The Good Doctor in Medical Education
1910-2010:
A Critical Discourse Analysis

by

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Abstract

Ideas of what constitutes a good doctor underlie decisions about medical student selection, as well as curriculum design and the structure of medical education at both undergraduate and postgraduate levels of training. Factors at play include knowledge paradigms (what does a good doctor need to know), identity paradigms (who can become a good doctor) and notions about the relationship of doctors to society (the social responsibility or social accountability of the good doctor).

As with any social phenomenon, constructs of the good doctor are historically derived and socially negotiated. Ideas about the good doctor tend to be considered as ‘truths’ in any era, with little attention to or understanding of the assumptions that underpin any particular formulation.

In this thesis, I explore and dissect the dominant constructs of the good doctor in North American medical education between 1910 and 2010. Drawing upon
Foucauldian critical discourse analysis, I focus particular attention on discursive shifts in the conception of the *good doctor* over the past century.

This analysis reveals a series of discursive shifts in the framing of the *good doctor* in medical education between 1910-2010. Abraham Flexner promoted the construct of the *good doctor* as a *scientist* physician who was also a man of *character*. In the post-Flexnerian transformation of medical education, science became curricular content while the discourse of *character* remained. In the late 1950s a sudden discursive shift occurred, from the *character* of the *good doctor* to *characteristics*. With this shift, the student was dissected as an object of study. Further discursive shifts incorporated discourses of *performance* and *production* into constructs of the *good doctor* as *roles-competent*. This research explores the implications and consequences of these various discursive framings of the *good doctor*. 
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Chapter 1

Introduction

It is a truth universally acknowledged that a single man in possession of a good fortune must be in want of a wife. However little known the feelings or views of such a man may be on his first entering a neighbourhood, this truth is so well fixed in the minds of the surrounding families, that he is considered as the rightful property of some one or other of their daughters.

(Jane Austen)

1.0 The good doctor

What is a good doctor? Who is a good doctor? What does a good doctor know? For many years medical educators have pondered these questions as they re-examine processes of medical school selection, re-vamp medical school curricula and re-visit whether physicians are properly fulfilling their expected functions in health care systems and society.

Many of the issues that are considered in answering these questions have become truths universally acknowledged in the language and practices of medical education, the medical profession and the health care system. This thesis is an attempt to explore some of these ‘truths.’ Just as Jane Austen dissects the early nineteenth

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1 Throughout this thesis, I use double quotation marks (“ ”) to designate verbatim quotations. Single quotation marks (‘ ’) identify my own problematization of terms and phrases. I use italics to identify technical terms and specific discourses.
century social discourse of marriage, critiquing the universality of socially held ‘truths’ and the way they become social norms, so too can ‘truths’ about the good doctor be examined.

1.1 Beginnings

In this thesis I trace discourses of the *good doctor* and how they have changed, from Abraham Flexner’s influential report in 1910, *Medical Education in the United States and Canada* (1910), to the present. There have been significant changes in these discourses; these discursive shifts, and the attendant implications of different conceptions of the good doctor form the core of this thesis. I also examine the way in which these discourses of the *good doctor* co-exist with other dominant discourses about medical school curriculum and training. For example, for over a hundred years it has been a ‘truth’ that the medical school curriculum is overcrowded as a result of the overwhelming expansion of scientific knowledge. Another *truth universally acknowledged* is that biomedical science is both central to but insufficient for medical training. Yet another relates to the need to inculcate social responsibility in trainees. The ways these discourses intersect with those of the *good doctor* create particular understandings of what is important in the design and delivery of medical education.

1.1.1 Responsibility

It took some time for me to determine what this thesis was really ‘about’ and to arrive at the construct of the *good doctor*. I started with two specific areas of
interest: responsibility and competence. My interest in the concept of responsibility came out of my work and research in the area of interprofessional education (IPE) and interprofessional collaboration (IPC). I have been quite involved in interprofessional education, and had come to question some aspects of this current popular approach to health professions teaching that seemed to me to be simplistic and naïve. Collaborative interprofessional models of care have been hailed as one significant way to enable health care systems to be more efficient, effective and patient-centred. In Canada, the federal and provincial governments have specifically promoted such models in the 2004 10 Year Plan to Strengthen Health Care, claiming that they will improve quality, reduce error, increase provider satisfaction and help to alleviate health human resource shortages (Canada, Office of the Prime Minister, 2004). Academic institutions and professional organizations have highly endorsed interprofessional initiatives: collaboration is one of the seven essential competencies of the CanMEDS Competency Framework which designates roles that must be taught to medical trainees (Frank, 2005), the new model for primary health care in Ontario involves interprofessional Family Health Teams (Family Health Teams, 2002), and in Health Sciences faculties IP courses and programmes are proliferating.

