WCBs' efforts to prevent workplace diseases, industrial hygiene officers provided them with information on industrial health problems. While their role was small, they were actively involved in measuring and controlling toxic workplace chemicals that caused workers' health problems, such as silicosis-causing dust emissions. Their function became more significant during World War 2. As reported in the WCBBC News Bulletin (1973b),

Industrial plants throughout the nations were pushed to maximum output often producing goods the plants were not designed for. The exposure of workers to substances and conditions not previously experienced resulted in sickness, injuries and absences which seriously threatened production. The need to prevent and control health hazards became a necessity. (pp. 1-3)

It is important to recognize that the industrial hygiene role became significant to meet the demands of business rather than because of workers' health.

Industrial hygiene became involved in defining compensable work-related diseases, establishing substance exposure limits to workplace hazardous substances and conditions, and advising on workplace biological, chemical, and physical contaminants. Professional regulatory bodies emerged in the late 1960s and 1970s, with the Canadian Council of Occupational Hygiene emerging in 1999, setting standards in education and experience for Registered Occupational Hygienists and Registered Occupational Hygiene Technicians (these can also be recognized as CRSPs). Occupational hygienists had thus taken their place among occupational health experts.

While the WCBs increased their efforts to deal with escalating workplace OHS problems over the 20th century, society continued to decry related ill-health and deaths, spurring renewed interest in occupational health by labour activists and government agencies. This is evident in the increased union work-stoppages and government inquiries that led to new regulations to control hazardous substances in work and community environments.

The Shortcomings of the External OHS Regulation System

Although government agencies added regulations as the century progressed, they continued to take a limited role in OHS issues, instead regulating the patches of OHS that appeared to produce more disasters. Business owners continued to profit by overlooking workers' health and safety. While these OHS legislations brought further attention to workplace ill-health issues, their impact on improving OHS was marginal, as they were fragmented between federal, provincial, and territorial jurisdictions. In the 1960s, there were over 158 federal, provincial, and territorial acts, with 78 enforcing agencies (Sexty, 1979). Fragmentation led to variations in systems, laws, and penalties, with inherent inequities and inconsistencies (Reasons, 1984). The OHS laws were limited by partial coverage, ambiguous standards, and poor enforcement (Tucker, 2003). The shortcomings of these laws became increasingly evident as government inquiries took place in the mid-20th century.

The dominant approaches of WCB commissioners and inspectors, such as persuading business owners to improve OHS through economic reasoning and educational campaigns focused on changing workers' behaviours and attitudes, had minimal impact in improving safety and health. Workers' compensation for injuries and

diseases sustained through their work remained limited, and their protection and participatory rights concerning their health and safety were weak. They continued in their jobs with little knowledge of workplace dangers, and few opportunities for involvement in recognizing and controlling hazard exposure in their workplaces. The inadequacies of these less costly mechanisms became increasingly apparent as WCB claims and related expenditures continued to show increases in industry accidents (see Tables 4, 5, and 6). While OHS increasingly became the mandated responsibility of business owners, hundreds of thousands of workers continued to suffer from workplace disabilities, and thousands of workers died. As the statistics painted a more gruesome picture, union members and movements mobilized around occupational health issues.

The Active Voice of Labour Unions

From 1908 to 1943, labour gained significant power in some ways (Tucker, 1983), with union membership growing to 30% by the late 1960s (Milkovich, Glueck, Barth & McShane, 1988). In 1970, of all non-agricultural paid workers, trade union density reached 33.6% and rose to 40% by 1983 (Milkovich et al., 1988, p. 91). During the 1970s and throughout the 1980s, there were 2,953 union strikes and lockouts across Canada (Milkovich et al., 1988). These activities focused on OHS as the common concern, leading to a huge number of disputes and demands for better care. It was during this time that unions placed OHS as a forefront issue.

Health and safety labour movements occurred in industries that played an important role in Canada's economy, thus drawing increased public, business, and government attention to unsafe and unhealthy work practices. One example was the mining industry. While illnesses and deaths attributed to silicosis and pneumoconiosis

caused by breathing in toxic mining dusts had been known for centuries and accepted as a compensable WCB disease since 1926, they appeared as “discoveries” in the 1970s in many mines across Canada. This case was just one of several “rediscoveries” that occurred during the period. The unions during this time played an active role in readdressing the inadequate controls of hazardous materials that had been killing workers for decades.

A Wave of Government Inquiries and an Array of Laws

Even though the human carnage and damaged environment were seen as the results of the economic expansion and growth during the industrial era, laws that would restrict damaging business activities were slow to take force. It was only in the late 1960s that numerous government commissions, inquiries, investigations, and subsequent laws related to public and workers’ health and safety arose. From this time to the early 1980s was an era of profound legal transition that affected the employer-employee relationship. The laws increased restrictive limitations on business owners’ rights, and close attention began to be paid to the work environment as a cause of workers’ injuries and diseases. Increasingly, jurisdictions across Canada enacted restrictions regarding the introduction and use of dangerous workplace contaminants, such as chemicals, gases, and noise (Milkovich et al., 1988). This was the period when environmental protection, transportation of dangerous goods, Workplace Hazardous Material Information System (WHMIS), and Human Rights laws were passed.

The environmental and natural conservation movements emerged in the early 1900s, yet were only expanded in the 1960s and 1970s, as major public concern arose about air and water pollution, as well as other hazardous waste related to business

activities (MacDowell, 2012). The oil and gas industry was but one example. Initially viewed as an economic savior in regions across Canada, the expansion of the oil and gas industry came at the high cost of environmental damage and human life. Environmental activists began to raise concerns over the damages such companies were inflicting on Canada's vegetation, animals, waters, air, and humans.

Increasingly from the late 1960s to the 1980s, documentaries, books, and other publications, as well as initiatives led by activists, academics, and government investigators, reported on pollution's detrimental effects on Canada's natural environment and human health. In 1970, an Imperial Oil tanker ran aground and spilled 2.5 million liters of crude oil on surrounding east coast shores. Moreover, from 1975 to 1979, a total of 63 men were killed on Alberta drilling rigs (Stone & Meltz, 1983). These oil and gas industry accidents were attributed to inexperienced workers, poor equipment maintenance, fatigue and boredom from 12-hour work shifts, and lack of worker voice (Makin, 1980). In 1982, the *Ocean Ranger* sank when drilling off the shores of eastern Canada, killing all 82 crew. Ten days prior to the disaster, a decision had been made to abandon the rig due to safety concerns. The loss of lives was attributed to design flaws and the inadequate evacuation training of the crew (Stone & Meltz, 1983). In response, numerous laws aimed to protect the natural environment were passed during the era, thanks in part to many activist initiatives and their associations (Thompson, McConnell, & Huestis, 1993). From 1978 to 1992, most provinces enacted environmental protection acts related to OHS (Montgomery, 1996), with the federal government introducing the Canadian Environmental Protection Act in 1985. The environmental movement was clearly related to the increased public concern for workplace health and safety (Tucker,

1983); as a result, employers have been required to conduct business in compliance with these laws for four decades.

During the late 1970s and 1980s, there were prominent advances in the railway system that increased use. With the economic gains came several railway catastrophes involving the transportation of flammable, explosive, and toxic substances that could potentially harm people and the environment. These catastrophes spurred greater concern over public and workplace health and safety. In 1979, following the derailment of a train carrying chlorine gas, a total of 250,000 Mississauga residents were evacuated, and the leaking gas required millions of dollars in environmental clean-up work (Schwier, 2015). Similar accidents continued to occur, resulting in investigations that led the federal government to introduce the Transportation of Dangerous Goods Act in 1985. Most provinces and territories passed similar transportation legislation between 1982 and 1990 (Montgomery, 1996). Since then, amendments have been made to these statutes, but the laws continue to require owners of manufacturing and transportation companies to ensure safe packing, handling, and labelling of products. The legislation also specified that the employer was legally responsible for training the person handling and transporting dangerous goods. Even though the regulations did not define the level of training, they outlined the content topics most appropriate for training (Transportation of Dangerous Goods Act. Transportation of Dangerous Goods Regulations, SOR/85-77). These laws brought an increased focus on OHS education and training; however, the level of training depended on the employer's view of what is considered adequate for their work environment.

A coordinated approach and agreements between all Canadian jurisdictions resulted in the introduction of the WHMIS in 1988. This legislation strengthened OHS laws, particularly regarding workers' rights to know about workplace hazards. It is important to note that WHMIS legal requirements specified exactly who was to be trained, what the content of training should be, and what the training was meant to achieve (Canada Occupational Health and Safety Regulations, SOR/66-304, as amended). WHMIS was the first legislation to specify business owners' duties to instruct, educate, and train workers. This earliest legal requirement reinforced education as a primary injury- and disease-prevention mechanism to deal with toxic chemicals and gases found at workplaces. The WHMIS symbols and material safety data sheets are full-page illustrations in the first HRM and OHS texts in Business Studies. It was found, however, that the regulatory improvements during this era had little effect on workers' health and safety, as many business owners continued to commit the same OHS offenses and few were ever punished (Brown, 1994).

The mining industry followed a similar path. In 1974, following workers' allegations of serious OHS issues in Canadian mines and the Ontario Elliot Lake union strike protesting unsafe and unhealthy mining conditions, Ontario established the Royal Commission on the Health and Safety of Mines, headed by Professor Ham of the University of Toronto (Stone & Meltz, 1983). The federal-provincial report found that several companies had failed to establish accident-prevention measures and made over 100 recommendations concerning mine health and safety, as well as the management of OHS. The report once again brought attention to the risks of lung cancer related to silica dust, radiation exposure, and other workplace environmental hazards. Moreover, the

report advocated for new OHS laws and administrative arrangements. Suggestions included: (a) the consolidation of OHS government bodies; (b) joint worker and management health and safety committees; (c) safety-related qualifications for managers and workers; and (d) the introduction of new principles concerning the control of toxic substances. As with dangerous goods transportation, public concern escalated around the industrial poisons and their connection to the health and safety of workers and the broader community. This federal-provincial report provided further impetus for the changes in the OHS laws.

Other laws relevant to OHS emerged during the mid to late 20th century. The most significant were the Canadian Human Rights Act, passed in 1977, and the Canadian Charter of Rights and Freedoms, Part I of The Constitution Act, passed in 1982. These legislations outlined increased employer responsibilities to ensure healthy and safe workplace conditions. Prior to this period, the environment, the handling of dangerous substances, human rights, and their relationship to human health and safety, were not well regulated. These laws brought attention not only to workplace toxins and conditions that caused workers' ill-health, but also promoted education as the ongoing mechanism to reduce this problem.

Business owners were increasingly required to comply with hundreds of emerging employment-related statutes and regulations during the 1970s and 1980s. Complying with the new legislations led to business owners seeking the expertise of human-resource practitioners.

Legal Accountability and the Rise of Human Resource Managers

With the passing of the first workers' compensation legislation at the turn of the 20th century, business owners were increasingly required to accept responsibility for the welfare of their workers. Some business owners responded to the new laws by hiring industrial-welfare workers to provide programs and facilities on safety and health, and to deter the formation of unions (Milkovich et al., 1988). Continued union agitation led to the passing of employment laws to regulate unions, OHS, workers' compensation, hours worked, minimum wage, and the need for businesses to hire labour-relations professionals. The practices and educational pursuits of labour relations, referred to as "personnel" and later as HRM, remained bound by legislative compliance with regards to employment relationships. From the moment the laws were enacted, they shaped the field of HRM (Werther, Davis, Schwind, Das & Miner, 1982).

During the first half of the 20th century, business activities associated with the management of workers followed an industrial-relations approach. The increased number of industrial-welfare workers paralleled the growth of trade unionism as the 20th century progressed (see Chapter 4). The first personnel administration courses emerged in the early decades of the 20th century and expanded into universities through government efforts to increase industrial production during World War 2 through improved regulatory, selection, and training activities. Course content drew on the growing academic discipline of industrial psychology. In 1954, the *Canadian Personnel and Industrial Relations Journal* was founded.

In the early 1950s, the traditional labour-relations approach to personnel gave way to the organizational-behavioural science approach promoted by the academic discipline

of industrial psychology, which was oriented towards business economic objectives concerned with the development of human-resource competence and productivity. Later in the 20th century, the HRM field sought to assume a broader role in business development and strategy, beyond their traditional legislative and administrative function. This role sought to justify HRM activities in terms of costs and benefits to the organization's bottom line. Human-resource functions in business, of which OHS is one, were financially accountable to the organization.

The enactment of human rights and equal opportunity laws in the 1970s and 1980s spurred interest in academic business courses in HRM (Belcourt et al., 1996). This paralleled the predominant focus on workers' rights and roles in workplaces during this brief period of time (Itani, 2017). As the 1980s evolved, the HRM employee-oriented role gave way to a business-oriented role. The first HRM courses and textbooks covered the various technical and legal functions of HRM, including OHS, justifying the functions through economic arguments. Spurred by the development of national HRM standards, business school HRM programs and courses expanded across Canada. The 1970s and 1980s was a period of struggle for the professional recognition of human-resource professionals. It was only in 1990 that Ontario granted the first HRM designation—Certified Human Resource Professional. The CCHRA was formed in 1996 to provide a collective approach on HRM issues and to establish standards for human-resource professionals across Canada (CCHRA, 2015). OHS was one of the seven competency areas defined by the CCHRA. The standards established by the council were written into the HRM textbooks. Even though HRMs were accountable for ensuring compliance to

OHS legislation, some were involved in voluntary health promotion programs as a mechanism to deal with workers' ill-health.

Workplace Health Promotion

The government began promoting health in workplaces and in broader society in the 1970s in response to their escalating healthcare cost burdens. In 1971, funded by Health Canada, ParticipACTION was launched to inform Canadians of the health implications caused by inactivity and to encourage Canadians to make physical activity a part of their everyday lives (Canadian Public Health Association, 2014). Three years later, in 1974, Marc Lalonde, the Canadian Minister of National Health and Welfare, published a report titled *A New Perspective on the Health of Canadians*. The formative report was considered to have led to the development of a nationwide health education and promotion initiative, pushing Canadians to look beyond the traditional "sick care" system and take responsibility for changing their behaviours to improve their own health, that of their communities, and that of the environment (Minkler, 1989).

As with earlier workplace research placing accident blame on workers, new studies showed that healthcare costs were the result of workers' unhealthy behaviours, and that health promotion, counselling, and education would reduce these costs. Workplace health promotion was viewed as "the combined efforts of employers, employees, and society to improve the health and well-being of people at work . . . [which is] being achieved through a combination of improving the work environment, promoting active participation [and] encouraging personal development" (European Network for Workplace Health Promotion, 2017).

Business Workplace Health Promotion (WHP) policies and programs emerged to motivate workers to improve their health and thus raise business productivity (Conrad, 1987). Research stretched into lifestyle factors that led to workers' ill-health, like alcohol and drug use, poor diet, and insufficient exercise. As a result, large amounts of research and literature became available on workplace health initiatives, such as smoking cessation, aerobic exercise, nutrition, weight loss, and stress-reduction programs (Kelloway, Day & Hurrell, 2014a). Research continued to suggest that WHP programs could make a significant economic contribution to businesses by reducing worker health risks and improving their overall health (Bertera, 1990; Grawitch, Trares & Kohler, 2007; Mills, Kessler, Cooper & Sullivan, 2007). Moreover, the research and practices continued to focus on changing human preconditions and behaviours to aid workers in making personal healthy lifestyle choices (Burton, 2009; Griffiths & Munir, 2003; Kamp, 2007). Lifestyle explanations of individual disease were equivalent to early 20th century individual accident-proneness explanations for casualties (Burton, 2009; Griffiths & Munir, 2003; Reasons, 1984). WHP programs and workplace wellness initiatives were voluntary and driven by business interests, but as the link between such programs and economic business gain was difficult to measure, their adoption into industry was limited.

The focus on health education and promotion supported and strengthened the dominant thinking that workers needed to be fixed or molded to a healthy form. The idea that work structures, organization, and social dynamics might negatively impact workers' health, over which the individual has little or no control, was given little attention. WHP programs emerged parallel to the first comprehensive OHS laws, sharing a similar

educational orientation towards occupational health. During this time, changes in the character of the workplace also brought attention to occupational health.

The Socio-Psychological Work Environment

With the advent of industrial growth at the turn of the 20th century, writings emerged concerning the overall quality of an individual's work life and its relationship to workplace technologies and processes that affected physical and psychological health (Braverman, 1974; Engels, 1845 / 1987; Marx, 1867 / 1999), yet, occupational health problems related to industrial workplace processes remained muted during the first half of the 20th century. In 1973, the *Work in America* report, published by a special task force for the U.S. Department of Health, Education, and Welfare, gained influence in Canada, triggering public attention to worker health and well-being concerns in the psycho-social environment. This prolific publication brought international attention to the adverse consequences of strenuous, repetitive, and unhealthy work environments on workers, such as cardiovascular, digestive, immunological, muscular, and skeletal system diseases, as well as emotional and psychological impairments. The document held that changes in workplace structure and work design would not only reduce the work-related diseases experienced by a growing number of workers, but also improve the overall QWL of workers (Richardson, 1972).

The 1970s and 1980s in Canada saw the rapid growth of the QWL movement, an incentive spurred by groups of union officials, personnel managers, and social scientists with interest in industrial democracy, worker participation in job design, and autonomous workgroups operating without regular supervision. This period also saw the development of social science research, dominated by organizational psychology (Bohle, 1993), that

sought to understand human behaviour at work and implement ways to improve the balance between QWL and improved organizational productivity. Research into the impact of psycho-social aspects of the work environment on human health was evolving and gaining momentum during these years.

QWL Movement

Low QWL was associated with workplace processes and conditions that failed to address workers' interests and preferences concerning their health and well-being. Worker health and safety was included as an aspect of QWL (Mansell & Rankin, 1983). As the movement took hold, it was thought that traditional injury and ill-health prevention could be best managed through an integrative framework based on job design and workers' participation practices (Mansell, 1986).

During the 1970s, business owners sought new ways to organize and manage workers in order to remain competitive in the increasingly changing technical and global environment. These approaches were a significant departure from the closed-systems perspectives linked to scientific and classical management approaches. Organizations became viewed as open systems embedded in changing environmental contexts, requiring organizations to adapt. As noted by Dolan and Schuler (1987), the "socio-technical approach is based on the fact that jobs are people-made inventions designed to suit a number of technical and social systems' needs, and as such they are constantly changing" (p. 430). The new view was that organizational goals could best be achieved by paying equal attention to both the human and technical design elements of the work environment (Milkovich et al., 1988). This pioneering work to redesign socio-technical systems drew attention to the relationship between illness and accidents, and workers' apathy and non-

involvement (Argyris, 1958; Emery, 1969; Gardell, 1971, 1977; Trist & Bamforth, 1951), as well as psychological job demands (Hackman & Oldham, 1976, 1980; Karasek, 1979).

Organizations looked to worker participation practices to improve morale and commitment, which, in turn, would contribute to higher productivity. The theory was that all members on the organization should “have some say in decisions that affect their jobs in particular and the work environment in general, resulting in greater job involvement and satisfaction and reduced levels of stress” (Dolan & Schuler, 1987, p. 414). The decades of focus on command-and-control management techniques gave way to practices that encouraged worker consultation and participation in decision making.

Unions endorsed QWL (Porter, 1984), and universities began to provide training in socio-technical systems to business leaders (Dougall, 1986). Businesses across Canada began to adopt QWL practices as early as 1975, expanding into the 1980s. General Motors was one example of a company that provided workers with more diversified tasks and greater control over decisions, which, in turn, affected their work and broader production processes with the aim of increasing profits (Milkovich et al., 1988). Campbell Soup Co. Ltd., with nine manufacturing plants in five provinces, announced that the company was in the well-being business. They subsidized fitness programs and introduced quality circles to address production problems. Campbell Soup was viewed as a “souper” company because it increased worker morale and commitment to higher productivity (Dougall, 1986). Shell, a petrochemical company, redesigned its workplace along socio-technical principles and facilitated worker group control over the work processes through problem-solving task forces and multi-skilled work teams (Milkovich et al., 1988). A conference titled *QWL and the 80s* was held in Toronto in 1981 and

attracted approximately 1,600 union, academic, and business representatives. The conference, along with company initiatives, indicated that worker QWL was an important organizational issue for business owners during this era.

In 1978, the Ontario MoL established the Ontario Quality of Working Life Centre with the aim of improving the labour-relations climate and QWL of people in the province through worker-involvement activities (Ontario MoL Annual Report [ONMoLAR], 1981-1982). The centre's QWL initiatives expanded into the 1980s and included consultations, field project work, education, training, and research to assist workers and businesses in developing and sustaining projects focused on organizational change at the level of job design. The extensive educational program offered through the centre was viewed as essential to raising business and public awareness of the principles of joint involvement and shared responsibility between management and labour. ONMoLAR (1981-1982) reported that the "centre recognizes that improvement in the quality of working life can only succeed if management and labour can learn to work as partners in areas where joint benefit is possible" (p. 47).

Yet QWL work organization strategies "rarely proceeded merely because they had potential benefits for the people working in the particular organization" (Kolodny, 1987), but rather for their productivity benefits. If economic arguments were weak, these practices did not receive support from business owners. Because QWL was difficult to define and measure as productivity, making these cost-benefit arguments was difficult. To place a dollar value on increased worker self-control and satisfaction was most likely impossible. A common concern was that the goals and interests of workers and business owners were often presented as if *both* parties were interested in healthy and productive

workplaces, but in practice, productivity goals were more aligned with businesses' interests, and health goals were more aligned with workers' interests. To redesign workplaces to support workers' health and safety was only viewed as important if it could increase business profits. While business owners may have appeared to value workers, their value was often contingent on their demonstration of worth to the organization's bottom line of profitability.

Businesses in the late 20th century sought to advance productivity through a range of new management approaches such as total quality management, lean production, and high-performance workplace systems. The new management approaches shared portions of QWL philosophies, such as employee participation and involvement in organizational practices and decision-making, aimed at improving the productivity and competitive position of a business. The management also used QWL tools and techniques, such as quality circles, just-in-time systems, problem-solving groups, labour-management committees, high-commitment work systems, and self-managed work groups. Some of these perspectives were transplanted to OHS, such as the International Standards Organization quality standards and the healthy workplace continual improvement models. These approaches promised to humanize the workplace, but they were mainly introduced because they might come with significant productivity improvements.

To meet their bottom line in conditions of rapid technological change and increased competitive global markets, business owners began downsizing and restructuring during the 1970s and 1980s. Their practices resulted in new forms of employment, where full-time jobs were increasingly replaced with non-traditional and less secure forms of employment, like part-time, contract, and temporary work

arrangements. Such precarious employment arrangements inhibited workers' knowledge and participation in OHS issues, increasing their risk of ill-health and injury. Though presented as offering workers job flexibility, these job forms were more likely to offer businesses flexible production and reduced labour costs. Again, there was less intent to improve the QWL for the workers than to improve business profits. Job security, workers' health and safety, and work design became limited as non-full time work contracts expanded. Organizational change and restructuring left workers concerned about effects on their employment. Uncertainties around financial and job security created unhealthy stress for workers.

It was during the second half of the 20th century that a connection was made between QWL issues and OHS, including psychological stress factors. Organizational health psychologists, whose research paralleled the QWL research, were particularly interested in the harmful socio-psychological conditions that caused low QWL.

The Psychologically Healthy Workplace

Workplace stress is a term that has been highly integrated into our lives, yet it is a relatively new term that only emerged in the 1970s. During this era, organizational health psychologists were expanding their research on physiological stress to include psychological stress. Studies on the relationship between work and stress argued that physical and psychological ill-health was caused by the combined effects of many social, environmental, behavioural, and biological factors (Krantz, Grunberg & Baum, 1985). These studies linked aspects of the work environment and relationships at work to the health and well-being of workers and the success of the organization. Organizational outcomes, such as productivity, continued to be a strong aspect of research design.

In the 1980s and 1990s researchers identified several socio-psychological risk factors that could have negative stress-related consequences on workers' productivity: work demands, schedules, control, support, roles, job security, relationships, job change, and job content (Cooper, 1985; Sauter, Murphy & Hurrell, 1990). Early research within this field also explored the effects unemployment had on health, as well as the positive impacts of work (Kelloway et al., 2014a). Many organizational-stress and healthy-workplace models were developed, reflecting the complex and broader aspects of workers' health. A growing number of Canadian reports, followed by guiding standards, recommended that organizations consider psycho-social factors in developing their organizational OHS programs and policies (Shain, 2009, 2010; Thorpe & Chénier, 2011).

During this era, fitness programs, educational materials, and employee-assistance programs were adopted by some Canadian companies as a way to help workers cope with work-related stress, but workplace stress issues in truth remained the sole responsibility of the individual worker. Coping mechanisms simply offered workers a possible symptomatic relief from the work environment stressors. These individual approaches appeared helpful to workers, yet diverted attention from the likely causes of work-related stress, such as poor job design or worksite structures and processes.

The WCBs and MoLs Govern OHS

Linked to the QWL movement, occupational health psychologists brought further attention to the importance of worker control and participation in OHS practices, which became entrenched in OHS legislation and standards. These evolving events spurred regulatory reform. The perspectives and practices adopted by the WCBs and MoLs responsible for administering the new OHS laws is the focus of the second part of this chapter.

Brown's (1982) review of Canadian OHS legislation during the 1970s shows that there was no other Canadian employment law that experienced such upheaval as OHS legislation during this era. From 1972 to 1981, all 12 Canadian jurisdictions enacted some form of comprehensive OHS legislation, where various pieces of laws aimed at protecting and promoting OHS were consolidated under one act and one regulating agency (Sass, 1998). The first comprehensive OHS act was passed in Saskatchewan—the Occupational Health Act of 1972 and the Health and Safety Act of 1978—followed by the enactment of the Ontario Occupational Health and Safety Act of 1980. The Saskatchewan Department of Labour and the Ontario MoL were given the legal power to administer, write and enforce the new OHS laws (for ease of reading, I refer to both regulating agencies as the MoLs). In British Columbia, this new comprehensive legislation evolved within the mandate of the WCBBC. The British Columbia Workers' Compensation Act and regulations were enacted in 1979.

All Canadian WCBs or commissions continued to maintain authority over workers' compensation for work-related injuries, diseases, and deaths. Through this transitional time, the WCBs of Saskatchewan and Ontario continued to be involved in various aspects of accident-prevention practices, with many being adopted by the new regulatory bodies (WCBONAR, 1986, p. 7) or, in some cases, maintained, as with the WCBBC. For example, the Saskatchewan and Ontario WCBs continued to transfer industry-assessment funds to finance the new ministries' OHS division accident-prevention programs (ONMoLAR, 1981-1982). A later example was the reversed mandating of Ontario injury- and disease-prevention and health-and-safety promotion activities (the Workplace Safety and Insurance Act of 1998) back to the WCB, currently

known as the Workplace Safety and Insurance Board in Ontario. The WCBs continued to be an influential OHS institution connected to the new laws and regulatory bodies, and as such are an important aspect of my analysis of the reformed OHS laws.

The WCBs Have a Massive Influence on the Health and Safety of Canadian Lives

In these sections, my focus is on Saskatchewan, Ontario, and British Columbia OHS regulatory bodies. I excavate the governing agencies' diverse OHS-related knowledge, judgments, debates, and social processes during the advent of the new comprehensive OHS laws in the 1970s to mid-1980s. I take the view that the perspectives towards OHS, as found in the WCBs and the OHS divisions within the MoLs, evolved and operated in relationship to each other.

During the early to mid-20th century, the WCBs operated as the major employer of Canada's OHS workforce and resources (Reasons et al., 1981). By the late 20th century, the number of employers registered with the WCBs grew to the tens of thousands. The WCBs' assessable payroll continually increased, growing to billions of dollars, with the resulting assessment income growing to millions of dollars. As workers' accident claims increased, the WCB established hundreds of offices and several rehabilitation, laboratory, training, and research facilities that were filled by thousands of OHS staff. The WCB personnel worked closely with various public, private, and not-for-profit bodies on provincial, national, and international levels to establish OHS regulations, policies, standards, and practices. These activities were supported with extensive training programs. The WCBs also provided facilities, resources, and instructions to technical institutions, colleges, and universities. Looked upon as experts in OHS, they published, presented, and funded considerable amounts of literature and

research. It could be argued that their perspectives on OHS have dominated our understanding ever since.

It became increasingly evident with the growth and wide influence of the WCBs within the arena of OHS that Canadian society broadly accepted their activities. The historical compromise that protected business owners from liability in exchange for workers' protection from loss of income defined and set boundaries around our understanding of OHS (see Chapter 4). After five decades, the voices of workers remained constrained within the legal framework of the workers' compensation scheme, leaving workers to continue to consent to regulatory laws. Business also supported the laws, but much more favourably. Workers' compensation insurance coverage made accident insurance costs low and predictable for business owners, while reducing their liability for workers' injuries, diseases, and deaths. It further reduced their time and involvement related to labour conflict, as union action was also constrained within the framework of workers' compensation insurance. The WCAs further removed business owners' responsibility to assist workers as they recovered from their injuries, limiting their involvement in disability management. This regulatory insurance scheme continued to be endured by workers, while having a strong appeal to business owners.

The main motivation of the WCBs has always been to maintain their underwriting loss-prevention function through the delivery of cost-effective OHS insurance coverage to business owners (see Chapter 5, An Underwriting Role). As accident costs exceeded insurance revenues from employers during the 1970s, the WCBSK (1973) "with reluctance enacted a general and substantial increase in rates of assessment to most employer groups" (p. 5). In the 1980s, when the WCBON experienced a steadily rising

unfunded liability, they proposed a necessary 27% to 35% increase in assessment rates, which the industry felt was too great, and thus held the increase to 15% (WCBONAR, 1984). The WCB hoped to reduce its deficit “without, in any way, hampering the ability of Ontario’s employers to carry on business,” since the “ultimate health of the workers’ compensation system depends on the continued strength of the province’s economy” (WCBONAR, 1984, p. 13). While the intent of the WCAs was for industry to bear the burden of its accidents (BCR, 1916), the WCBs were still hesitant to transfer accident costs onto the industries in which they occurred. The WCB continued to make changes to the laws in ways that would not be “punitive or could measurably hamper that industry so as to make it less competitive” (WCBBCAR, 1977, p. 2). This thinking was linked to the enactment of the first WCAs, where the intent of the law was not to punish or hurt business owners (as discussed in Chapter 5). The historical compromise fixed responsibilities and allocated costs in ways that often made investment in accident-prevention unprofitable for business owners.

On the other hand, costs and accountability were attached to the WCBs, who most often found it profitable to devote time, energy, and money to preventing financial losses related to industry accidents. The WCBON affirmed that reducing the cost of the WCB system “can be done by reducing the number of workplace injuries and the length of time that workers are on compensation” (WCBONAR, 1984, p. 14). As more work-related diseases became compensable in the mid to late 20th century, the WCBs were highly driven to bring down their losses. The WCBs sought to engage business owners in accident-prevention efforts through appeals to their capacity to reduce business losses and enhance profits.

It can be argued that WCBs' practices concerning OHS, while not always visible, continue to occupy a dominant space in the domain of OHS today. With the enactment of the new comprehensive OHS laws, the WCBs have remained socially powerful institutions.

An Internal Responsibility System

Beginning in 1970, Canadian jurisdictions transitioned towards a model of mandated partial business self-regulation that combined workers' participation committees with organizational OHS systems. Worker rights were extended to include what is known today as the 3Rs: the right to know, the right to participate, and the right to refuse. Management's responsibilities towards OHS were also more clearly defined. The responsibility to improve workers' health and safety shifted from external regulating parties onto workplace parties. The increased emphasis placed on process and performance regulations, such as OHS plans that involved the hazard Recognition, Assessment, and Control (RAC) method, supported this internal responsibility system. Prescriptive regulations, such as setting specific standards to deal with specific hazards, were also updated and extended. The law further mandated education as the most important factor in preventing worker injuries, diseases, and deaths.

The legislation had a new orientation, shifting industry injury and disease causes from workers' careless behaviour to the work environment. The shift reflected society's prevailing concerns about the relationship between pollution and toxins found in the environment and workplace and human health, and the regulations were reshaped to give greater attention to worker *health* concerns.

Even though the legislations varied among jurisdictions, the Saskatchewan (1972/1978) and Ontario (1978) Occupational Health and Safety Acts, and the British Columbia WCA and regulations (1978) were similar in that they defined the declining role of government in terms of inspection, enforcement and penalties, the duties and rights of employers and employees, the role of joint labour management committees, and the accentuated importance of education.

Enforcement: Promoting Safety Consciousness

In this section, I move into a deeper analysis of the scope, function, and administration of such laws. While the prime responsibility of the regulating agencies was to write acts, regulations, and standards, as well as enforce the rules by conducting worksite inspections, accident investigations, and levying penalties (WCBBCAR, 1977), the new OHS laws maintained the WCBs' half-century-old beliefs that advising, consulting, and educating business owners with respect to their OHS responsibilities under the legislation was the best approach to maintaining the OHS laws (see Chapter 5, *An Educational Approach to Gain Compliance*). The advice-giving over penalty-giving role as a law enforcement approach was supported in the new OHS laws, where the investigating and penalizing power of the regulatory bodies was assumed to diminish over time.

Under the new mandated internal responsibility system, business owners and workers had the prime accountability for OHS practices, with enforcement officers encouraging all parties to meet their legal responsibilities by helping them “understand the need to establish effective self-inspection and self-compliance programs within the workplace” (ONMoLAR, 1981-1982, p. 20) and assisting “workers and employers to

improve and strengthen the functioning of the occupational health committees” (Saskatchewan MoL Annual Report, 1982, p. 31). Accident-prevention officers promoted “the principles of accident prevention and safety consciousness through discussions with management, workers and health and safety committee representatives” (WCBBCAR, 1977, p. 4). The aim of the new OHS laws was to “provide the required margin of safety without being unnecessarily restrictive” (WCBBCAR 1979, p. 6) on business owners, a belief maintained and practiced by the WCBs for five decades. The supremacy of business owners’ interests and power over OHS was woven tightly into OHS rules, beginning in the early 20th century with the enactment of the WCAs, and reproduced with vigor later in the century with the enactment of the OHS acts.

The Canadian Centre for Occupational Health and Safety

In 1978, the federal government passed the CCOHS Act, which created a new national OHS institution—the CCOHS—to disseminate and advance OHS information to Canadians. This new institution reflected the revised role of the Canadian government within the internal responsibility system, i.e., to provide employers and workers with OHS information. This emphasis on education attempted to address the public fear surrounding the less visible or known toxic hazards that existed in workplaces, and concerns that the OHS “legislation was ineffective and ineffectively enforced” (Atherley, 1987, p. 392). The chair of the CCOHS stated:

Most people instinctively obey the law; they need only to know what is required of them to comply. Even if there are special factors in occupational health and safety, information about the requirements of the legislation appears to be the single most important factor securing compliance from most employers,

managers, and workers. Information is the instructions for which the actions for which the actors are responsible. Governments began to see in the 1980s just how important information is to occupational health and safety. They began to provide substantial information programs for many legislative developments. (Atherley, 1987, pp. 392-393)

This national government centre for OHS research, education, and training emerged as a dominant force in how, when, and what information, research, policies, and programs were produced and disseminated to Canadians. Today, the aim of the centre is still to “equip working Canadians with the information needed to reduce hazards and eliminate risks in the workplace” (CCOHS, 2017). A primary concern for the CCOHS has remained to facilitate information-sharing among government, associations, and organizations through established databases that contain OHS research, statistics, publications, and education programs accessible to all Canadians.

The establishment of government partnerships with leading OHS agencies and the gathering and dissemination of educational documents increased awareness among Canadian communities about the relationship between dangerous workplace substances and conditions and worker ill-health. The CCOHS exposed evidence of workplace diseases that resulted from long-term exposures, whereas in the earlier decades the diseases may have been dismissed as unimportant or related to a worker’s preexisting health condition and aging body. New workplace hazards continued to be uncovered, and required the attention of both the WCBs and MoLs. Activities by the regulatory agencies related to workers’ compensation claims and containment of dangerous workplace substances expanded across Canada. But the underlying assumption remained essentially

the same: that information available through databases, publications, training, and education was the best mechanism to address workplace injuries, illnesses, and deaths. It was assumed that once employers and workers were provided with OHS information that workers would be protected from workplace hazardous substances and conditions. The CCOHS Act and its enforcing institution, the Canada Labour Code, have played a dominant role in OHS practice and education for four decades.