‘Shared responsibility’ is a key feature of these collaborative models of care. The enthusiastic endorsement of such initiatives is, however, being tempered by a growing literature that demonstrates the inherent difficulties in achieving such collaborative models of care (Baker, Egan-Lee, Martimianakis, & Reeves, 2011;
Brown, et al., 2011; Reeves, Fox, & Hodges, 2009). One significant problem that has been discussed in detail in the literature and amongst interprofessional enthusiasts is that of engaging physicians (Baker, et al., 2011; Whitehead, 2007). Physicians often express discomfort at the notion of ‘sharing’ responsibility, and consider this a limiting factor in engagement in collaborative practice. Physicians seem to feel that they possess responsibility to a greater degree than their colleagues, and use this to claim autonomy and authority in interprofessional interactions in areas that may extend far beyond their medical expertise. I therefore thought that responsibility might be an interesting way to explore language, practices and power relations in health care.

Initially, therefore, I thought that my focus in the thesis would relate to the concept of medical responsibility, and the truth universally acknowledged that the physician is the ultimately responsible health care professional. Responsibility is often held to be a defining feature of physician identity: ‘the buck stops here.’ In claiming ownership of responsibility, physicians claim autonomy and assert authority in times of conflict with other health professionals, patients, or the state. At the same time, interprofessional models of care espouse ‘shared responsibility.’ This tension seemed an interesting area to consider. I conducted a literature search, using Medline, Cinahl and Embase. ‘Responsibility’ appeared as a text word in the title or abstract in 61,800 articles. I refined the search using combinations of the following terms: professional responsibility, social responsibility, physicians, professional practice, social justice, social control, and social autonomy. From these
combinations 1551 results were generated, of which the 402 most relevant article abstracts were reviewed, and 51 full texts were examined. Even at the outset, it quickly became clear that the term responsibility was used in diverse ways, with multiple meanings, incorporating aspects of causality, capacity, duty, answerability and obligation arising from moral and legal codes. Specific aspects that appeared in the medical literature included legal prescriptions ("Collaborative Care: A medical liability perspective," 2007; Rinella & Gerstein, 1994), moral issues (Falkum & Forde, 2001), physician roles, including changing roles in changing work contexts (Aasland, 2001; Beaulieu, Rioux, Rocher, Samson, & Boucher, 2008), developmental aspects of becoming a responsible professional (Van Eaton, Horvath, & Pellegrini, 2005), relational aspects both to patients and colleagues (Lingard, Reznick, Espin, Regehr, & DeVito, 2002; Tauber, 2003), and issues of physician autonomy and authority (Marjoribanks & Lewis, 2003). It was clear that ‘responsibility’ had many meanings and uses. I also came to realise that responsibility was but one facet of what I wished to explore, and that I needed a different framing for my work.

1.1.2 Competence

Competence was another area I wished to examine with this academic work. I was the Family Medicine Residency Programme Director at Women’s College Hospital (one of the University of Toronto family medicine residency training sites) at the time I began this academic journey. The College of Family Physicians of Canada had just adopted a modified version of the CanMEDS competency framework (Frank, 2005). Knowing that we would be expected to use this language and outcomes-
based approach for curriculum design and resident assessment, as well as have our programme evaluated according to CanMEDS-related accreditation standards, I became involved in the development of the outcomes-based standards for my department. I also began to question some of the assumptions and expectations of the competency movement in medical (and other health professional) education. Reviewing the literature on competence helped to demonstrate the complexity of the construct and raise questions about its utility and the practicality of its application (Grant, 1999; Huddle & Heudebert, 2007; Rees, 2004). I realised that competence as a construct incorporates professional knowledge and professional identity issues, as well as links to practice and social interaction.

I hoped to better understand the emergence and implications of these competency frameworks, and look at how or if these were different from previous conceptions of what medical education was trying to achieve. ‘Competence,’ which is used synonymously with the terminology ‘outcomes-based’ in much of the current medical education literature, has become the language of choice in medical education internationally (ACGME, 1999; “Tomorrow’s Doctors,” 2009).