Employers' Responsibilities: OHS Program Elements

Communication throughout the comprehensive OHS legislations revealed that management was responsible for ensuring health and safety in the workplace. Most jurisdictions required business owners to outline and communicate an OHS policy and develop and implement an OHS program. The legislations compelled business owners to impose OHS requirements with respect to equipment, hazardous substances and materials, employee qualifications, employee instruction on rights and responsibilities, work conditions, protective equipment and clothing, training and supervision, joint health and safety committees, inspections, documenting, reporting, and investigations. This list forms the cornerstone of OHS practice and education today. The responsibilities of business owners remain narrowly defined guidelines that outline the legal requirements of an OHS management program, while still not stipulating how businesses choose to meet these minimum legal elements.

How OHS was introduced into a workplace depended on the business owners' willingness, motives, priorities, and purposes. Moreover, it depended on contextual factors concerning business owners' production and profit pressures, as well as decision-making priorities that weighed the cost and benefits of OHS. As a result, some businesses

turned to Occupational Health and Safety Management systems to establish a self-regulatory framework to meet their legal obligations to prevent work related injury and ill-health (J. Partington, personal communication, December 23, 2014). There was an increase in Canadian standards and certification schemes applied to Occupational Health and Safety Management systems paralleling the new OHS laws. Safety societies, such as the CSA, and their continued relationship with the Canadian and international regulatory agencies in developing standards, maintained their aim to service businesses technically and financially (CSA Group, 2017b). The various Occupational Health and Safety Management programs and systems were closely matched with management theories that were related to business performance systems, quality management, and continuous improvement processes that were being introduced into workplaces as a new way to organize work in the face of the competitive global environment (Gallagher, 1997; Nielsen, 2000). The common feature of the OHS models was their goal of intensifying individual worker productivity to increase business profits, with OHS being an attachment that fit into these high-performance processes.

Risk Assessment

With the new OHS laws stipulating that business owners must plan and manage OHS, risk assessment regulations naturally emerged as a mechanism to support business owners in meeting their legal requirements to adopt proactive practices for recognizing, assessing, and controlling workplace hazards. Risk assessment grew out of the fields of engineering and insurance. Hazard RAC defined the role and practices of these technical safety experts, and has since become a pervasive element in today's OHS practice and education.

Risk assessment was defined within the field of engineering as “a system for assigning priorities, and determining whether costs of correcting hazardous situations [were] justifiable” (Fine, 1977, title page). Risk assessment methods were used as a method of determining relative urgencies for attention to hazards, and for a simple system to give guidance as to whether the estimated cost of an engineering project to eliminate a hazard [was] justified. These needs [were] satisfied by the use of formulae which weigh the varying degrees of the controlling factors. (Fine, 1977, preface)

The formula to calculate the seriousness of the risk due to a recognized hazard was called the risk formula score (Consequences x Exposure x Probability), and the formula to determine justification for recommended corrective actions was the justification score (Consequences x Exposure x Probability / Cost Factor x Degree of Correction). It is important to note that the numerical ratings in risk assessment equations and formulas were based on the subjective judgments and experiences of the person making the calculation, and that the decision concerning workers’ health and safety remained with the business owner, who might prioritize business health over worker health. It has since remained an economic cost-benefit business decision-making tool that seeks to engage business owners’ support for OHS by presenting safety as making profitable business sense. Only justifiable hazardous situations continue to be considered by business owners, allowing for some “acceptable” levels of unhealthy and unsafe conditions.

This model was based on the thinking that business owners have limited time and budgets, and that it was advantageous for them to have a method to determine the seriousness of each hazard, and how much time, effort, and money should be devoted to

the situation. Mathematical calculations were a Safety Pays tool that could quantitatively justify or not justify the cost of preventing worker injuries, diseases, and deaths, depending on the relative severity or importance of the hazard. During the period, worker health and safety issues that could not be objectively justified through these calculations would not be considered.

Hazard RAC was presented as a win-win process where everyone's aim was to ensure the health and safety of workers. While it appeared that business owners were addressing workers' interests through RAC processes, they continued to also ensure that RAC met their interests, which may have been influenced by the profit motive. This model assumed that there was a mutuality of interest between workers and business owners regarding OHS.

The last step of the hazard RAC practice was the business owner's choice of a hazard control measure. The hierarchy of controls was discussed in Chapter 5 (see sections Acceptance of Reasonable Risks, and Googles or Blinders?), where I brought attention to the language used in the OHS laws, such as "reasonable" controls that allowed the business owners to adopt low-cost eye goggles for workers instead of undertaking greater costs related to removing the hazard.

Similar to the escalation in attempted prevention of workers' eye injuries in the 1920s, Noise Induced Hearing Loss (NIHL) compensation claims were at the forefront of concern in the 1970s and 1980s. A deeper look at how the regulatory agencies constructed NIHL provides insights into how occupational disease prevention was viewed and practiced.

Earmuffs and Hearing Aids

In response to the increasing workers' insurance claims for NIHL, new worksite noise-exposure level standards and hearing tests necessary for adjudication of claims and industry classifications became regulated. These regulations stated that “[w]hen workmen are required to work in areas in which noise levels exceed the criteria for permissible noise exposure; (a) the employer shall first take appropriate measures to reduce the noise intensity to approved levels or (b) if it is not practicable to reduce the noise, the workmen shall wear personal protective equipment which will effectively protect their hearing” (WCBBC News Bulletin, 1973a, p. 3). How business owners chose to minimize the hazardous noise remained their legal right. Rather than eliminating the dangerous level of workplace noise, owners supplied earmuffs as an acceptable economical low-cost mechanism to prevent workers from being exposed to dangerous levels of workplace noise. The importance of wearing earmuffs populated posters, films, and news bulletins produced by the regulating agencies. Figure 1 allows us to experience how worker disease prevention was viewed by the WCBs and MoLs. The design, location, structure, equipment, and materials causing the workers' hearing loss operate in the background, while workers in the foreground wear and accept earmuffs.

To help business owners meet their legal obligations concerning hazardous workplace noise, the OHS regulating bodies also began to provide technical booklets and training in noise measurement, noise control techniques, and hearing conservation practices. Publications aimed at educating workers on hearing-loss prevention, such as *Hear Today, Hear Tomorrow*, were disseminated in industries across Canada. Instruction and training manuals were produced for academic institutions, encouraging them to adopt practices consistent with the ways of the regulatory agencies.



NOW HEAR THIS . . .

Children's laughter, football scores, telephone conversations—they're all things worth hearing. WCB Accident Prevention Inspector Al Anderson shows how hearing can be protected in constant high noise level areas by the use of specially insulated ear muffs. These workmen, who run the planing machinery in a B.C. saw mill, didn't need any extra convincing. They were already wearing their hearing protection.

Figure 1: Now Hear This (WCBBC News Bulletin, September 1970). Reprinted by permission of © WorkSafeBC (Workers' Compensation Board).

The regulating bodies' participation in standards development and research projects on hearing protection devices further supported PPE and products, as well as claims management. WCB research on problems associated with communication while wearing hearing protection and the influence of medical factors on susceptibility to noise focused on changing workers' communication in hazardous noise environments, not on eliminating the noise from the work environment, which would be a more costly measure (WCBBCAR, 1978). Findings from hearing-loss studies that focused on defining the percentage of hearing loss, such as the difference between impairment handicap and disability, were used to develop guidelines for compensation claims and insurance claims adjudication (WBCONAR, 1979). Accident-prevention research appears to have focused more on loss-prevention than disease-prevention. Practical models and techniques

gleaned from research were written into educational manuals, presented at conferences, and distributed to higher-education facilities. A significant amount of research linked to loss-prevention motives was founded, conducted, funded, and distributed by the regulating agencies during the 1970s and 1980s. The regulating agencies' applied studies and publications had a far-reaching influence.

It is discomfoting to know that only severe hearing loss, when a worker was no longer able to work, was compensable, and that low-cost hearing aids were what most hearing-disabled workers used to allow them to hear. However, NIHL was preventable by business owners. During the period, there were limited financial consequences for business owners concerning NIHL, yet lifelong suffering on the part of workers and families.

Such occupational diseases, very different from cuts and wounds, were socially constructed by the regulatory bodies in ways similar to occupational injuries (see Chapter 5, *The Health in OHS is Missing*). The focus on the individualization of responsibility for worker health, and the economic perspective that weighs the costs and benefits of worker health, underlay the WCBs' and MoLs' noise-control and hearing-conservation practices, and, by extension, other occupational disease-prevention approaches.

Safe Exposure Limits to Toxins

While there were different and competing views and approaches to worker health, during this era the regulatory agencies drew on the discipline of industrial hygiene with two aims: one was to survey, inspect, and monitor workplaces; the second was to provide education and information to business owners and workers regarding potential workplace

diseases and toxins. The extent of their work included establishing standards and regulations concerning workplace hazardous substances and conditions.

In 1972, the scope of industrial hygiene regulations expanded to include tables that listed “the permissible concentrations of a great variety of hazardous substances to which the worker may be exposed without a significant health risk” (WCBBC News Bulletin, 1973b, p. 4). These “safe exposure levels” were called Threshold Limit Values (TLVs). These TLVs were minimal legal health-hazard exposure standards accepted by the WCB. TLVs were estimates, not static definitions. The sets of standards did not include the synergistic effects in their interaction with other workplace hazards. Moreover, they usually did not take into account effects on workers exposed to maximum levels over long periods of time. Unexposed health and hygiene experts and WCB insurance commissioners decided what the acceptable level of risk was for exposed workers. This reflects a political process and again, an economic perspective. The TLVs further suggested that there were safe levels of chemical, biological, and physical exposures. While minimal standards might have been acceptable to business owners who were creating the health risks, they were likely not acceptable to most workers who did not want to be exposed to any health risks. Compliance to these TLVs was mandatory by business owners, yet “the board prefer[red] to enforce these regulations by persuasion and discussion” (WCBBC News Bulletin, 1973b, p. 4).

Even though the WCBs used TLVs for standards used to prevent workplace diseases, their importance to the WCBs was more aligned with their underwriting and claims-administration role. With new diseases appearing in workers across Canada, the WCB industrial hygiene inspectors sought to collect and measure evidence of diseases

related to hazards and to establish surveillance of workplace contaminant levels, so that insurance rates could be adjusted or established. Of critical importance is that a worker's accident claim was accepted or rejected based on the evaluation of the amount of toxins or exposure measured in their body, noting whether or not they surpassed the TLVs. While OHS minimal and permissible legal standards, one of which were the TLVs, were presented as safe and appearing to address workers' concerns about the poisons in their work environments, the Safety Pays and WorkSafe ethos lurked hidden in the background.

Establishing Workers' Rights to Participate in OHS

Ideas on facilitating worker participation in business decisions were linked to the first WCBs' regulations (see Chapter 6, Workmen Accident-Prevention Committees) and socio-technical management system approaches and QWL practices introduced in workplaces in the later 1970s to improve worker morale and productivity. The new OHS laws placed OHS administration in the hands of workers and managers, to provide workers with greater control over the workplace risks they faced. Joint Health and Safety Committees (JHSCs) were the cornerstone of the internal responsibility system, a core feature of the reformed OHS laws. They played an important role in establishing the three workers' rights—to be informed and involved concerning OHS issues and to refuse unhealthy or unsafe work—and, as such, were the central elements in implementing the laws.

While workers were given a voice and high levels of responsibility for OHS, their role was confined to advising, with business owners maintaining decision-making authority. Worker representatives' duties were defined as the identification and control of

hazards, coordination with health services, the provision of OHS information and education, the maintenance of records, and the investigation of accidents. The Saskatchewan Health and Safety Act (1978) stated that management was required to “consult and co-operate with the OHS committee at the place of employment for the purpose of resolving concerns on matters of health, safety and welfare at work” (p. 5). The act further required employers to gather information concerning workplace hazards and share it with the health committees and workers. The mandating of JHSCs was built on the belief that there was a mutuality of commitment and responsibility between workers and business owners with regard to improving OHS. An imbalance may have existed, however, with workers’ commitment and accountabilities being greater than those of business owners and regulating agencies.

The law remained silent on these competing interests between business owners and workers and, as such, did not provide mechanisms to deal with adversarial situations that could not be resolved. JHSCs were accepted by society, though, who believed that all voices would be equally heard, and workers would be protected from unsafe and unhealthy work substances and conditions.

Workers were encouraged to report employee and employer OHS violations or concerns internally to the JHSC, rather than externally to regulatory agencies. These internal discussions and negotiations occurred privately between business owners and worker representatives, with less government and labour involvement or intervention. The voices of worker representatives were limited by their low ability to influence business owners on their OHS ideas. The law did not address how workers might influence policy or regulatory matters, which could influence business decisions

regarding OHS. JHSCs were unlikely to challenge business interests or prerogatives that may have been compromised by the profit motive.

A mandatory role of the JHSCs was to provide educational advice and training to workers. The laws further required their members to receive training for this purpose. Training requirements for worker representatives varied among jurisdictions, yet most acknowledged training was related to four legislation areas: OHS laws, JHSC duties and responsibilities, accident investigation, and workplace inspections (Earl, 1992). Some jurisdictions established JHSC certification processes that defined the competencies required for members. The training was designed to help JHSCs understand the legislation and what legal practices should be undertaken in the workplaces, with less concern about the hows and whys surrounding OHS processes and practices. Committee members often performed work that involved adversarial interests and complex OHS issues. Communication, conflict resolution, and negotiation and mediation skills, as well as topics that were viewed as political, such as change management practices and bargaining strategies, were excluded from the training (Ontario Federation of Labour, 1991). The successful workings of the committee members were thus constrained by their training.

The legislation was also silent on business owners' reliance on expert technologists and technologies that dominated OHS, and the technical literacy required by JHSC to understand the discrete and often contradictory OHS practices. The use of specialists with perceived expert knowledge might have inhibited the JHSCs from using their own knowledge about OHS. Both JHSC workers and managers might have become

increasingly dependent on the narrow expert views. A powerless role could, thus, lead to weak JHSC member motivation.

Some workplaces employed temporal and transitional practices, including the use of contractors and non-traditional employment arrangements, which made it difficult to incorporate JHSCs into industry. The law did not recognize the shift from more secure full-time employment relationships that began in the 1970s, or that the growth in labour market insecurity weakened workers' rights—the 3Rs. Contract, part-time, and temporary workers were less likely to be informed and trained, or in advocacy or representative positions, related to OHS. Workers and business owners might have been therefore less committed, trusting, and communicative with each other. While workers' rights were mandated, the new high-performance oriented organizational structures did not make these rights meaningful, as businesses engaged in practices such as downsizing, merging, and contracting out work. These business structures, work design practices, and flexible employment arrangements supported business production and reduced labour costs, putting workers at more risk of injury and ill-health. The law was silent on how JHSCs were to deal with these challenges.

We see then that the JHSCs could promote participation and communication regarding OHS between workers and managers, but the workers' legal right to participate remained weak. The law placed the burden of workers' health and safety with voluntary worker-representative committees, which were bound by the authority and economic decision-making power of business owners, thus preserving the spirit of Safety Pays and WorkSafe. This perspective was reproduced through the training and certification of JHSCs who, in turn, shared this perspective with the workers they represented.

OHS Education is Mandated

With the expanded complexity of work environments where workers increasingly encountered chemical, biological, and physical hazards, the new OHS legislation moved towards regulating workplace behaviours through more education. These reformed laws placed still greater responsibilities upon workers to protect themselves against new and often insidious hazards. All major elements of the new law included provisions for worker education and training.

The importance of providing workers with OHS education and information about workplace hazards, as well as improving the qualifications of workers involved in OHS, was communicated throughout the new legislation. The government was to “encourage and conduct educational programs” (Saskatchewan Health and Safety Act, 1978, p. 6), the managers were to “impose requirements with respect to instruction, training and supervision” (Saskatchewan, Health and Safety Act, 1978, p. 9), and the joint health committees were to “provide information and education to workers” (Saskatchewan, Health and Safety Act, 1978, p. 14). Two types of training were outlined by the new legislations, one being general requirements for all workers and occupations, and the other being traditional skill-training for workers in specific jobs. In both cases, business owners were responsible for ensuring workers were trained.

The laws also stated that “the employer is required to make reasonable arrangements to ensure that each worker understands the provisions of the Act and regulations which apply to his place of employment” (Earl, 1992, p. 1-18). Since the laws required employers to educate workers on their OHS rights and responsibilities, the industry training focused on informing workers of their rights, rather than on practices that could help them achieve and exercise their rights. Lists of the duties and

responsibilities of employers, supervisors, and JHSCs appeared at the forefront in the training programs, with little concern for a deeper understanding of how these obligations operated in the workplace. The laws also outlined specialized skill-related training and certification requirements directed at a small group of workers within certain occupations and industries, as well as WHMIS, similar to the traditional training done in the past decades. The *defined minimal OHS regulations* set the parameters of OHS training practices in industry and businesses. Legally prescribed education was thus another low-cost mechanism that allowed the industry to meet its increased regulatory obligations related to OHS.

As shown, the introduction of new standards and regulations in the 1970s and 1980s addressed disease-related hazards, most linked to escalating workers' compensation claims. This resulted in an increased demand by both the regulating agencies and business owners for trained safety officers, industrial hygiene professionals, and first aid examiners, instructors, and attendants. The WCBs and MoLs were increasingly involved in issuing licenses, certifications, and diplomas for people interested in accident prevention and industrial hygiene careers. Hundreds of courses were developed, resulting in hundreds of designated industry safety and hygiene specialists and tens of thousands of certified first-aid workers. Training workers, e.g., to provide first-aid interventions, to respond quickly to workplace accidents, or to behave in other healthy and safe ways, again placed the responsibility for OHS on the worker. It was an inexpensive practice for business owners to comply with the law. The regulating bodies' perspectives and chosen practices were transferred to workplaces across Canada.

To further help business owners meet their legal obligations, the regulating agencies expanded their education departments and services. Further services to businesses included the development and delivery of various seminars, which increased in courses, attendance, and topics from the late 1970s into the 1980s. Each year, tens of thousands of workers, supervisors, and safety committee members received training. In Saskatchewan, for instance, a “great many of these talks and lectures were developed by personnel of the Safety Department through analysis of costs of accidents and nature of injuries suffered by Saskatchewan workmen” (WCBSKAR, 1971, p. 8). The workshop topics concurred with the accident-prevention regulations developed to address high industry assessment rates, thus continuing to support the financial interests of the WCBs and business owners.

We must consider that if the training program content, objectives, and methods did not address the specific needs and concerns of those being trained, then training was likely an incorrect solution to the underlying OHS issues. The root cause of the OHS problem was, therefore, not tackled. Training employers and workers may have further remained unsuccessful because the work environment context may not have always supported the new ideas and skills. If the OHS issues were related to the lack of organizational resources, motivation and support, organizational culture and social norms (dignity and respect for and among workers), and poor work organization than education would have been an inappropriate solution. While society may have generally viewed education and training as positive, the approach had significant limitations.

Educating Workers on Proper Body Mechanics

The inception of Ontario's Industrial Back Education Program and British Columbia's Back Talk program as mechanisms to deal with the escalating work-related back strain injuries and resultant compensation claims occurring during the 1970s and 1980s provide insights into how the regulatory agencies viewed occupational disease prevention. Back pain and strain was often a serious disabling condition with far-reaching effects on every aspect of a worker's life. Back strain injury claims suggested that management processes were creating jobs with risk factors that included repetitive movements, forceful efforts, and fixed and awkward positions, resulting in repetitive strain and overexertion injuries. Acceptable practices, such as working extra hours leading to fatigue and drowsiness, or feeling pressure to complete work quickly, could lead to overexertion and overuse injuries.

Ergonomics, the study of the efficiency of workers in their work environment (Montgomery, 1996), was the discipline that the regulatory agencies drew on to minimize, not eliminate, the harmful effects of poor work design on workers' back health. In identifying manual lifting as a concern, the regulatory agencies implemented manual lifting and carrying regulations that required business owners to ensure safeguards were in place for workers physically moving objects. Following this legislation, British Columbia introduced ergonomic regulations and standards (Montgomery, 1996). New regulations placed requirements on employers to avoid ordering work activities, such as hazardous manual handling that caused sprain or strain of muscles, tendons, ligaments, joints, nerves, blood vessels or related soft tissue, where reasonably "practicable," and to do so by re-designing the task to eliminate the need to move the load, or alternatively, automate or mechanize the work process. Where it was

not feasible, business owners had to institute a series of measures intended to minimize the risk of injury associated with manual handling tasks.

Both the Ontario and British Columbia WCBs established province-wide back-education programs that included training, booklets, films, instruction kits, and counselling services on back care and correct manual handling and lifting methods. Tens of thousands of workers were involved in the training sessions during the late 1970s and early 1980s. Workers were educated on proper body mechanics to reduce their chances of back injury and taught how to care for their backs after an injury. Many posters illustrating proper body mechanics with titles such as *Fragile—Prevent Back Injuries* and *The Right Posture for Productivity* were produced. A media blitz titled *Backing You! With IBEP* (Industrial Back Education Program) stated the new program was based on “knowing that, if all back pain sufferers could get back to work even one day sooner, Ontario industry would save over \$1 million each year” (WCBONAR, 1980, p. 22). Again, business cost savings were behind the worker-education programs.

The education mechanisms limited and distorted understanding of back pain and strain prevention. Back-injury prevention education was cheap for employers, and left the responsibility with the individual worker, in the spirit of WorkSafe and Safety Pays. Echoing history, it failed to address broader structural and social influences on back injuries that were beyond the worker. Workers’ back health was further constrained within an engineering and technical framework concerned with the physical aspects of the work environment and human abilities, such as force required to lift, with little consideration of the social and behavioural influences of work organization. While training can complement more effective controls and strategies related to ergonomic

hazards, a concentrated focus on worker training across Canadian jurisdictions diverted efforts away from locating the root causes of this disabling illness.

Even though there were numerous perspectives and debates on worker back injuries and solutions for controlling them, the WCBs and MoLs defined back injury assessments and controls within the arena of human-factors engineering and ergonomic education. This view, with its limitations, was transferred to industry practices and business studies.

Newsletters, Posters, and Films

With the enactment of the new comprehensive OHS laws, the “development and distribution of safety and health literature was intensified” (WCBBCAR, 1978). By 1980, millions of OHS newsletters, booklets, posters, and films were being circulated to employers, unions, and other safety associations. A deeper look at one newsletter, the WCBBC *Safety Digest*, provides insights into how OHS was perceived during this era.

The first page of the newsletter shows a worker at a machine with the caption, “Follow correct lock out procedures” (WCBBC *Safety Digest*, 1967, p. 1), followed by an article that expressed concern about costs related to the severe injuries that result from lockout failures and the importance of workers following lockout rules. The article concludes with a list of available WCB resources to help businesses, such as posters on lockout of equipment, and a 20-minute film called *It's in the Cards*. The focus on cost-containment and individual responsibility resonates in this article and throughout the newsletter. Other articles featured in the newsletter concern OHS lists, instructions, responsibilities, handling of materials, and cautions, such as “Above all don't lose your temper” (WCBBC *Safety Digest*, 1967, p. 2), directed at the unsafe actions of workers.

Flip the page and the message is clearly stated: “Accidents while handling materials and tools are usually the fault of unsafe working habits” (WCBBC *Safety Digest*, 1967, p. 3). The 1967 Spring issue of WCBBC *Safety Digest* also featured an article on how business owners could effectively utilize posters (Figure 2).

Rx for Safety Posters

Have you reviewed your safety poster program lately? Are you using posters for maximum effectiveness? Most plants seem to suffer from a lack of imaginativeness in the placement of safety posters. They put a poster on the bulletin boards and let it go at that. Look around; there are many other places where posters will get a high rate of reading: near the towel dispenser in wash rooms; by the employee time clock; at the ends of aisles, corridors or ramps; in plant cafeterias, lounges, and entrances. It's important, too, to change the posters fairly frequently. Variety keeps the employee reading; and posters that have become torn or dusty give an impression that you really don't care very deeply about safety.

Courtesy—Safety Maintenance Magazine, February, 1967

Figure 2: Rx For Safety Posters (WCBBC Safety Digest, 1967, p. 3). Reprinted by permission of © WorkSafeBC (Workers' Compensation Board).

High distribution of posters at a workplace portrayed the business owners as concerned about OHS, yet posters were most often the cheapest and least effective accident-prevention strategy. Nevertheless, the WCBs published many new posters yearly. Figures 1, 2, and 3 allow us to further experience the ideological messages of Safety Pays and WorkSafe embedded in the WCB images and texts. The column titles in

Figure 3 show that workers' deaths were sometimes attributed to both unsafe work conditions and unsafe worker actions; however, the solutions for preventing future deaths focused on changing the workers' behaviour, not workplace conditions. The title alone—*They Needn't Have Died*—hints at behavioural accident-prevention strategies that once more blame the workers for their own deaths. Even though the full-page table (Figure 3) lists both human and environmental factors as initiators of injuries, it dismisses accident-prevention solutions that address unsafe conditions. It appears the WCB acknowledged unsafe acts and conditions, but retained the underlying belief that workplace deaths resulted from worker misdoing.

B.C. WORKMEN MAY FACE THE SAME HAZARDS WHICH CAUSED THESE CALIFORNIA INDUSTRIAL FATALITIES.

They Needn't Have Died!

The following cases were taken from a file of injury reports.

Courtesy—California Safety News, January, 1967

THE ACCIDENT AND DEATH	THE UNSAFE ACT	THE UNSAFE CONDITION	TO PREVENT SUCH DEATHS
Two employees were in a tow truck that ran out of gas. One employee removed the air cleaner from the carburetor and poured gasoline into the carburetor barrel from a 5-gallon container. The gasoline spilled over the motor and employee. The other man tried to start the motor. It backfired and the gasoline burst into flames, engulfing the man with the can.	Pouring gasoline from an unwieldy container.	Unwieldy container.	Use only a very small amount of gasoline. A thimbleful is enough. Replace air filter. Close hood. (Refer to WCB of B.C. Regulations No. 12.20 and 26.32.)
A welder was attempting to add extra pressure to an acetylene tank by pressurizing it from a full oxygen bottle. The acetylene tank exploded violently.	Pressurizing an acetylene tank on the job.	Acetylene tank connected to oxygen tank.	Never mix gases in a cylinder.
After backing his truck against a loading dock and blocking the rear wheels, a truck driver found he was too close to be able to open the rear doors. He drove the truck forward 6 feet but forgot to move the rear wheel blocks. While he was at the rear of the truck it rolled back and crushed him.	Getting between the truck and the dock.	Unblocked wheels.	Always check blocking under wheels before going between truck and dock.
A crane operator in a scrapyard crawled into the gear compartment while the gears were idling. His loose clothing caught in the open gears, and he was dismembered.	Working around open gears.	Unguarded gears; loose clothing.	Enclose all open gears, as is required by General Industry Safety Order 3543. Don't wear loose clothing around machinery. General Industry Safety Order 3289 b. (Refer to WCB of B.C. Regulations Number 16.100 and 16.02.)
Although not authorized to do so, a fork lift truck operator used an LP-Gas nozzle to blow dust from the radiator of his truck. When he started the motor, the truck and employee burst into flames.	Using LP-Gas to blow off radiator.	Gas nozzle available to unauthorized personnel.	Lock all nozzles against unauthorized use, and permit only designated employees to service trucks. (Refer to WCB of B.C. Regulations No. 12.20.)
A coil winder working on a heater unit of 110 volts with exposed electric connectors, gripped the 110-volt contact while leaning against a metal vacuum chamber. He was electrocuted.	Handling exposed 110-volt contacts.	Proximity of a grounded surface.	Insulate all exposed electrical contacts. "as required by Electrical Safety Order 2309 b." (Refer to WCB of B.C. Regulations No. 22.04.)
A tire repair man was inflating a truck tire that had been repaired. As he was bending over the tire, the lock ring flew off and struck him in the head, killing him.	Bending over the tire while inflating it. Not using safety cage.	Improperly seated lock ring.	Always use a safety cage that will contain flying objects and instruct workers how to use it. "General Industry Safety Order 3275." (Refer to WCB of B.C. Regulation No. 16.02.)
A hoof trimmer entered a large pen in order to hook a rope through the nosering of an untethered bull, instead of waiting until his helpers locked the bull in a stanchion. The bull gored him to death.	Entering a pen containing an untethered bull.	Loose bull.	Never enter a corral where there is a loose bull.
A farm laborer entered a grain bin by himself from the top, to break down the grain into a bottom chute. He slipped off the ladder and was suffocated by the loose grain.	Entering a grain bin alone.	Lack of a life line and safety belt.	Never enter a grain bin to poke down grain unless using a life line and safety belt, and having another person standing by. (Refer to WCB of B.C. Regulations No. 8.24 and 8.60.)

Figure 3: *They Needn't Have Died* (WCBBC Safety Digest, 1967, p. 4). Reprinted by permission of © WorkSafeBC (Workers' Compensation Board).

Workers were presented as reckless and dumb and, as such, accepting responsibility for their injuries, as depicted in Figure 4. An important reminder is that the information in this newsletter came from injury-investigation reports compiled by WCB officers, which was further defined within the political arena of workers' compensation insurance and practice.

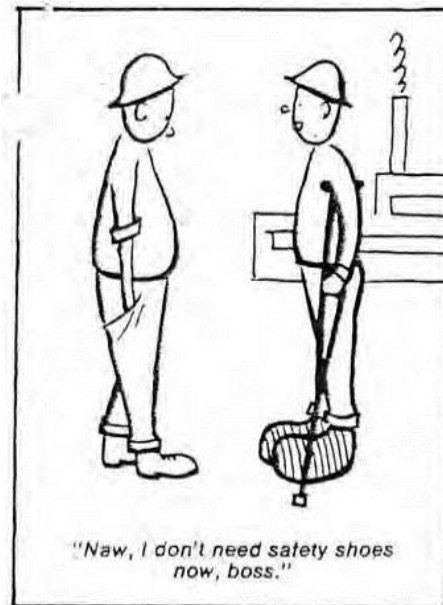


Figure 4: I Don't Need Safety Shoes Now Boss (WCBBC Safety Digest, 1967, p. 2). Reprinted by permission of © WorkSafeBC (Workers' Compensation Board).

Awards and No Accident Contests

The WCBs' and MoLs' accident-prevention information and education services were provided by their own personnel, and by other voluntary and regulating safety societies which they funded. The IAPA, now known as Workplace Safety and Prevention Services, with its century-long relationship with the WCBON and later the Ontario MoL, provided insights into the popular practice of OHS awards offered by jurisdictions across Canada in the era. During the mid-20th century, IAPA began rewarding business owners with Certificates of Merit and trophies to those that operated the greatest number of hours

without a lost-time accident. The use of the “lost-time injury measurement” indicated that reducing the frequency of lost-time claims was the desired aim, not reducing workers’ ill-health. The IAPA initiated several other award programs to recognize individual workers who prevented injuries and deaths by wearing protective eye gear (Wise Owl Award), hard hats (Turtle Award), steel-toed boots (Ten Toes on Two Feet Award), seat belts (Seat Belt Award), and other PPE, such as bump caps, steel mesh gloves, full-face shields, and protective aprons (Shield Award). Award campaigns introduced in the early decades of the 20th century became an increasingly popular low-cost accident prevention practice of OHS regulating bodies and safety societies across Canada. Awards and contests reinforced the Safety Pays and WorkSafe mantras.

It is important to recognize that the regulatory bodies influenced the kind of education that was or was not carried out and, as such, defined and controlled what constitutes OHS knowledge. Thousands of practitioners, educators, and workers across Canada were led to believe in complete confidence in these views towards OHS.

Canadian Safety Societies, Designations, and Post-Secondary OHS Programs

With the enactment of the new OHS laws, safety councils like the CSA and CSC, and professional organizations, such as safety engineering and industrial hygiene associations, expanded their educational services. The omnibus OHS legislation further spurred the creation of new safety societies, specialists, and products related to OHS education. Business owners began hiring safety professionals to meet their legal obligations, particularly safety training. Infused in these OHS societies and practices were the perspectives held by the WCBs and MoLs, as well as the ideological messages shaped by the first workers’ compensation legislation. Safety-designation programs and

safety-specialist courses spread across Canada during the period. The reorganization of OHS legislations and their link to the workers' compensation insurance laws, safety associations and societies, as well as professional designation associations, led to Canadian higher-education institutions' interest and involvement in the safety profession, now also referred to as the OHS profession.

In 1978, McMaster University offered a diploma in OHS (Murray, 2010), and in 1979, Ryerson University started a certificate in OHS, followed by the British Columbia Institute of Technology in 1982. Safety-professional programs expanded within and among other academic institutions, providing students with OHS diplomas, degrees, and continuing education courses. Since the late 1970s and early 1980s, 11 Canadian and 10 international OHS designations and certifications have become available for Canadian OHS practitioners, with courses provided by both safety associations and academic institutions. The qualifications, competencies, and experiences required by these safety institutions vary greatly, with some being general and others specializing in certain industries, e.g., construction, or specific areas of practice, like industrial hygiene or ergonomics. This myriad of OHS training and designations created a fragmented OHS field of practice, though all were intended to disseminate information on mandated OHS standards. As the field of safety matured and gained confidence in its way of thinking and practices, it became increasingly insulated to other ways of thinking. Occupational health, with its different ideas, continued to be overlooked and diminished within OHS. For four decades, safety societies and their connection with academic institutions have defined the scope and functions of the safety professional and the educational foundation for OHS education.

The growth in the number of technical safety courses, safety designations, and safety specialists has since resulted in an emphasis on prescriptive OHS policies and practices away from academic research (Zanko & Dawson, 2012). Academic OHS research today remains limited and fragmented across several subjects (Quinlan et al., 2010). It can be argued that this pragmatic focus has conceptual and theoretical limitations, and that there remains considerable scope to develop the OHS field further (Zanko & Dawson, 2012). Yet this narrow and prescriptive legal and technical perspective of OHS appeared in the first Canadian human-resource management textbooks that emerged in business schools in the 1980s, the first OHS management textbook for business students, which was published in 1996, and the first Canadian HRM professional designation competencies defined in 1998.

Occupational Health is a Projection of Safety Pays and WorkSafe Ethos

In summary, the 1970s and 1980s were a time of social unrest and fears concerning the escalation of workers' ill-health and the shortcomings of OHS laws to deal with the poisons existing in workplaces. Increased union activities and government inquiries uprooted some old ways of thinking, and brought about new concerns and ideas about workplace hazardous diseases and occupational health. While various health professionals and associations interested in healthy workplaces advocated broader ideas and models to address worker ill-health issues, the WCBs safety engineers, ergonomists, and industrial hygienists had a strong foothold on OHS activities. Similarly to safety hazards and injury prevention mechanisms, health hazards were defined within the physical work environment and health issues were addressed through disease prevention activities. It is important to note that the World Health Organization did not define health narrowly to workers' illnesses resulting from toxins in their work environment but more

broadly as “a state of complete physical, mental and social well-being not the mere absence of disease” (World Health Organization, 2010, p. 6). While workers’ health and safety are different in nature, health remains appended and diminished to safety within what is termed OHS.

Health practices, just like safety practices such as risk assessments operated in tandem with health education. Educative techniques of power in which knowledge was connected increasingly dominated the OHS arena as the 20th century progressed, becoming mandated in the comprehensive OHS Acts. We see a particular representation of workers through practices that constitute them as unsafe, undeserving, and responsible for OHS. These legal apparatuses, processes, and ideas cohered with professional, academic, and business institutions further influencing society’s understanding of OHS and setting the socio-historical foundations of our knowledge of OHS (our social reality). This narrow educative-individualist view pervaded for decades, becoming a common-sense practice in business today, maintaining the business-centered hegemony. Educational approaches that dominated OHS dismissed the multitude of complex factors related to workers’ well-being. Despite work organization practices having had a terrible toll on workers’ mental and physical well-being, OHS continued to focus on individual level practices.

The six decades of WCB profit-preservation practices and Safety Pays arguments related to OHS that advanced business profit interests over workers’ health interests became so natural that these injury- and disease-prevention practices continued to be reproduced, with some becoming regulated through the new comprehensive OHS laws. Various OHS techniques and communication, such as safe standards, worker

participation, training, PPE, booklets, posters, films, incentives, risk assessments, and others, appeared to be addressing workers' health and safety concerns, while actually doing the opposite and addressing business owners' concerns. These less visible profit preservation practices were a form of distorted communication, projecting a false version of reality that upheld the hegemony of business in the employment relationship. Under this view, business profitability was an acceptable decision-making criterion, leading society to accept that there were times when business owners might not be able to afford to protect workers from ill-health, injury or death. While most employee-relations programs were justified on moral values, OHS remained justified on economics.