The Canadian CanMEDS Framework (Frank, 2005) is particularly popular, now used in dozens of countries for tens of thousands of medical trainees worldwide. It has also been adapted as a framework for a number of other health professions (AFPC, 2010; Ringsted, Hansen, Davis, & Scherbier, 2006; Verma, 2006). Close
examination of ‘competence’ as the current dominant discursive framing of the goal of medical education was clearly going to be important to my work.

While ‘competence’ incorporates aspects of knowledge, identity and social interaction, the terms itself seemed insufficient as a framing for this work. Quite frankly, it seemed a bit feeble, ‘good enough’ rather than ‘good.’ Competence is obviously necessary and desirable and nobody would want to be cared for by incompetent doctors. Yet many would hope for a doctor who is more than merely competent. The notion of medicine as a ‘calling’ rather than just a job, and the status society accords to doctors made a different term seem desirable. So, just as I had rejected ‘responsibility’ as my subject, I turned away too from ‘competence.’

1.1.3 The construct of the good doctor

Having decided that neither ‘responsibility’ nor ‘competence’ fully captured what I was hoping to analyse in this thesis, I sought a construct that would allow exploration of the various facets that are part of the ‘purpose’ of medical education. The good doctor seemed a possible way to draw together various strands. The ‘point’ of medical education is presumably to create doctors who are ‘good’ at what they are supposed to do (regardless of whether what doctors are ‘supposed’ to do can be agreed upon or defined). While at first glance the good doctor is a simple term, it is actually a rather ambiguous construct, potentially incorporating multiple facets including paradigms of medical knowledge, medical identity and the profession’s relationship to society.
The terminology of ‘good doctor’ is used only occasionally in the medical education literature. However, no alternate term is used with any consistency to try to bring together the many aspects that collectively contribute to the overall expertise, merit and commitment of a ‘good’ physician. Nevertheless, varied aspects of ‘goodness’ are implied in the many discussions about selecting students who will do well in the profession, determining what is needed in the curriculum to train these students well, and sorting out how to decide if they have arrived at a point where they can go out into the world as honourable members of the profession.

The construct of the good doctor seemed, therefore, a reasonable way to frame the discourses about what is aimed for through the process of medical education. As a construct, it also allowed examination of the relationship between educational aims and the status and stature of the medical profession. Discourses of the good doctor have implications in terms of professional power, and have political and economic uses. Being a ‘good’ doctor might perhaps be construed, at least in part, as helping to uphold the privileged place of the medical profession in society.

1.1.4 Metaphors and the good doctor

The CanMEDS Framework, visually depicted as a daisy, is very important in its explicit acknowledgment that a good doctor is comprised of a complex array of attributes. I have not been convinced, however, that the daisy is the best possible metaphor. The CanMEDS daisy has no stem, leaves or roots. Any daisy, even when in a field filled with flowers, is still a fairly solitary object. As such, it seems an
insufficient image for competent professional: unrooted, unconnected, unable to relate. A role as a ‘petal’ can be plucked off and a recognizable daisy remain. The image does not emphasise the necessary integration of all roles for competent professional function. Nor does it focus attention on the contexts in which competencies are practiced.

The outcomes-based approaches that go hand-in-hand with the CanMEDS daisy are frequently described in terms of factory production. This further upset my metaphorical sensitivities. While dehumanizing aspects of medical training are well-described, my own thinking about becoming a good doctor was that of a developmental journey. Northrup Frye’s writings on journeys as metaphor made much more sense to me than factory production (Frye, 1990). One part of this research involved my own journey through metaphors of medical education and the various formulations of the good doctor.