While the new OHS Acts and practices appeared to be a radical change to earlier worker-compensation and accident-prevention regulations, they continued to reproduce the half-century-old beliefs that investing in safety would pay off financially for business owners, and that if workers acted in safe and healthy ways, workplace diseases, injuries, and deaths would decline. The discrepancy between business owners' interests (human productivity and profitability) and workers' interests (health, financial and job security) grew during the 20th century. This occurred through hegemonic processes that presented the various OHS mechanisms as equally benefiting and addressing everyone's interests. The representation of workers' well-being as of paramount importance to all parties was persuasive, but a false assumption.

The historical grounding of Chapter 7 has created the foundation for a deeper analysis of the documents created during these events and their relationship to business school OHS curriculum emerging in the 1980s, which I explore in Chapter 8.

Chapter 8

OHS Curriculum in Canadian Business Studies

Introduction

The aim of this chapter is to analyze the corpus of OHS curriculum documents related to Canadian business studies (see Appendix C) within the socio-historical context of the periods I have explored.

Texts Analyzed

As shown in Chapter 7, the comprehensive legislation mandating OHS education spurred the development of safety societies and the certification of professionals to provide OHS training to businesses. These safety societies defined the scope and function of safety professionals, and joined with Canadian post-secondary institutions during the late 1970s and early 1980s, thus establishing an educational foundation for the professionalism of safety. The BCRSP was founded, and the first Canadian CRSP designation and competency areas were defined between the years 1979 and 1982, while the first *Examination Blueprint* listing 11 categories and 124 competencies was published in 2005. The original exam consisted of nine parts related to topics within the safety engineering and industrial hygiene domains. The first *Examination Blueprint* had over 70% of the exam content requiring safety specialists to understand OHS legislation and standards, engineering safety techniques, and industrial hygiene knowledge. Fewer than 13% of the CRSP competencies related to organizational psychology and health-promotion theories and practices. The CRSP examination categories were similar to the organizing framework of the OHS curriculum in business studies. I therefore examine the original CRSP competencies and the first *Examination Blueprint* in relationship to business studies.

I further analyze the business school texts related to the beginnings of OHS curriculum in Canadian business schools. The first editions of the initial nine HRM textbooks, published from 1974 to 1996, were responding to the growth in the number of universities offering programs in personnel. The first Canadian authored HRM textbook was compiled by Harish Jain in 1974, and did not include a chapter on OHS. It is reasonable to conclude that OHS may not have been viewed by Canadian business schools as an HRM function until the early 1980s, with the second Canadian HRM textbook published in 1984 as a collaboration of 15 Canadian scholars. This publication was the only textbook that included the workers' perspective along with that of management and safety experts. This text did not have any subsequent editions, resulting in all other OHS business texts being presented from a business and safety professionals' perspective.

The first seven Canadianized editions of HRM textbooks, originating in the United States, were published from 1982 to 1996: three were published from 1982 to 1984; another three from 1987 to 1988; and one later in 1996. Six of the seven textbooks had several subsequent editions, with three (Belcourt, Singh, Sherman, Bohlander, & Snell, 2017; Dessler & Chhinzer, 2017; Schwind, Uggerslev, Wager, Fassina & Bulmash, 2016) continuing to be the most used HRM textbooks in over 200 university and college business schools across Canada today.

Seven of the HRM textbooks included a chapter on OHS, with one textbook including OHS as a subject within a chapter on "Employee Relations and Rights," which suggests that OHS was introduced to business studies as a function of HRM during this era. Four of the earlier HRM textbooks included chapters on QWL, with the later HRM

textbooks only briefly mentioning this broader perspective of worker health and safety. The HRM textbook published by Dessler and Duffy in 1984 included QWL in the concluding chapter to frame all the technical functions of HR managers. QWL was presented as a unifying philosophy to guide HRM decisions concerning the broader health needs of workers in their work environments. While QWL appeared important to HRM content in the early 1980s, it gradually disappeared as a topic of HRM interest by the turn of the 21st century. The HRM textbook content today defines OHS as a technical administrative task of HRM, not an underlying philosophy.

Workplace stress as a topic closely aligned with QWL appeared in all the HRM textbooks, shifting from a full chapter in the earlier HRM textbooks to a subtopic included within the OHS chapters in the later HRM textbooks. While it did not disappear from the textbooks like QWL, workplace stress became viewed as a secondary subject contained under OHS. In some HRM textbooks, stress was simplified by being made part of discussions on Employee Assistance Programs and worker alcoholism programs.

Similar to the early WCBs' views that workers' compensation was a benefit provided by business owners (see Chapter 5, Benefit or Legal Right?), workers' compensation legislation appeared in all the HRM textbooks, in the chapters titled "Employee Benefits," not "Employee Rights." The first six Canadianized HRM textbooks (that had successive editions) with OHS content are included in my analysis.

In 1996, the first OHS management textbook, *Occupational Health and Safety* by James Montgomery, was published by Nelson Canada as part of the first HRM textbook series. This was the last textbook published in the series, suggesting OHS may have been of less importance than the other HRM functions. The original and subsequent editions of

this book have been the primary OHS material available for business faculty, making them the foremost source of preserved and distributed OHS business knowledge. This textbook content primarily reflects the laws surrounding OHS with the limited inclusion of occupational stress. The first and second editions of this textbook are included in my analysis.

In 1998, the CCHRA defined 203 professional competencies required to become a certified HRM professional in Canada. The competencies were grouped into seven dimensions, describing six human-resource functions as well as a cross-functional area of professional practice. Workplace health and safety was defined as one of the functional dimensions of HRM; nevertheless, it was limited to 10% of the body of knowledge required for individuals working in HRM. Eighty-six percent of the OHS competencies required legal compliance activities, with 14% voluntary employee-assistance and wellness programs to support organizational effectiveness. These competencies were introduced into subsequent HRM and OHS textbooks.

Analysis of OHS Curriculum Texts: The Spirit of Safety Pays and WorkSafe Remains Resilient

In reviewing the OHS curriculum texts, I found that the OHS education in Canadian business schools has been strongly associated with the workers' compensation and OHS Acts, as well as the injury-compensation and prevention practices implemented by the enforcing regulatory agencies during the early and later 20th century. The table of contents of the first OHS textbook presents subject topics that are the cornerstones of the OHS laws. The chapter titles read:

Chapter 1 Introduction

Chapter 2 Occupational Health and Safety Legislation Across Canada

Chapter 3	Workers' Compensation
Chapter 4	Hazard Identification and Evaluation
Chapter 5	Hazard Control
Chapter 6	Accident Investigation
Chapter 7	Emergency Preparedness and Fire Prevention
Chapter 8	Chemical and Biological Agents
Chapter 9	Physical Agents
Chapter 10	Controlling Physical Injuries Through Ergonomics
Chapter 11	Occupational Stress
Chapter 12	Sector Analysis
Chapter 13	Management of Occupational Health and Safety Programs
Chapter 14	Social Psychological Approaches to Occupational Health and Safety
Chapter 15	Trends in Occupational Health and Safety

(Montgomery, 1996, p. vii)

The OHS chapter objectives in the first edition HRM textbooks support this common legal understanding of OHS. Dessler and Duffy's HRM textbook from 1984 provides one example (Figure 5). While varying in depth of content, this legal framework guided the designation competencies of CHRPs and CRSPs. The curriculum reflected the social context of OHS reform during the 1970s and 1980s, when the OHS regulating agencies negotiated their aims, perspectives, and practices with other people and institutions interested in workers' health. More than 85% of the curriculum content allocated space to engineering, industrial hygiene and ergonomic practices aimed to address hazards in the

physical environment, the view of the legal regulators (see Chapter 7, Safety Engineering, Ergonomics and Industrial Hygiene Roots Spread).

Employee Safety and Health 17

When you finish studying this chapter you should be able to:

1. Provide a safer environment for employees.
2. Minimize the occurrence of unsafe acts on the part of employees.
3. Explain the "basic facts" about WCBs—their purpose, standards, inspection, and rights and responsibilities.
4. Explain the supervisor's role in safety.
5. Compare and contrast unsafe acts and unsafe conditions.
6. Explain what causes "unsafe acts."
7. Answer the question: "Is there such a thing as 'accident-prone' people?"
8. Describe at least five techniques for reducing accidents.
9. Discuss four important occupational health problems, and how they are dealt with.

Figure 5: First Edition HRM Textbook, Employee Health and Safety Chapter Learning Outcomes (Dessler & Duffy, 1984, p. 481). DESSLER, GARY, PERSONNEL/HUMAN RESOURCES MANAGEMENT, 5th, ©1991. Reprinted by permission of Pearson Education, Inc., New York, New York.

Less than 15% of the content reflected other views such as QWL, WHP, and health psychology (see Chapter 7, Workplace Health Promotion and The Socio-Psychological Work Environment). The aims and practices of these disciplines were aligned with business productivity goals.

It appears that the marginalized practices included in the curriculum blended with the underlying beliefs held by the lawmakers during this era. The Safety Pays ethos that justified OHS on economic values rather than ethical or moral values and the WorkSafe ethos that presented OHS as best addressed at the individual level over the organizational level, were not challenged by the other views. While humanitarian and organizational-

level practices were briefly mentioned, they remained on the sidelines of the OHS curriculum, shadowed by the dominant beliefs held by the WCBs and MoLs. The curriculum content maintained and reproduced the perspective of the lawmakers who proposed there are financial pay-offs to business owners who implemented OHS practices, and that workplace injuries, ill-health, and deaths could be reduced through educational mechanisms aimed at changing workers' unsafe and unhealthy behaviours.

Investing in OHS Pays Off

The Safety Pays ethos subsumed health, and was explicitly and implicitly written into the OHS curriculum documents. All the OHS texts introduced OHS as a way to contain the escalating costs that resulted from workplace accidents, injuries, and diseases, as well as WCB premiums and healthcare benefits, or as a way to increase financial benefits resulting from increased worker performance and productivity. The first sentence in the preface of the first OHS textbook states:

The field of OHS management is becoming increasingly important because of the rising costs associated with injuries and illnesses, and, more important, the public's decreasing tolerance for work-related hazards. As employees increasingly ask for, and receive, compensation for disorders such as repetitive-strain injury, the cost to organizations and society escalate, resulting in a need to implement effective OHS policies and programs. (Montgomery, 1996, p. xvii)

The OHS textbook cover states that one of the book's purposes was to provide human-resource professionals with proven cost-reduction techniques for accidents and injuries (Montgomery, 1996, cover). To meet this aim, OHS initiatives in the text were justified with lists, illustrations, highlighted boxes, and references to their costs and

benefits. For example, the OHS textbook presents workers' committees as a cost saving to business owners: "Whatever costs associated with achieving this participation are outweighed by the costs associated with the worker and community outrage" (Montgomery, 1996, p. 288). Another example is the listing of the minimum elements of an OHS program: program objectives, policy, assignment of accountabilities, auditing compliance, JHSCs, education and training, inspections, reporting and investigations followed with detailed strategies, methods, and cost-benefit analyses related to each of the OHS program components. The text stresses that "[c]ost benefit analysis sends a powerful message to senior management, because accident costs represent lost profit" (Montgomery, 1996, p. 278).

The business OHS texts did not simply introduce OHS programs, but also emphasized how OHS programs improved organizational and worker performance. Appearing in the first lines of a chapter, the following narrative introduces OHS to HRM students:

The role of health and safety measures in organizations is to help maintain a productive, satisfied work force. An unhealthy or unsafe workplace can make it impossible for employees to give satisfactory job performance. Such a workplace can also lead to dissatisfaction among workers, resulting in poor performance and reduced productivity . . . Organizational productivity and profitability are also greatly affected by absenteeism, one of the major consequences and costs of work related injuries and illnesses. The exact price probably cannot be calculated.

(Stone & Meltz, 1983, p. 334)

This passage foreshadows the OHS curriculum that framed unhealthy and injured workers as a cost to the organization, and healthy workers as assets to the organization's competitive advantage and productivity gains. As Stone and Meltz (1983) noted, "Disabling injuries and illnesses also deprive an employer of the full working life of an employee . . . Having to replace workers who die, become disabled, or voluntarily terminate because of unsafe working conditions increases an organization's recruiting, selection, and training costs" (p. 334).

The primary focus of the CCHRA designation competencies was on "optimizing the contribution of people to the well-being of the organization" (CCHRA, 1998b, pp. 21-22), with limited mention of the well-being of employees. The capabilities were about positioning people to meet the needs and goals of the organization, not necessarily the wishes of the people within the organization.

An Iceberg Model

OHS has also been presented in textbooks in the form of cost ratios, a practice linked to the first workers' compensation insurance boards and early pioneering works of safety engineers. This thinking was also presented in the early-20th century works of Heinrich (1931), an insurance safety engineer. His research findings were based on data from workmen's insurance claims and supervisors during the early implementation years of the workers' compensation insurance in the United States. He found that uninsured accident costs were four times as great as insured compensation and medical payment costs. In 1974, Bird, another insurance safety engineer, presented the cost of accident data as an iceberg. There has been no documentation to support Heinrich's ratios and no empirical research to support Bird's model; in fact, many publications have disputed

these models (Manuele, 2011), yet they appear in many OHS publications today, including HRM and OHS textbooks.

The iceberg model depicts the costs of accidents, with the direct costs (the insured costs) being the visible small tip of the iceberg and the indirect costs (the uninsured costs) being the larger hidden portion. The message is that for every dollar of insured costs, there are five to ten dollars of uninsured costs not covered by workers' compensation insurance. The image is directed to business people, pushing their attention towards accident-prevention from an economic perspective. It is a persuasive model, which tries to stimulate business owners to voluntarily invest in accident-prevention practices by presenting the insured wage-loss and medical costs that affect business insurance premiums, as well as the hidden high business costs of workers' injuries, illnesses, and deaths. The aim of such models is to shift business owners' complacent view of accident-prevention insurance premiums and so-called incidental costs as having little impact on a business's bottom line. The illustration shows evidence of the costs incurred from workplace accidents, specifically all the costs that the insurance company does not pay for. Direct and indirect costs appear as lists, monetary calculations, and illustrations in the OHS curriculum.

Powerful economic reasons for business owners to engage in OHS have been used throughout the OHS texts. Engagement has been continually encouraged through cost reductions, such as reduced industry assessment rates, training costs, workers' compensation premiums, lost-time injury claims, disability costs, sick times, lost work days, fatalities, and unhealthy behaviours, as well as cost savings, such as improved revenue, experience rating, profit, bottom line, worker morale, and company reputation.

Risk Evaluation

Cost-benefit thinking has been embedded in less visible techniques presented in the OHS curriculum texts, one of which is risk assessments. Risk evaluation, linked to the early and later 20th century practices of the WCBs, has been presented to business students as an “analytical technique that examines a system of the most probable hazards, with the severest consequences, for the purposes of establishing corrective or control mechanisms” (Montgomery, 1996, p. 81). Furthermore, risk evaluation techniques are required competencies of CHRPs and CRSPs. Significant space in Montgomery’s textbook is dedicated to risk assessment terms, equations, and processes, with three highlighted tables providing examples of how business students can determine the susceptibility of workers to have accidents. These tables remain a common illustration in present OHS texts. The WCBs and MoLs defined risk assessment as legitimate OHS knowledge and business schools today are reproducing these views.

Such tables clearly focus on prevention rather than elimination practices. The large section of text concludes with directive communications to business school graduates: when presented with the information about hazards acquired from a risk assessment “you may decide (1) to take no actions, (2) to take corrective action, or (3) to consider a cost-benefit analysis to determine if the anticipated losses are worth the cost of correcting the problem” (Montgomery, 1996, p. 92). We see how in business textbooks, OHS activities are presented as a business decision, which may be influenced by the profit motive. Chapter 7 highlights some critical points concerning risk assessments, one of which is the belief that some degree of worker injury or ill-health is acceptable. That is, that workers OHS is discussed and decided upon in terms of business affordability, an implication unthinkable in other contexts.

Physical Agents and the Source-Path-Human Model

Another example of cost-benefit thinking that lies hidden in the OHS curriculum texts are the practices related to workers' NIHL. Hazardous physical conditions such as noise, vibrations, excessive heat and radiation were slow to be acknowledged as a health concern to workers until the mid to late 20th century, at which time diseases, particularly NIHL, became a forefront concern of the WCBs and MOLs. OHS curriculum adopted the regulatory agencies' focus on worker hearing-damage, along with the hidden messages contained in their activities related to hazardous workplace noise. The measurement and control of physical agents, particularly noise, have been given significant space in OHS curriculum. The greater part of the text on physical agents focuses on educating business students about the auditory system, measuring noise levels, types of hearing loss and noise-exposure standards, using eight illustrations with supporting content. The first illustration presents the anatomy of the human auditory system, followed by four illustrations that explain to students how to calculate noise levels and how frequency works. Noise exposure standards appear in another table that lists the noise levels (decibels), what increase in noise level would be considered allowable, and for how long during a workday. These acceptable noise exposure levels, called TLVs, are more aligned with insurance loss-prevention efforts than workers' disease-prevention efforts (see Chapter 7, Safe Exposure Limits to Toxins).

The curriculum emphasizes individual workers' exposures to hazardous workplace noise, and not the elimination of the structures causing worker NIHL, which would result in no worker having to experience hearing loss, preserving the perspectives of the WCBs and MoLs. Moreover, the Source-Path-Human model introduced into the curriculum as a way to control NIHL, does not present the most effective control of

elimination. This hazard-control model suggests the first line of defense being to lower the noise at the source, the second line of defense involving erecting barriers between the source and the worker, and the last line of defense involving the use of personal hearing protection. However, the focus in the text is on PPEs, as is evident in the sizable table on types of hearing protection which is followed by a full-page list of factors to consider when deciding between ear plugs or earmuffs.

The textbook states, “Whatever strategies are used to decrease noise exposure, personal protective devices may still be necessary” (Montgomery, 1996, p. 193). It further states that “approaches to control noise at the source can be expensive and may not be enthusiastically endorsed. However, a cost benefit analysis, which takes into account such factors as noise-based illness, absenteeism, and WCB costs, may paint a more positive picture” (Montgomery, 1996, p. 192). Workplace noise control as a business cost-benefit evaluation practice dominates the analyzed OHS curriculum texts. This focus continued to be reproduced in subsequent OHS textbooks.

The message in these OHS texts is that low levels of worker risk are the acceptable aim, diverting attention from the removal of the hazardous substances. This view supports business owners’ interest of cost containment over workers’ interests of the elimination of workplace hazardous conditions, while also accepting controls directed at workers, such as education and personal hearing equipment, which make NIHL their responsibility. Within this framework, there are other limitations, such as the lack of recognition given to ways to influence the social work environment, and how human and organizational practices can affect workers’ exposures to hazardous conditions. Occupational health practices presented in business studies are similar to traditional

occupational safety practices seeking to influence the physical work environment through a cost-benefit analysis of hierarchy of hazard-control processes (see Chapter 5, Goggles or Blinders?).

Worker Participation Committees

Business financial cost-benefit thinking have been further concealed in JHSC practices, where OHS remains the decision of business owners who may consider the benefits of improved production over the cost of workers diseases. The later-20th century OHS laws drew on socio-psychological principles, particularly the socio-technical approaches, where worker-participation practices were being introduced to increase business productivity (see Chapter 7, QWL Movement). From the early 20th century, with the enactment of the first workers' compensation laws, to their importance in the administration of the later comprehensive OHS laws, JHSCs have always been more aligned with business profitability interests than workers' health interests.

The comprehensive OHS laws passed in the late 20th century required business owners to assume some form of internal regulatory system that placed the responsibility for OHS on all parties in the workplace. Worker representatives and JHSCs were mandated to deal with OHS issues by consensus, as the OHS Acts were “based on the principles that hazards can best be dealt with in the workplace itself through communication and co-operation between employers and workers” (Ontario MoL, 1979, p. 28). In turn, the OHS textbook by Montgomery (1996) presents OHS as the shared responsibility of all stakeholders, where the “employers, employees, [safety professionals] and unions have the same goal: the reduction of injuries and illnesses . . . [which] is a classic win-win situation in bargaining” (p. 11). This belief is a fragile

foundation for OHS, as it conceals the conflicting and contradictory interests, values, and practices of the various parties interested in OHS (see Chapter 5, *Compromise or Collaboration?*). Business owners, who maintain final decision-making authority, may be more concerned with business production gains over OHS gains.

Chapter 7 identified certain limitations with JHSCs, one of which was the political nature and inequitable power relationship between voluntary worker representatives and business owners (see Chapter 7, *Establishing Workers' Rights to Participate in OHS*). While the OHS curriculum might have acknowledged the dynamic history of conflicts and compromises that favoured business owners, the text simply lists static detailed duties, responsibilities, and roles of all stakeholders, framed as collaboration and partnerships. The curriculum, including the CHRP and CHRP competencies, has replicated the OHS laws, not how people experience and interpret these laws in their workplaces. There has been little discussion of how these legal rights and obligations have been used and abused.

The Safety Pays ethos has thus been diverting attention away from other ways of understanding worker health and safety in the business school curriculum. Moral and humanistic views that help students think beyond profitability and self-interest have not been presented within OHS texts. An analysis of the textbooks' learning outcomes and chapter-summary questions reveals that higher-level cognitive and affective learning outcomes, such as empathy, honesty, reciprocity, and respect, are omitted. As we saw in Chapter 6, cost-effective decision-making practices that find some level of worker ill-health acceptable have dominated over moral principles highlighting that no harm should come to workers while they are working. Safety Pays practices, as well as the WorkSafe

practices which I discuss next, can leave workers unprotected from workplace health hazards.

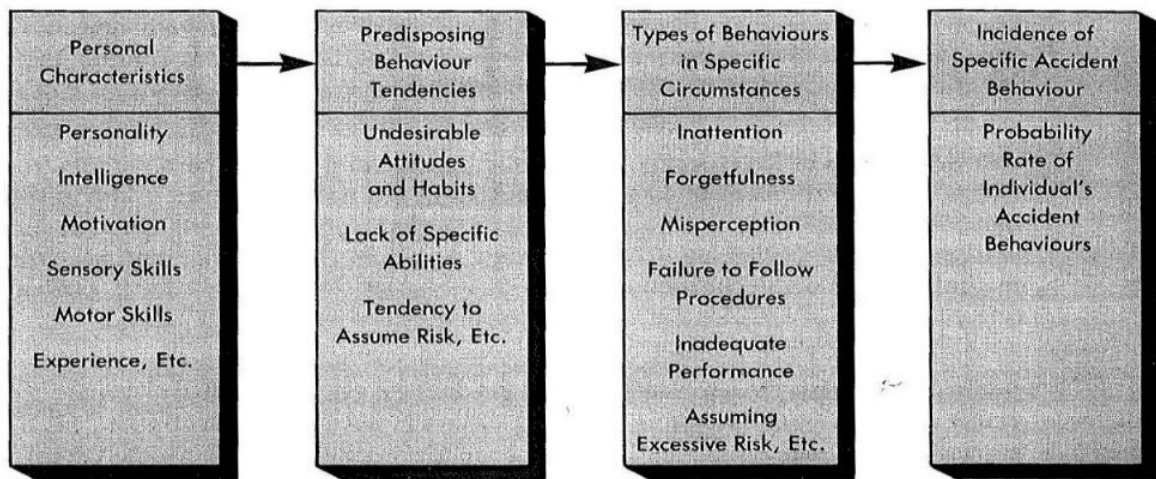
Worker Health Education is Appended to Worker Safety Education

In the 1970s, with the array of new chemical and biological materials possessing highly dangerous properties, more attention was given to the physical work environment as the cause of worker diseases. Education was mandated as a tool that would allow workers to be more informed about the toxins in their workplaces. Underlying these practices was the belief that workers' ill-health could best be dealt with at the individual level. One of the OHS textbook chapters states that even though attention during this time was shifting towards the work environment as the cause of accidents,

industrial health and safety still emphasizes the employee. Most funds are spent on safety awareness and training programs for employees. Pre-employment medical tests are given to screen out job applicants who would be more susceptible to illness resulting from certain substances in the workplace. Some firms even look at the job applicant's previous accident record to screen out the accident prone employee. (Milkovich et al., 1988, p. 578)

Dessler and Duffy's (1984) HRM textbook chapter on employee safety and health, moreover, states that "[t]here is little doubt that unsafe acts (not unsafe conditions) are the major cause of accidents, and the people cause these unsafe acts" (p. 492). The chapter lists many examples of unsafe acts, followed by the various personal characteristics that are linked to accidents. It presents a model that summarizes the personal behavioural tendencies that result in workers' unsafe and unhealthy actions (Figure 6).

Exhibit 17.2
Manner in which Personal Factors May Influence
Accident Behaviours of Individuals



Source: Ernest J. McCormick and Joseph Tiffin, *Industrial Psychology* (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1974), p. 517. Reprinted by permission.

Figure 6: Personal Characteristics and Accidents Model. MCCORMICK & TIFFIN, *INDUSTRIAL PSYCHOLOGY*, 6th, ©1974. Reprinted by permission of Pearson Education, Inc., New York, New York.

The text does note that decades of accident-proneness experiments and theories conducted by industrial psychologists failed to prove that certain workers involved in repeat accidents have specific personality traits, and that “[t]oday we believe that the personal traits that contribute to accidents probably differ from situation to situation” (Dessler & Duffy, 1984, p. 493). While it appears that attention has shifted to include unsafe work environments, this textbook continues to incorporate the thinking that certain workers are more susceptible to accidents, maintaining the century-old blame-the-victim ideology.

Messages about the individual fault behind unsafe acts, like workers not wearing protective goggles, are common narratives in the OHS and HRM textbooks. Maintaining this belief has led to added content on methods to address unsafe acts; for example, an

OHS chapter in Montgomery's textbook discusses strategies to reduce risk-taking behaviours among employees. The content refers to workers' old habits and unsafe work practices, and presents several behavioural-change strategies to stimulate workers' interest in OHS. Further evidence of this perspective can be found within other OHS curricula, in the content areas of engineering models, ergonomic, chemical- and biological-hazard education, employee safety-awareness programs, behaviour-based safety training, and individual health-promotion programs, which I explore next.

Heinrich's Domino Theory

Engineering hazards-analysis and risk-evaluation practices emerged from the first workers' compensation insurance boards. Heinrich, an insurance board safety engineer, postulated early theories about loss-prevention 80 years ago. His domino theory stated that workers' injuries were like a sequence of falling dominos, and moving the middle domino—the workers' unsafe acts—would eliminate many workplace injuries. Although the domino theory gave alternative causes of accidents, the model pointed to the worker as the fundamental cause of industrial accidents. Heinrich (1931) stated that “more than 80 percent of all accidents result from three causes: (1) disregard to instructions, (2) unsafe practices, (3) inattention” (p. 4). His proposals were similar to the early Canadian WCBs' annual reports that stated a small percentage of workplace accidents were the result of unsafe equipment or conditions, while most accidents were caused by unsafe acts of workers (see Chapters 4 and 6). Heinrich's model can be found as a full-page illustration in the first OHS textbook by Montgomery, and subsequent editions.

Heinrich's work further applied behavioural theories to OHS, and formed the basis for behaviour-based safety programs, discussed later in this section. While his

models have been critiqued and modified over decades, they remain accepted in business studies.

Education is the Single Most Important Practice

The OHS curriculum content allocated significant space to the RAC of ergonomic, chemical, and biological hazards, the focus of the regulatory agencies in the mid to late 20th century. Ergonomic education became a chapter in the first OHS textbook for business students. The chapter focuses on controlling overexertion and lower back injuries “costing employers in terms of lost production and compensation” (Montgomery, 1996, p. 219) by training workers in manual lifting and carrying techniques. The chapter begins with manual lifting illustrations (one full-page and another half-page) followed by lists of the basic rules for proper lifting and lifting calculations for acceptable loads.

While the hierarchy of controls is mentioned, the chapter suggests that training, hiring, and encouraging physically fit workers are effective injury-prevention controls for workers subjected to physical and mental overexertion tasks. The theme that resonates throughout the chapter is that workplaces designed along ergonomic principles and education focused on the individual worker not only decrease the risk of physical injury and ill-health, but also increase productivity and efficiency. This dual technical and instructive approach is aligned with the regulatory bodies’ practices, such as the British Columbia and Ontario provincial back-education programs (see Chapter 7, Educating Workers on Proper Body Mechanics). These are low-cost techniques that divert attention away from the root causes of back pain and strain (see Chapter 7, Educating Workers’ on Proper Body Mechanics).

OHS is further understood in business studies textbooks via lists, tables, and classifications of chemical and biological contaminants followed by TLVs. In Montgomery, the respiratory system is illustrated on a full page to show that “most human exposure to chemicals comes from breathing airborne contaminants” (Montgomery, 1996, p. 157). The focus is on educating business students about the human nose and upper respiratory tract, through which respirable dusts, such as asbestos fibers and silica particulate, enter the human body.

While various control measures are briefly presented, education and training of employees is presented as the “single most important work practice” (Montgomery, 1996, p. 177) in managing workers’ exposure to chemical and biological hazardous substances. The message is that “all workers who are exposed to these agents should be knowledgeable about their potential health effects” (Montgomery, 1996, p. 179). This is, of course, truer if poisonous substances exist in work environments than if the toxins were removed.

The OHS curriculum further emphasizes the new WHMIS laws, as seen in Montgomery’s (1996) textbook, by stating that “[d]espite their associated [chemical and biological] risks, these agents are easily controlled if guidelines such as those provided in the WHMIS legislation are rigorously followed” (p. 179). WHMIS is a form of OHS communication standards for labeling and handling toxic materials, and training workers about them. The belief is that “[t]raining workers is part of the due diligence required of employers,” as workers will be safe from workplace toxins if they are taught the symbols and steps to take if they encounter hazardous spills; moreover, “it also becomes an important factor in the event of a lawsuit” (Belcourt et al., 1996, p. 513). To ensure

“legislated training obligations are understood and met within the organization (e.g., WHMIS, TDG [Transportation of Dangerous Goods], etc.)” is one of the required competencies for CHRPs (CCHRA, 1998a, p. 44). Having business students memorize WHMIS symbols and labels appears most important in the OHS curriculum. WHMIS legislation is discussed at length and presented in four full-page illustrations in Montgomery. WHMIS symbols, labels, data sheets, and training are also presented in HRM textbook chapters, emphasizing the individualization of responsibility for workers once more.

Employee Safety Awareness Programs

Following WCB and MoL campaigns over the 20th century (see Chapters 6 and 7), the OHS curriculum presents a range of worker safety- and health-awareness practices to business students, such as films, posters, workers committees, training, incentives in the form of recognition and rewards, publications, and media communications. These methods seek to motivate workers to follow safe and healthy work practices, paralleling the educational practices of the regulatory agencies. Training programs

emphasize the use of emergency first aid equipment and personal safety equipment. The most common types of personal safety equipment are safety goggles, face protectors, safety shoes, hard hats, hair protectors, and safety belts. There are also a variety of devices used in many jobs to protect hearing and respiration. (Belcourt et al., 1996, p. 512)

A safety pamphlet with a woman wearing safety glasses and a man wearing a hard hat, both smiling, takes up a full page in an HRM textbook. The pamphlet includes a checklist with statements that workers are required to follow when using these PPEs,

such as “don’t wear contact lenses if you’re exposed to chemicals, vapors, splashes, radiant or intensive heat, or suspended particles” (Belcourt et al., 1996, p. 511).

Subsequent editions of this textbook and other HRM and OHS textbooks continued to illustrate similar posters and pamphlets. This dominant focus on educating workers through publications on PPEs is clearly reminiscent of earlier WCB practices.

Communicating safety rules and regulations to workers through handbooks, bulletin boards, and signs have been traditional employee safety awareness mechanisms used to ensure worker compliance with the laws. Another text in the OHS curriculum suggests that “[o]ne of the more effective means of obtaining compliance with health and safety regulations is through employees’ knowledge and commitment, which can often be obtained through training programs (Stone & Meltz, 1983, p. 351).

The ABC Model

The OHS curriculum presents a range of human-resource management activities that apply behaviour-modification principles, ranging from “recording and posting safety performance records [and] providing recognition and rewards to individuals and units with good safety records” (Stone & Meltz, 1983, p. 350) to behaviour-based safety training. Worker behavioural programming draws on the early-20th century behavioural research of industrial psychologists and workers’ compensation insurance safety engineers, which focused on modifying the unsafe behaviours of workers to prevent workplace accidents (Heinrich, 1931). The belief remained that “any worker behaviour can be represented as Antecedent > Behaviour > Consequence [ABC]” (Montgomery & Kelloway, 2002, p. 238), and that a worker’s behaviour can be modified by changing the antecedent or consequence of the behaviour.

The second edition of Montgomery's OHS textbook references Saari's 1994 article on behaviour modification, stating that "[t]he use of behaviour modification principles to increase safety behaviours in the workplace has been called one of the most successful interventions in the last twenty years" (Montgomery & Kelloway, 2002, p. 237). The text highlights studies that show a positive link between the use of worker-behavioural interventions and reductions in accident rates, summarizing that "behavioural approaches to occupational safety have been shown to be effective, cost efficient, and adaptable to a wide range of industrial environments" (Montgomery & Kelloway, 2002, p. 238). The first and subsequent OHS textbooks thus continue to provide details on how to develop and implement behaviour-modification programs using the ABC model:

Rather than "explain" unsafe acts in terms of a person's tendency to carelessness or inattentiveness, behaviour modification focuses attention on the situational factors that promote unsafe acts. Situational factors can become triggers or prompts for behaviours. They do this by indicating that, if specific behaviours occur, certain results or consequences will follow. This is the basis of what is known as *learning by consequence* or *operant learning*. (Montgomery, 1996, p. 285)

The text describes the steps that worker OHS committees must take in identifying and controlling workers' behaviours. Worker OHS committees are required to "measure the rate of compliance by observing the worker on the job" and provide their co-workers with feedback on how they can "conform to expected behaviours" (Montgomery, 1996, p. 285). The text encourages the use of award programs, such as worker recognition and incentives, with the focus on workers receiving positive or negative consequences for

changes in their behaviours. Understanding the basic principles of psychological and behaviour-based safety models are required professional competencies of CRSPs.

Health Promotion

During the late 20th century, socio-psychological marketing strategies were being used by healthcare institutions to motivate individual and community interest in changing their unhealthy lifestyle to contain society's healthcare costs (see Chapter 7, Workplace Health Promotion). Promoting worker lifestyle changes emerged in the workplace as WHP initiatives. WHP is presented in the OHS curriculum as a mechanism to reduce worker ill-health and stress.

The aim of workers' ill-health interventions is presented in the OHS texts as the practice of equally "obtain[ing] the highest levels of worker performance and well-being" (Montgomery, 1996, p. 234). The texts seek to engage business students, future business leaders, to voluntarily adopt health-promotion and stress-management practices from an economic cost-benefit perspective, stating that "[o]rganizational stress that is ignored or improperly handled has serious health, safety, and 'bottom line' consequences to workers and employers" (Montgomery, 1996, p. 227). Stress-management and WHP practices that focus on changing workers' lifestyles are presented as being of benefit to the individual worker; moreover, they "[pay] off for the organization in the form of reduced absenteeism, increased efficiency, better morale, and other savings" (Belcourt et al., 1996, p. 524). While it can be argued that worker stress and ill-health can result from psycho-social hazards, such as poor organizational practices, the problem of and remedies for worker job stress and illness are again presented as the concern of the individual worker.

While business students are informed of various workplace sources of occupational stress, such as role ambiguity, career insecurity, interpersonal relationships, organizational structures and climate, work-life conflicts, and dissatisfying job characteristics, individual stress-management and health-promotion practices in the texts focus on encouraging workers to improve their health habits. For example, Dolan and Schuler's (1987) chapter on OHS states that "companies hold stress workshops to help their employees to better cope with the socio-psychological work environment" (p. 447). Another HRM textbook chapter on OHS states that "[m]any employers have developed stress-management programs to teach employees how to minimize the negative effects of job-related stress (Belcourt et al., 1996, p. 531). CHRPs are required to identify and control workers' stress-related, addictive (smoking, drugs, alcohol), and violent behaviours. These practices seek to curtail the effects of unhealthy work environments on workers, diverting attention from exploring the root causes of worker stress and ill-health, which are more likely structural causes, such as the way in which work is organized. For example, these interventions do not address well-known job stressors, such as long hours or physically and mentally demanding work tasks and their negative impact on workers. They simply focus on helping workers cope with high work demands. In many cases, high-productivity work practices are beyond the healthy capabilities of the human mind and body.

Low-cost Employee Assistance Programs and wellness programs that include a range of practices, from relaxation techniques and fitness programs to nutritional counselling and smoking-cessation, are other popular practices mentioned in the OHS curriculum texts, which present business owners as actively addressing the workers'

experiences of unhealthy work practices. Yet as we have seen, many workers deal with continuous workplace stressors over which they have limited control. Such a perspective on worker stress and ill-health perpetuates the dominant interests of business owners, which may neglect workers' health in favour of business wealth (see Chapter 7).