1.2 Approaches to the good doctor

Once I had framed my work as exploring the construct of the good doctor, examining how this construct had evolved to be framed in the ‘competencies’ language of the early twenty-first century, I was able to make decisions about where, chronologically, I should begin my research. One other ‘truth’ in the medical education literature is that modern medical education began in 1910 with Abraham Flexner’s Report entitled Medical Education in the United States and Canada (1910). Flexner visited each medical school in the United States and Canada in order to compile his report. His recommendations led to
sweeping changes in medical education, with the closure of many medical schools and the entrenchment of medical education in universities (Ludmerer, 2010). Furthermore, 2010 marked the hundredth anniversary of the Flexner report, an event celebrated and noted in the medical education community. Entire issues of medical education journals were devoted to a re-examination of Flexner (Academic Medicine, 2010, pp. 181 – 385; Medical Education, 2011, pp. 1-106). Major reports re-examining medical education were issued in both the United States and Canada in 2010. These 2010 reports are both directly and explicitly linked to Flexner. The Future of Medical Education in Canada (FMEC) report begins, "Just as Abraham Flexner's report did 100 years ago" (FMEC, 2010, p. 1). The American report, Educating Physicians, A call for reform of medical school and residency (Irby, Cooke, & O'Brien, 2010), is funded by the Carnegie foundation, which had also commissioned Flexner's 1910 report. The 2010 authors deliberately link their report back to Flexner:

At the beginning of the 20th century, the Carnegie Foundation for the Advancement of Teaching spearheaded a major reform movement in medical education. The movement was guided by Abraham Flexner's vision.... Now at the beginning of the 21st century, the Carnegie Foundation for the Advancement of Teaching is again calling for reforms that will improve the preparation of physicians. These two calls for change address remarkably similar themes. (Irby, et al., 2010, p. 220)

Flexner, clearly, continues to carry great currency today. His report therefore became my starting point from which to trace forward ideas of the good doctor in medical education. Flexner has a definite vision of the education of a good doctor. He asserts that “the educated man” (1925, p. 86) is inculcated into the complexities of professional
responsibility through scientific training in a university setting. He emphasizes the great responsibility required of the trainee and the significant import of this training:

Between the young graduate in medicine and his ultimate responsibility—human life—nothing interposes. He cannot nowadays begin with easy tasks under the surveillance of a superior; the issues of life and death are all in the day’s work for him from the very first. The training of the doctor is therefore more complex and more directly momentous than that of the technician. (Flexner, 1910, pp. 23-24)

The articulation of the essence of the training of a good doctor of today is very different from Flexner’s time. Current medical training in Canada relies on the CanMEDS competency framework, in which:

Physicians possess a defined body of knowledge, clinical skills, procedural skills and professional attitudes, which are directed to effective patient-centered care. They apply these competencies to collect and interpret information, make appropriate clinical decisions, and carry out diagnostic and therapeutic interventions. (Frank, 2005, p. 8)

The words used to describe the twenty-first century framework appear much more mundane and formulaic than that of a century ago. Trainees must be made to possess a set of knowledge skills and attitudes that allow them to competently perform specific tasks. The language is impersonal and suggests that the training requirements can be broken down into discrete parts that can be placed in a checklist of competencies. Intrigued by the change, I set out to analyse these very
different formulations of the *good doctor*, and trace what happened in the intervening one hundred years.

1.3 The Literature

It quickly became clear that many different threads came together in the discourses of the *good doctor*. Knowledge issues incorporated ideas about necessary curricular content, important domains of knowledge, skill acquisition, approaches to learning, medical expertise, and knowledge application, to name but a few. Identity issues were also prominent in terms of selection of the most appropriate candidates for the profession, desirability of specific previous education or identifiable qualities, or the role of medical training and the medical school environment in shaping and socializing students. Ideas about the relationship of the medical profession to society also linked to these discourses. Aspects of the doctor as a person (identity), how doctors know and think (knowledge, expertise), and how they relate to society are all relevant.

There are many different aspects of the literature that relate to these areas. As already described, the notions of responsibility and competence are each addressed by large bodies of literature. Some identity issues appear in the currently very prominent professionalism literature (Brainard & Brislen, 2007; Cruess & Cruess, 2006; Cruess, Cruess, & Steinert, 2010; Hafferty, 2006; Hafferty & Castellani, 2010; Hafferty & Levinson, 2008; Whitcomb, 2005a, 2005b). Others are addressed through medical socialization literature (Becker, 1961; Bloom, 1963; Bonner, 1995;
Shapiro & Lowenstein, 1979; Shapiro, 1978). The medical sociology literature addresses aspects of the relation of the physician to society, and the economic, political and social factors that drive the medical profession (Abbott, 1988; Bloom, 1988; Bloom, 2002; Freidson, 2001; Larson, 1977). A number of authors discuss issues in the history of medical education from various theoretical perspectives (Bonner, 1995; Ludmerer, 1999; Witz, 1992). Several particular “flash points” (Hafferty & Castellani, 2010, p. 294) such as conflict of interest issues related industry involvement in medical education and practice (Angell, 2000, 2008; Dana & Loewenstein, 2003; Morris & Taitsman, 2009; Rothman & Chimonas, 2008), or the changes to medical education with duty hour restrictions (Hamstra, Woodrow, & Mangrulkar, 2008; Leach, 2000; Longnecker, 2006; Woodrow, Segouin, Armbruster, Hamstra, & Hodges, 2006) are relevant.