OHS Offers Little That is New

While many employee-relations practices are justified on moral and ethical grounds, the HRM and OHS textbooks and related curriculum documents justify OHS with economic values. “[D]eveloping a cost benefits analysis that proves OHS has a price tag” (Montgomery, 1996, p. 273) dominates OHS education in Business Studies. The texts further present OHS as efforts to change workers' behaviours. There is less discussion of ways to change the psycho-social work environment, including organization of work and workplace culture. The economic cost-benefit analysis and individualization of responsibility perspectives towards safety in the early 20th century, which expanded to include health in later decades, was adopted into OHS curriculum in Canadian business schools.

We see how business schools and curricula are caught in a network of social relations with powerful academic, industry and legal institutions and practices filled with subtle ideas that advance business wealth over worker health. What has become legitimate OHS knowledge for Canadian business students today is linked to the dominant legal institutions' perspectives and practices that emerged at the turn of the 20th century. Business schools as dominant members in society preserve and distribute this OHS knowledge. In doing so, they control the particular sets of ideas and practices that give OHS meaning. This meaning is hegemonic, and thus constitutes the dominant

perspectives of the law makers. As these ideas become taken-for-granted they serve as barriers to other OHS perspectives.

We—the researchers and educators—have continuously proposed that all OHS discussions and decisions should take place within an economic context. In doing so, we are suggesting to students to place ethical OHS issues secondary to business financial issues. These beliefs may be undermining our compassion and humanity toward workers' health and safety. This business-centered worldview has been asserted in all business studies for so long that few professors question these assumptions, thus easily leading to teaching OHS within a business economic model. To truly teach OHS, which is an ethical issue, we would need to teach students to look at it critically.

Business faculty, students, and the broader community have in this way been taught to think narrowly about OHS issues, problems, and solutions. Knowing how these perspectives work in the OHS curriculum will allow us to notice, question, and change them. We might consider an ethical worldview, or at least introduce multiple, diverse, and historical perspectives along with concerns that are currently secondary to business financial concerns. We can also acknowledge broader perspectives, such as moral philosophies that support human well-being. I believe that as educators, we can and should rethink these perspectives. In Chapter 9, I reflect on my findings, link them to theory, and introduce a new way of experiencing OHS curriculum.

Chapter 9

Adopting Critical Hermeneutic Principles to Business Studies

Introduction

In the final chapter of this study, I summarize my research findings and highlight how business school OHS curricula not only reflects but also reproduces the dominant ethos of Safety Pays and WorkSafe that operated in the legislative arenas during the early and later decades of the 20th century. I then briefly revisit the theories of the social organization of knowledge, critical hermeneutics, and hegemony as the frame through which we can understand the socio-historical basis of our knowledge about OHS business practices and education. I reflect on what I have learned and what future research can be undertaken. In conclusion, I suggest that the principles and methods applied in this study can be used to bring a greater scope and depth to OHS curriculum in business studies.

Questioning Core Focus of the First OHS Curriculum in Canadian Business Schools

This dissertation revisits the socio-historical origins and perspectives of OHS practice and its relationship to OHS studies in business schools by concentrating on the first WCAs in the early 20th century, and the first comprehensive OHS Acts that emerged in the early 1970s. It was during these two eras of massive public unrest and openly expressed public fears about health and safety that the largest and most influential OHS regulatory bodies endeavored to provide solutions to the escalating OHS problems. This resulted in the WCBs and MoLs attempting to set rules and standards for work-related OHS behaviours and conduct. The enactment and implementation of the laws defined what constituted OHS knowledge, and how it shaped the arena of OHS. An analysis of the legal OHS documents produced and disseminated during these two periods of regulatory reform provides insight into the expected OHS practices of business owners. It

is thus possible to see how OHS, as a concept and practice, was socially constructed. I have sought to understand how the dominant regulatory institutions, in relationships with societies and social events, conveyed their messages concerning workers' health and safety during these eras, and what explicit and implicit messages were conveyed through their chosen practices. I have addressed the socio-historical events and practices through a critical hermeneutic lens that allows me to carefully examine the parameters and assumptions that guided OHS practice and education as the 20th century evolved.

This study brings up many OHS practices: metaphors, terms, measures, schemes, principles, definitions, hazard controls, methods, interventions, incentives, worker groups, inspector roles, training topics, theories, images, calculations, formulas, and more. While some of these mechanisms have been strengthened over the decades, and others have been introduced, the underlying message within these social practices has remained unaltered for over 100 years. The Safety Pays ethos and the WorkSafe ethos have been woven deep within accepted business practices and education related to OHS, the former continuing to privilege OHS mechanisms that make financial business sense and dismissing practices that do not, and the latter promoting workers' OHS behaviour change over organizational change.

The Dominant Ideology of Free-Market Economics

Like all business school courses, OHS practice and curriculum are founded on the utilitarian benefits of free-market capitalism and driven by business-profit rationalizations. OHS is identified as a factor in making organizations more profitable, productive, and cost-effective, and is presented as containing escalating WCB premiums, health benefits, and accident costs. Unhealthy and injured workers, on the other hand, are

viewed as a cost to the organization. OHS measurements, such as RAC, decibels and TLVs, and solutions that draw on ergonomic, engineering, and industrial hygiene practices, are linked more to business owners' desires to increase worker performance and productivity, rather than to workers' health and safety needs. OHS terms regarding workplace standards, risks, and limits, such as "reasonable," "practicable," "acceptable," "probable," and "permissible," rely on subjective business judgements and biases. In a world where financial gain is highly valued, human health is conditional to business wealth. Other non-economic views and values that can lead to seeing problems and solutions differently are excluded.

This dominant ideology is reminiscent of the early-20th century utilitarian thinking that a certain amount of risk for workers is acceptable if it has economic benefit for society, of which business activities are viewed as most important. Social, humane, ethical, and moral considerations are marginalized, and financial and legal business considerations and engagements dominate both past and present OHS practices and education.

The OHS curriculum further adopts the dominant perspective that locates the causes and cures of workers' ill-health in the worker. Business studies overemphasize the OHS socio-psychological practices aimed at the individual level, while putting less emphasis on the organizational level. Therefore, strategies and practices aimed at changing individual behaviour populate the OHS chapters: (a) behaviour-based safety programs; (b) increased monitoring; (c) work practices and procedures; (d) training; (e) ergonomic work design; (f) safety awareness bulletins; (g) WHMIS symbols; (h) personal hygiene practices; (i) PPEs; (j) incentives; (k) worker participation committees; (l) and

health-promotion activities that focus on influencing workers' actions and attitudes.

These views and approaches to worker ill-health draw on the first workers' compensation practices that emerged in the early 20th century and the first comprehensive OHS laws passed later in the 20th century, reproducing the old beliefs with vigor.

Thinking continues to reflect the 20th century ideology of the accident-prone worker, and supports interventions targeted to fix the worker. Thus, individuals are left responsible for their own health and safety. This focus diverts attention away from business accountabilities concerning unhealthy work design structures and processes. The Safety Pays and WorkSafe ethos support the interlocking process of industrial capitalism, where the concentration of business power and expansion can undermine worker health and safety. As educators, we are responsible for facilitating broad student thinking, and as such we should take them beyond business profitability and self-interest. We are ethically bound to engage students in various perspectives.

Legal Prescriptive Practices Characterize OHS Education

It is important to recognize that OHS has been defined and constrained by the regulatory institutions that have had a century-long influence on practices. Within the OHS curriculum, these legal prescriptive practices have been adopted with little discussion concerning the deeper meanings of the mechanisms introduced by the ruling institutions. The curriculum simply tells business owners, faculty, and students about OHS laws and best business practices, techniques, and offers problem-solving tool kits to meet their minimum legal compliance. Texts suggest these mechanisms can be applied to all workplaces. There is little concern with understanding how OHS is experienced and practiced. The social, political, and non-rational aspects of individuals' everyday working

lives are ignored. Other broader and humanitarian dimensions of OHS are missing as well. These legal prescriptive practices and their underlying assumptions thus limit how OHS is understood by business school faculty and students. Alternative perspectives that bring attention to the underlying political and socio-historical processes that influenced the creation and operation of OHS would help advance OHS education in business schools.

The Sociology of Knowledge, Critical Hermeneutics, and Hegemony

The theories of the sociology of knowledge and new sociology of the curriculum and their connection with critical theory and ideological critique underlie my research findings. The sociology of knowledge argues that the “entire ‘ideational realm’ (‘knowledges,’ ideas, ideologies, mentalities) develops within the context of a society’s groups and institutions” (McCarthy, 2006, p. 2482), with consideration of the politics of knowledge and the role of power in the legitimization of knowledge. This view helps us recognize the extent and limits of OHS regulatory institutions in influencing OHS practice and education. Moreover, this view provides insight into how the beliefs, values, concepts, ideas, and practices held by dominant legal institutions and their relationship with business school OHS curriculum can be explained by their social and institutional contexts, i.e., the specific social, historical, and political forces in which the practices emerged.

The critical hermeneutic tradition can help us understand the role of OHS legal and curriculum texts in the ongoing creation and re-creation of OHS social relations and practices, and how the dominant individuals and groups hold the power to shape our perspectives of OHS (Phillips & Brown, 1993). Critical hermeneutics draws attention to the relationship between business school OHS curriculum and the larger society, and the

major role the OHS textbooks and chapters have in defining and reproducing what is valid OHS knowledge. Through an interpretive unravelling of historical texts and contexts, critical hermeneutics reveals whose OHS knowledge becomes accepted in business schools. OHS is not simply an abstract and objective label, but has been socially constructed by powerful OHS regulatory institutions and their explicit and implicit practices since the turn of the 20th century, becoming “common sense” knowledge today. The study shows that historical OHS legal texts and their association with OHS curriculum texts define and constrain our perception of OHS.

Gramsci’s term *hegemony*, what is also referred to as the “politics of cultural incorporation” by critical education theorists (Apple & Christian-Smith, 1991, p. 9), has helped us understand how what ends up in OHS legal and curriculum documents are products of intense conflict, negotiations, and compromises, where the ideas of less dominant groups are hooked into a compromise that allows the values and positions of the less powerful to be molded under the dominant viewpoints. The historical compromise over workers’ compensation schemes for Canadian workers at the turn of the 20th century can be explained through hegemonic processes. The first comprehensive OHS laws that emerged five decades later, while incorporating new features and aspects in which many Canadians believed, also did not challenge the dominant ideologies of the capitalist-market economy and supremacy of business that placed OHS in the workers’ realm.

A critical hermeneutic interpretation exposes the contested nature of OHS through an analysis of the history of events, movements, and moments of social concern, which became increasingly unmasked at times of social upheaval, such as the social discontent

concerning workers' OHS, and the enactment of the workers' compensation and comprehensive OHS laws to contain the fueled social unrest. While it appears that the newer OHS laws and mechanisms have addressed workers' health and safety concerns, they are not much different from the early laws and practices. The public outrage through the 20th century was contained by the belief that workers' voices were being heard, leading to acceptance of the new regulatory practices and the less visible ideologies they maintained.

The critical hermeneutics tradition further helps us understand how social recognition of the dominant OHS perspectives as truthful led to business school textbooks maintaining capitalist values and the economic interests of businesses' wealth over workers' health. The concept of hegemony helps us understand how many people may contribute to and debate on business curricula, such as OHS chapters and textbook content, yet not challenge the dominant power-relations of capitalist society that highly values business. We see the existence of a social consensus of what OHS is, limiting who can speak and act, and what can be said and practiced. A major limitation of OHS curriculum has been the decades of acceptance by business academics and students of the narrow traditional legalistic, individualistic, and economic perspectives, metaphors, images, and ideas reproduced in the OHS curriculum.

Business schools and, by extension, OHS studies, operate in unequal power relations with institutions. Through associations with dominant legal and professional bodies, business schools produce and reproduce a certain understanding of OHS, whereas other institutions and their practices are excluded. OHS curriculum in Business Studies embodies the ideological rules that preserve the less visible assumptions held by OHS

regulatory agencies, which support business superiority, thus serving as a barrier to workers' health and safety.

The study illustrates to college and university business school educators and researchers the influence of socio-historical context on what we read, research, and teach. We can see how the values, views, and practices in the OHS textbook chapters have been shaped by the dominant OHS regulatory bodies, and their practices aimed at supporting business interests and profit outcomes. As a result, broader social health and safety concerns have become marginalized. This study suggests the need to examine and question the dominant perspectives that determine what counts and does not count as OHS knowledge, and not assume that we—researchers and educators—are teaching the most current theories in OHS. The study further suggests that we should encourage students to think more closely about the socio-historical nature of their textbooks, i.e., question who is allowed to speak, what is allowed to be said, what purposes the text serves, and the effects it has on them and the broader community.

What Have We Learned and Where Can We Go in the Future?

This study's most important conclusion is the significance of historical interpretive inquiry into business studies curricula, which seeks to recognize and reveal the various mechanisms adopted into textbooks by different people for different purposes. It is important to explore whose interests and perspectives dominate the business course texts, and what purposes it serves to present a one-dimensional ahistorical perspective of OHS to business students. A critical historical approach to OHS curriculum would allow faculty and students to connect, experience, and reflect on how OHS actually works in business settings. Bringing multiple perspectives and approaches to the business school learning environment would allow members to experience the diversity and complexity

of OHS, and perhaps develop a more compassionate and humane view of workers' health.

I have explored only a fraction of the historical OHS events in relationship to the regulatory techniques used to address workers' ill-health and the messages contained within the governing practices during two eras. Yet in doing so, I have revealed the origins of OHS practices that began a century ago in relationship to OHS education in Canadian business schools today. This study contributes to our understanding of the temporal developments of OHS within the socio-historical context in which they emerged. It exposes some elements of the real nature of OHS relations, where certain bodies of knowledge rule, thus silencing alternative knowledges. We can continue this line of research, as this study appears to be the only one that has examined the textual content of OHS curriculum in Canadian business schools. The hermeneutic examination of other business curricula merits consideration.

Further research might consider the responses to these practices by workers, unions, business leaders, academics, students, and other disciplines, communities and people interested in OHS practice, and education, both past and present. Research that captures the multiple narratives, social dimensions, negotiated processes, and lived experiences of people engaging in and influencing OHS practices would contribute to our understanding of how OHS practices and education actually operate in workplaces. More studies might explore the stories of emergent and present curriculum developers, and faculty and students' experiences of OHS within their socio-historical context and within a social constructivist framework. My next step is to generate a discussion about my findings and the experiences of business practitioners, faculty, students, and the broader

community with OHS education in business schools, with the hopes of developing a new OHS curriculum.

Proposing a New OHS Curriculum for Business Students

Introducing a broader and deeper perspective into OHS curriculum requires a review of the current curricula in today's business schools. I will begin with my own era and understanding of present business teachings in OHS, followed by a new vision for OHS education in Business Studies that has emanated from my experience with this dissertation. My hope is to open dialogues and discussions around alternative curriculums and possibilities for change.

The Current State of Canadian Business Schools' OHS Curriculum

My preliminary research to this dissertation was conducted to contextualize the current state of Canadian Business School OHS curriculum in 12 Canadian provinces and territories (Fitzgerald, 2013a, 2013b, 2015). Through a content analysis of the entire 183 Canadian business school programs and course descriptions, I found that HRM courses are viewed as of secondary importance to the other business subjects, and that OHS courses tend to be seen as the least important HRM courses. While all business schools offer a specialization in accounting, only 69 % (113 schools) offer a specialization in HRM. This suggests that business financial-course content and activities may be more important than business content and activities associated with the management of people in organizations. Furthermore, most business programs do not have a course in OHS. On average, 12 HRM specialty courses are offered through business HRM programs, which range from 3 to 32, yet OHS courses are limited. Of the 113 business schools that offer a program in HRM, only 61% (69 schools) offer an OHS course as one of their HRM

specialty courses. Of all the business schools across Canada, 38% offer a course in OHS; moreover, of all the Canadian business schools, excluding those in Ontario, only 16% (30 schools) offer a course in OHS. OHS courses are offered primarily as an elective course in the third, fourth, and fifth years of business programs, restricted by prerequisite education. These findings are not surprising, given that OHS is confined in practice to the periphery of HRM, often managed by safety specialists, and to a large degree has been overlooked by organizations (Boyd, 2003; Zanko, 2006). OHS is an increasingly specialized, obscured, and isolated practice in business workplaces. There is also an absence of academic studies in the business literature (Zanko & Dawson, 2012). Of concern is that business students may experience and act upon this neglected view of OHS, even though it is an important aspect of relations within the workplace.

In my further analysis, I have investigated themes within the content of the current Canadian HRM textbook chapters on OHS, the OHS textbook and instructors' resources, and 33 OHS course outlines, including the titles, objectives, learning outcomes, subject content, references, and instructional methods. My analysis revealed that OHS curriculum has remained considerably resistant to change for over three decades. While some limited content has been added to the textbooks and chapters, topics are integrated into the dominant ideologies held in the first curriculum texts. Apple and Christian-Smith (1991) refer to this hegemonic process as "mentioning," whereby textbook authors, under pressure to include more in their textbooks, will selectively mention and reshape progressive ideas in terms of the dominant ideologies held in the text. It is a process of shuffling and accommodating new ideas, so progressive ideas are presented in close association with, and in ways that do not compromise, the dominant

perspectives of the texts, and society. The OHS perspectives held in the first HRM and OHS textbooks are captured in today's HRM and OHS textbooks, reproducing the century-old message that Safety Pays for business owners and that workers should WorkSafe (Fitzgerald, 2013a, 2013b, 2015).

A Critical Hermeneutic Framework for OHS Curriculum

The hermeneutic principles and methodology in this dissertation (discussed in Chapters 2 and 3) provide a framework for developing a new approach to OHS education in Business Studies. Important to this approach is the focus on the historiographical analytical process, not the textbook. Business students can learn to collect, analyze, and engage with OHS sources, developing the critical thinking processes essential to historical awareness and interpretation. Students would thus approach workplace health and safety issues in a circular investigative fashion, with a wide range of primary and secondary texts containing diverse perspectives. These different, and sometimes conflicting, perspectives are the parts that, when seen together, provide students with a broader understanding of OHS. The hermeneutic process allows students to engage in ongoing debates and perspectives that are not arbitrary, but rather pieces that fit together like a puzzle. While the focus is on the students' experience with OHS, the array of student experiences can be pieced together as another whole towards the end of the learning experience.

Finally, this would introduce a wider, deeper, and more critical perspective to teaching OHS in Canadian business schools. I draw on the writings of Stradling (2001), who reintroduces the idea of *multiperspectivity* as the strategic process by which students can take into account others' perspectives in addition to their own. This requires an

understanding of the students' own historical situatedness—era and cultural context—including their prejudices and biases. Recognizing their own cultural context, students are encouraged to see the world of OHS as others may experience it, to exercise empathy and compassion. This approach seeks inclusion, not exclusion of ideas. Introducing business students to the principles of historiography, focusing on the dynamics of OHS historical events, is neither simple nor familiar to them, thus requiring further discussion.

When students critically engage with diverse texts and perspectives, they need to explore the producers' motives. This might include questions such as why and for what purposes the author and their affiliations chose a certain view and sources, to the exclusion of other views? Following hermeneutic principles, Stradling (2001) describes three elements of this process: (a) exploring the socio-historical context in which the perspective emerged; (b) deconstructing the language of the text separating facts, opinions, and ideologies; and (c) analyzing the documents in relationship with the socio-historical context.

By extending the scope of hermeneutic analysis, we may draw students to question how the various perspectives interact with and relate to each other to produce a more complex picture of how, what, when, where, and why certain views dominate over others. The emphasis is on archival sources and themes, rather than subject topics, an approach that avoids the fragmentation of curriculum content. This dissertation has discussed some of the main events, forces, and movements that spurred and shaped OHS throughout the 20th century, and could also serve as starting points or examples of possible discussion themes.

The hermeneutic methodology lends itself to active and enquiry-based learning approaches and discussions, such as: (a) debates and standpoints; (b) conflicts and compromises; (c) synchronicity and parallels; (d) roots and influences; (e) comparisons and contrasts; (f) continuity and change; (g) similarities and differences; (h) power and authority; (i) questions and puzzles; (j) anomalies and conundrums; (k) key stakeholders and institutions; (l) main developments and turning points; (m) myths and hidden assumptions; and (n) oral stories and experiences. All can include various communication technologies. Herein, an analytical thematic approach that adheres to historiographical and critical hermeneutic principles can widen and deepen the OHS curriculum in Canadian business schools.

Conclusion

In this dissertation, I have explored the beginnings and evolution of OHS in Canadian history by investigating the emergence of the first workers' compensation and comprehensive OHS Acts, and the production of the regulatory agencies' perspectives and practices during the early and late 20th century. I revealed that the OHS curriculum in business studies articulates the messages of these dominant legal institutions, arguing that this narrow view of OHS demands serious attention if workers' health and well-being is to be valued and improved. I offer an alternative perspective as a starting point for conversations on OHS education in business studies.

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Appendix A

Workmens' Compensation Legislative Texts Analyzed 1913-1923

Reports of Investigations on Workmen's Compensation Laws

Ontario. Commission on Laws Relating to the Liability of Employers to Make Compensation to Their Employees for Injuries Received in the Course of Their Employment Which are in Force in Other Countries. (1913). *Final Report on Laws Relating to the Liability of Employers*. Toronto, ON: L.K. Cameron.

British Columbia. Royal Commission on Labour. (1914). *Report of the Royal Commission on Labour*. Victoria, BC: King's Printer.

British Columbia. Committee of Investigation on Workmen's Compensation Laws. (1916). *Report of the Committee of Investigation on Workmen's Compensation Laws*. Victoria, BC: W.H. Cullin.

Workmen's Compensation Acts

Workmen's Compensation Act, S.O. 1914, c 25.

Workmen's Compensation Act, S.B.C. 1916, c 77.

The First Workmen's Compensation Board Annual Reports

Ontario

Ontario. Workmen's Compensation Board. (1916). *Report for 1915 of the Workmen's Compensation Board Ontario. Including Also Report for 1914 Covering Organization*. Toronto, ON: A.T. Wilgress.

Ontario. Workmen's Compensation Board. (1917). *Report for 1916 of the Workmen's Compensation Board Ontario*. Toronto, ON: A.T. Wilgress.

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British Columbia

British Columbia. Workmen's Compensation Board. (1918). *First Annual Report of the Workmen's Compensation Board of the Province of British Columbia for the Year Ending December 31st 1917*. Victoria, BC: William Cullin.

British Columbia. Workmen's Compensation Board. (1919). *Second Annual Report of the Workmen's Compensation Board of the Province of British Columbia for the Year Ending December 31st (1918)*. Victoria, BC: William Cullin.

British Columbia. Workmen's Compensation Board. (1920). *Third Annual Report of the Workmen's Compensation Board of the Province of British Columbia for the Year Ending December 31st (1919)*. Victoria, BC: William Cullin.

British Columbia. Workmen's Compensation Board. (1921). *Fourth Annual Report of the Workmen's Compensation Board of the Province of British Columbia for the Year Ending December 31st (1920)*. Victoria, BC: William Cullin.

British Columbia. Workmen's Compensation Board. (1922). *Fifth Annual Report of the Workmen's Compensation Board of the Province of British Columbia for the Year Ending December 31st (1921)*. Vancouver, BC: Mitchell-Foley, Ltd.

Appendix B

OHS Legislative Texts Analyzed 1971-1986

*BC and SK changed *Workmen's* to *Workers'* in 1974, ON in 1982.

Workers' Compensation Acts

Workmen's Compensation Amendment Act, S.B.C. 1974, c 101.

Workers' Compensation Act, R.S.O. 1980, c 539.

The Workers' Compensation Act, S.S. 1979, c w-17.1.

Occupational Health and Safety Acts

(First Comprehensive OHS Legislations and Related Regulations)

First Comprehensive OHS Legislations

British Columbia Workers' Compensation Act, R.S.B.C. 1979, c. 437 and B.C. Reg. 585/77 as am. by B.C. Reg. 374/79.

Ontario, Occupational Health and Safety Act, R.S.O. 1980, c. 321.

Saskatchewan, Occupational Health Act, S.S. 1972, c. 86.

Saskatchewan, Occupational Health and Safety Act, R.S.S. 1978, c. 0-1.

Saskatchewan, Occupational Health and Safety Regulations, R.R.R. 1981, c 0-1,Reg.1.

Canadian Centre for Occupational Health and Safety Act, S.C., 1977-78, c. 29.

Canadian Centre for Occupational Health and Safety Act, R.S.C., 1985, c. C-13.

Related Regulations

Canada Environmental Protection Act, R.S.C. 1985.

Canada Occupational Health and Safety Regulations, SOR/66-304, as amended [WHMIS Training Requirements].

Hazardous Products Act, R.S.C. 1985, c. H-3. [as amended by Bill C-70 to include the Hazardous Information Review Act, 1987].

Transportation of Dangerous Goods Act, 1985, c. T. 19.

Transportation of Dangerous Goods Act Transportation of Dangerous Goods Regulations, SOR/85-77 [TDG Training Requirements].

The Workers' Compensation Board Annual Reports

(Agencies Responsible for administering the BC, ON and SK Workers' Compensation Acts)

British Columbia

British Columbia. Workers' Compensation Board. (1977). *Sixtieth Annual Report for the Calendar Year Ended December 31st 1976*. Vancouver, BC: Worker's Compensation Board of British Columbia.

British Columbia. Workers' Compensation Board. (1978). *61st Annual Report for the Calendar Year Ended December 31st 1977*. Vancouver, BC: Worker's Compensation Board of British Columbia.

British Columbia. Workers' Compensation Board. (1979). *62nd Annual Report for the Calendar Year Ended December 31st 1978*. Vancouver, BC: Worker's Compensation Board of British Columbia.

British Columbia. Workers' Compensation Board. (1980). *63rd Annual Report for the Calendar Year Ended December 31st 1979*. Vancouver, BC: Worker's Compensation Board of British Columbia.

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Ontario

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Ontario. Workers' Compensation Board. (1986). *Worker's Compensation Board Annual Report 1985*. Toronto, ON: Workers' Compensation Board.

Saskatchewan

- Saskatchewan. The Workmen's Compensation Board. (1971). *Forty-first Annual Report for the Calendar Year 1970*. Regina, SK: Lawrence Amon, Printer to the Queen's Most Excellent Majesty.
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Ministry of Labour Annual Reports

(Agencies Responsible for administering the ON and SK OHS Acts)

Ontario

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Ontario. Ministry of Labour. (1982). *63rd Annual Report for the Fiscal Year Ending March 31, 1982*. Toronto, ON: Ministry of Labour.

Ontario. Ministry of Labour. (1983). *64th Annual Report for the Fiscal Year Ending March 31, 1983*. Toronto, ON: Ministry of Labour.

Ontario. Ministry of Labour. (1984). *65th Annual Report for the Fiscal Year Ending March 31, 1984*. Toronto, ON: Ministry of Labour.

Ontario. Ministry of Labour. (1985). *66th Annual Report for the Fiscal Year Ending March 31, 1985*. Toronto, ON: Ministry of Labour.

Ontario. Ministry of Labour. (1986). *67th Annual Report for the Fiscal Year Ending March 31, 1986*. Toronto, ON: Ministry of Labour.

Saskatchewan

Saskatchewan. Department of Labour. (1972). *Twenty-Eighth Annual Report for the Twelve Months Ended March 31, 1972*. Regina, SK: The Department.

Saskatchewan. Department of Labour. Occupational Health and Safety Division. (1978). *Annual Report 1977-78*. Regina, SK: The Department.

Saskatchewan. Department of Labour. Occupational Health and Safety Branch. (1979). *Annual Report 1978-79*. Regina, SK: The Department.

Saskatchewan. Department of Labour. Occupational Health and Safety Branch. (1980). *Annual Report 1979-80*. Regina, SK: The Department.

Saskatchewan. Department of Labour. Occupational Health and Safety Branch. (1981). *Annual Report 1980-81*. Regina, SK: The Department.

Saskatchewan. Department of Labour. Occupational Health and Safety Branch. (1982). *Annual Report 1981-82*. Regina, SK: The Department.

Canadian Centre for Occupational Health and Safety

Canada. Canadian Centre for Occupational Health and Safety (CCOHS). (1979). *Report of the Council for the Year 1978*. Ottawa, ON: CCOHS.

Canada. Canadian Centre for Occupational Health and Safety (CCOHS). (1980). *Report of the Council for the Year 1979*. Ottawa, ON: CCOHS.

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Canada. Canadian Centre for Occupational Health and Safety (CCOHS). (1982). *Report of the Council for the Year 1981*. Ottawa, ON: CCOHS.

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Report of the Council for the Year 1983. Ottawa, ON: CCOHS.

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Report of the Council for the Year January 1-August 31, 1984. Ottawa, ON:
CCOHS.

Appendix C

OHS Curriculum Documents Analyzed 1974-1998 (*2002, **2005)

Canadian Human Resource Management Textbooks (First Editions). Arranged in chronological order.

Jain, H. (1974). *Contemporary Issues in Canadian Personnel Administration*. Scarborough, ON: Prentice-Hall of Canada Limited.

Werther, W., Davis, K., Schwind, H., Das, H. & Miner, F. (1982). *Canadian Personnel Management and Human Resources*. Toronto, ON: McGraw-Hill Ryerson Limited.

Stone, T. & Meltz, N. (1983). *Personnel Management in Canada*. Toronto, ON: Holt, Rinehart and Winston of Canada Limited. (Printed in the United States of America)

Dessler, G & Duffy, J. (1984). *Personnel Management: Canadian Second Edition* (note: first published Canadian edition). Scarborough, ON: Prentice-Hall Canada.

Srinivas, K. (1984). *Human Resource Management: Contemporary Perspectives in Canada*. Toronto, ON: McGraw-Hill Ryerson Limited.

Dolan, S. & Schuler, R. (1987a). (Eds). *Canadian Readings in Personnel and Human Resource Management*. St. Paul, MN: West Publishing Company.

Dolan, S. & Schuler, R. (1987b). *Personnel and Human Resource Management in Canada*. St. Paul, MN: West Publishing Company.

Milkovich, G., Glueck, W., Barth, R., & McShane, S. (1988). *Canadian Personnel/Human Resource Management: A Diagnostic Approach*. Plano, TX: Business Publications, Inc.

Belcourt, M, Sherman, A., Bohlander, G, & Snell, S. (1996). *Managing Human Resources, Canadian Edition*. Scarborough, ON: Nelson.

Occupational Health and Safety Textbooks and Curriculum

Montgomery, J. (1996). *Occupational Health and Safety* (1st ed.). Toronto, ON: Nelson Canada.

*Montgomery, J. & Kelloway, K. (2002). *Management of Occupational Health and Safety* (2nd ed.). Toronto, ON: Nelson Thomson Learning.

Professional Societies

Board of Canadian Registered Safety Professionals (1982). *Blueprint for the Canadian Registered Safety Professional Examination (CRSPEX)*. Mississauga, ON: Board of Canadian Registered Safety Professionals. (Email, Original CRSP Examination Subject Areas, Nikki Wright, CAE, Executive Director, Board of Canadian Registered Safety Professionals Mississauga, ON February, 2015).

**Board of Canadian Registered Safety Professionals (2005). *Blueprint for the Canadian Registered Safety Professional Examination (CRSPEX)*. Mississauga, ON: Board of Canadian Registered Safety Professionals.

Canadian Council of Human Resources Associations, Human Resources Development Canada (1998a). *The Proposed Competency Model for the HR Profession*. Canadian Council of Human Resources Associations. Quebec City, QC: Canadian Council of Human Resources Associations.

Canadian Council of Human Resources Associations, Human Resources Development Canada (1998b). *The Canadian Human Resources Professional Capabilities Profile*. Canadian Council of Human Resources Associations. Quebec City, QC: Canadian Council of Human Resources Associations.

*Canadian Council of Human Resources Associations. (2002). *Human Resources Professionals in Canada: Revised body of knowledge and required professional capabilities*. Canadian Council of Human Resources Associations.

Appendix D

Questions That Guide My Method of Analysis

The following questions guide my analysis of the intentional, referential, contextual, conventional and structural aspects of the texts.

- Why was the text constructed?
- Who constructed the texts?
- For whom was the text constructed for? Who is the audience?
- What institutional forces were pushing the texts publication?
- What was the author's purpose, intentions, and motivations in creating the texts?
- What are the sources that the text relies on?
- Whose and what particular ends does the texts production serve?
- What power relations exist in the text?
- Who are the dominant authors and institutions in the text?
- What particular institutions are the text linked to?
- What subject categories, practices, and boundaries are defined as OHS?
- What concepts and ideas are attached to the dominant institutions?
- What rules, principles or laws dominant the text?
- What assumptions or assertions exist in the text without adequate qualifications?
- Are certain perspectives denied?
- Who is trying to gain, maintain or repair their organizational legitimacy?
- What social practices do individuals and groups use to construct their legitimacy?
- What individuals are embedded in the social structures within the text?
- How are people portrayed?
- What people or social groups are missing?
- How does the text exclude readership?
- Who is allowed to speak and whose voices are viewed as less important?
- What practices are legitimated and what activities are marginalized?
- Who benefits from this texts communication? What are the social practices that produce the ideological orientations entrenched in the text?

- What are the dominant ideologies and belief systems reproduced by the dominant authors, groups and institutions?
- What conflicts, contradictions and struggles may be behind particular aspects of the text?
- What truth claims are made?
- What resources, rules and conventions do the authors relying on to support their ideas?
- Who has resource power, formal authority or central in the OHS field?
- What social techniques, practices or people do the authors make reference to?
- What resources do the authors relying on to support their ideas?
- What are the social institutions within which the individuals or groups act?
- What aspects of the field of OHS is the text addressing?
- What issues is the authorship of the text trying to address?
- What are the concerns presented by the authors of the text?
- What solutions do the authors recommend?
- What are the key references in the appendices?
- What references are used to support the text content?
- What are the textbooks key citations?
- What are the dominant referential documents revealed in the text?
- What dominant historical texts does the text draw upon to give a certain meaning?
- What argumentation exists in the text?
- What symbolic or visual representations dominate the text?
- Does the text reflect on its historical creation?
- How do the texts combine as a system of shared meanings facilitated through their alignment with other social institutions?
- What consequences (effect) does this OHS knowledge have on the overall shaping and development of business school faculty and students and on the broader community?

Appendix E

List of Abbreviations

*BC and SK changed *Workmen's* to *Workers'* in 1974, ON in 1982.

BC	Province of British Columbia
BCR	British Columbia, <i>Report of the Committee of Investigation on Workmen's Compensation Laws</i> (Pineo report, 1916)
BCRSP	Board of Canadian Registered Safety Professionals
BCWCA	British Columbia Workmen's Compensation Act, 1916
CCHRA	Canadian Council of Human Resources Associations
CCOHS	The Canadian Centre for Occupational Health and Safety
CHRP	Certified Human Resource Professional
CNSL	Canadian National Safety League
CRSP	Certified Registered Safety Professional
CSA	Canadian Standards Association (formally known as the Canadian Engineering Standard Association, formed in 1919)
CSC	Canada Safety Council
HRM	Human Resources Management
IAPA	Industrial Accident Prevention Association
JHSC	Joint Health and Safety Committees
MoL	Ministry of Labour (Saskatchewan Department of Labour and Ontario Ministry of Labour)
NIHL	Noise Induced Hearing Loss
OHS	Occupational Health and Safety
ON	Province of Ontario
ONMoLAR	Ontario Ministry of Labour Annual Report
ONR	Ontario, <i>Final Report on Laws Relating to the Liability of Employers</i> (Meredith report, 1913)
ONWCA	Ontario Workmen's Compensation Act, 1914
PPE	Personal Protective Equipment

QWL	Quality of Work Life
RAC	Recognition, Assessment and Control
SK	Province of Saskatchewan
TLV	Threshold Limit Value
*WCA	Workmen's/Worker's Compensation Act
*WCB	Workmen's/Worker's Compensation Board
*WCBBC	Workmen's/Worker's Compensation Board of British Columbia
*WCBBCAR	Workmen's/Worker's Compensation Board of British Columbia Annual Report
*WCBON	Workmen's/Worker's Compensation Board of Ontario
*WCBONAR	Workmen's/Worker's Compensation Board of Ontario Annual Report
*WCBSK	Workmen's/Worker's Compensation Board of Saskatchewan
WCBSKAR	Worker's Compensation Board of Saskatchewan Annual Report
WHMIS	Workplace Hazardous Material Information System
WHP	Workplace Health Promotion