The status and authority of medical knowledge, as discussed in the literature on evidence-based medicine and the guidelines movement, is important in terms of conceptions of medical knowledge (Giacomini, 2009; Goldenberg, 2009; Norman, 1999; Rawlins, 2008; Tinetti, Bogardus, & Agostini, 2004; Upshur & Tracy, 2008). So too is the expertise literature (Eva, 2007; Hodges, Regehr, McNaughton, Tiberius, & Hanson, 1999; Moulton, 2007). Contemporary ‘movements’ including interprofessionalism, patient safety and quality all draw upon and contribute to the discourses of the good doctor.
Different aspects of this extremely wide array of literature relate at different points and in varying ways to the discourses of the good doctor. There is, it is rather interesting to note, no focussed ‘good doctor’ literature in medical education. Instead, many separate areas of the medical education literature contribute to the discourses of the good doctor. For this practical reason alone, having a chapter that focussed on several relevant aspects of the literature, as would occur in a traditional literature review, would have been challenging.

More importantly, as this work is a discourse analysis of medical education literature, the literature itself is the target for analysis. It is a way to trace the discourses of interest. ‘Review’ of the literature in a traditional sense, which generally involves summarizing the current understanding of the literature and drawing conclusions from it, would be inconsistent with the purpose of this analysis. Martimianakis, in her discourse analysis of interdisciplinarity, problematizes the place of the literature review in this type of work. She notes that:

From a Foucauldian perspective, the ‘literature review’...can function as a regulatory technology in academic knowledge-making. It can discipline academic inquiry to a pursuit of ‘new’ or ‘relevant’ knowledge as a way to document progress. It can serve to reinforce and reify normalized approaches to knowledge-making by forcing scholars to ‘fit’ their work to the ‘key debates’ or to ‘extend’ what is known of a given topic in order to get published. (Martimianakis, 2011, p. 42)
My work looks at the literature in order to scrutinize what it reveals in terms of discourse. Hence, for theoretical reasons, relevant aspects of the medical education literature are discussed in each chapter as they relate to the discursive shifts.

1.4 My Approach

As I started to look at ideas of the good doctor in medical education, I knew that my focus was to explore meanings and uses of language. I also wanted to be sure that my analysis explored the link between ideas of the good doctor in medical education, and the power, status and privilege of the medical profession. Critical research approaches, therefore, were of obvious interest. I sought theoretical and methodological ways to examine assumptions that are taken-for granted (‘truths’) in the way we look at things. A Foucauldian approach seemed to offer a very good fit with its attention to language, knowledge and power. Foucault aimed to study that which appears obvious or self-evident. In his examinations of madness, prisons and hospitals, he demonstrated that these “arise as a result of the existence of particular discourses that make them possible and that their nature and functions change as discourses change, assume dominance and disappear” (Hodges, 2009, p. 15). Foucault focused on the analysis of discursive shifts, which he describes as discontinuities or ruptures. I had a beginning and an end that were different in terms of conceptions of the good doctor; my job was to trace the path between them looking for discontinuities and changes along the way.
1.5 My Positionality and Location

Coming to this research as an ‘insider,’ it was essential that I try to be aware of the limitations of my perspective. I understood clearly that, as it does for any qualitative researcher, my own background and perspective would influence my data collection and analysis. Trying to understand this perspective and engage reflexively in thoughtful consideration of one’s assumptions and values is an important part of any qualitative research process. However, as Finlay has argued, “our experience is invariably complex, ambiguous, ambivalent” and it is important to “strike a balance, striving for enhanced self-awareness but eschewing navel gazing” (Finlay, 2002, p. 541). Furthermore, reflexivity requires self-awareness, which any person only has to a certain degree. As such, Finlay suggests that “[a]ny reflexive analysis can only be a partial, tentative, provisional account” (p 542-3). With that caveat, I attempt some comments on my location. As a physician researcher, I am a professional ‘insider,’ with a professional identity aligned with the group I am studying. Moreover, this study involves a group that holds a privileged position in the health care system and society. Having been socialized into the profession, I bring an insider view and consequently also insider blinders to this work. For example, a facet of physician identity is a sense of medical exceptionalism and manifest destiny (Austin, Gregory, & Martin, 2007). No doubt I have expectations of entitlement as a physician, which colours the lens with which I approach my data.

I approach this work as an insider not only in terms of being a physician, but also in terms of my academic pursuits. I went to medical school after completing an undergraduate degree in the social sciences, and have been an academic family
physician in Toronto since 1990. My work for the first fifteen years of my professional career was mostly as a clinician and clinical teacher, in geriatric, stroke and brain injury collaborative interprofessional teams in addition to my primary care work and teaching. The recent proliferation of interprofessional initiatives led me into academic work (a master’s degree) as well as interprofessional teaching, programme design, research and academic study. My work in medical education has included being a site programme director for family medicine residents, as well as holding formal positions, serving on various committees and being involved in teaching and curriculum design in undergraduate medical education, postgraduate medical education and professional development. I have been quite involved in the development of the competency-based curriculum for the family medicine residency program at the University of Toronto. Being both a physician and a medical educator, I live, professionally, right in the middle of the very world I am studying.

1.6 Organization of thesis

My thesis is structured chronologically around the changing discourses of the good doctor over one hundred years. Following this introduction, Chapter 2 describes my methodology and theoretical framework. Chapter 3 provides an overview of the data analysis, and discusses my identification of the discursive shifts that occurred. Chapter 4 provides an analysis of Flexner’s discourse of the scientist physician, and argues that Flexner’s idea of the scientist is much broader and more encompassing than is frequently acknowledged by those who claimed to incorporate his prescriptions into medical school reform. Moreover, the ‘person’ who engages with
the science is critical to Flexner’s concept of the good doctor. Chapter 5 discusses discourses that accompanied the post-Flexner Report changes to medical schools and the structure of medical education. Reforms were significant; they did not, however, incorporate all of Flexner’s ideas. Instead, science became embedded in the curriculum and the good doctor was depicted as a man of character rather than as a scientist. Chapter 6 examines a major and sudden discursive rupture that occurred in the late 1950′s. Characteristics, took over from character as the discursive framing of the doctor. Chapter 7 describes the rise of competency discourse. It traces the emergence of competency discourse along with discourses of performance and production. It examines in detail the development of the EFPO and then the CanMEDS competency frameworks, demonstrating the historically negotiated nature of the naming of roles. Chapter 8 discusses implications of these discursive shifts. It links the shifting discourses of the good doctor to a set of recurring discourses in medical education, and raises questions about the intersection between these sets of discourses. Chapter 9 concludes with some final reflections.
Chapter 2
Methodology

“Why are things as they are and not otherwise?”
(Johannes Kepler)

2.0 Introduction

This chapter describes the methodology used in my research. First, I describe my theoretical approach, and reasons for choosing to use critical discourse analysis drawing on the work of Foucault. Next I outline Foucault’s concepts of archaeology, genealogy and serial history. I describe critical discourse analysis. Throughout, I explain my rationale for using a particular combination of these approaches, and discuss how specific issues I encountered affected my methodological choices. Finally I describe my archive, providing detail about the data set used, decisions I made in terms of delimiting the archive, and issues of data collection and analysis.

2.1 Theoretical Overview

As other researchers who have used Foucauldian approaches point out, there is no one clearly prescribed way to use Foucault’s ideas and theories (Martimianakis, 2011, p. 11). Instead, Foucault provides a number of concepts and theoretical lenses, which can be combined to explore issues of knowledge and power.
Foucault's notion of genealogy as a "history of the present" (Foucault, 1995, p. 31) fits perfectly with the way my research question developed. As described in the Introduction, I began to explore discourses of the *good doctor* because of questions about the current formulation of the good doctor as *roles-competent* in outcomes-based frameworks.

In choosing to research changing ideas of the good doctor in medical education in North America over a one hundred year period, I was faced with a potentially vast set of data. I needed to find a meaningful way to focus my research and ensure that my approach to this broad sweep of history did not become superficial or never-ending. Foucault's notion of a *serial history* provides a means to approach such a data set, by looking for discontinuities in the description of the *good doctor* in the medical education literature over a one hundred year time span. Foucault's concept of *archaeology*, similarly, allows analysis of what specific discourses are, and how these change over time. The combination of the ideas of serial history and the archaeological approach let me explore the ebb and flow of discourses of the *good doctor*, tracing the rise to dominance of particular discursive formulations at different times. Furthermore, Foucault's *genealogical* methods provide a way to examine the power relationships that underlie, influence and build upon the discourses, linking knowledge and power. Thus undertaking a serial history, using a combined archaeological and genealogical approach allows exploration of the emergence of new discourses, discontinuities in discourses, and implications of the discourses in terms of accepted truths and power relations.
2.2 Archaeology

Foucault’s notion of archaeology relates to ideas of ‘truth’ embedded in language and assumptions about accepted forms of knowledge. For Foucault, “‘Truth’ is to be understood as a system of ordered procedures for the production, regulation, distribution, circulation and operation of statements” (Foucault, 1980, p. 132). As A. Davison notes, this formulation assumes that:

[T]his kind of empirical knowledge possesses a well-defined regularity, that the history of this knowledge exhibits systems of rules and their transformation, which make different kinds of statements possible. These rules are, however, never formulated by the participants in the discursive practices; they are not available to their consciousness, but constitute what Foucault once called the ‘unconscious of knowledge’ (Davidson, 1986, p. 222).

By taking an archaeological approach, changes, or discontinuities, in the kinds of statements that are being made become extremely important, as these signal a shift in ways of thinking, and the rules governing discourse production. Again as described by Davison, “new statements which seem to be mere incremental additions to scientific knowledge are in fact only made possible because underlying rules for the production of discourse have significantly altered” (Davidson, 1986, p. 223). An archaeological approach probes what might appear to be ‘natural’ and shows various factors that influence, affect and shape its emergence. Archaeology
makes visible the confluence of forces allowing a discourse to emerge, and the way the discourse operates. It “attempts to isolate the level of discursive practices and formulate the rules of production and transformation for these practices” (Davidson, p. 227). By so doing, the “conditions of possibility” (Foucault, 1994, p. xxii) are shown. Certain statements and ways of thinking are made possible, others impossible. Certain voices are heard and valued; others are not. Foucault's study of madness is classic in demonstrating that the twentieth century conception of madness-as-illness is completely different from previously existing notions madness as spiritual possession or social deviancy (Foucault, 1988). Once madness is understood as mental illness, care of the insane becomes the job of doctors and hospitals, rather than clergy and churches or jailors and prisons. Foucault notes that in tracing these changes, the:

[P]roblem lay in the emergence of a whole group of highly complex, interwoven objects; it was necessary above all to describe the formation of these objects, in order to locate in its specificity the whole of psychiatric discourse (Foucault, 1972, p. 65).

Similarly, in Discipline and Punish, Foucault demonstrates a dramatic conceptual shift, as crime became something for which to be imprisoned rather than something to be punished by torture. Foucault demonstrates that prison reforms, considered by proponents in nineteenth century as 'humanitarian' and 'progressive,' led to a marked change in disciplinary techniques. Instead of "brutal but unfocused physical punishment" of the body of the criminal, there is instead "intrusive psychological
control” (Gutting, 2005, p. 81). With this internalizing of disciplinary control in the penal system:

[T]he prison transformed the punitive procedure into a penitentiary technique; the carceral archipelago transported this technique from the penal institution to the entire social body (Foucault, 1995, p. 298).

In so doing, it “‘naturalizes’ the legal power to punish, as it ‘legalizes’ the technical power to discipline” (Foucault, 1995, p. 303). Self-control, self-discipline, and self-surveillance are all products of this discourse. Implications of such different ways of thinking can be profound.

Using archaeological techniques to investigate madness and criminality, Foucault hence traces changes in discourses and examines some of the implications of such shifts. I draw significantly upon this approach in my work, tracing changes in the discourses of the good doctor and exploring implications of these shifts.

Archaeology also allows the detailed analysis of specific discursive statements. Foucault explains that a discursive statement is not an idealized form but instead something that is used, re-used and sometimes changed. It is:

[O]ne of those objects that men produce, manipulate, use, transform, exchange, combine, decompose and recompose, and possibly destroy. Instead of being said once and for all...the statement, as it emerges in its materiality, appears with a status, enters various networks and various fields of use, is subjected to transferences or modifications, is integrated into
operations and strategies in which its identity is maintained or effaced
(Foucault, 1972, p. 105).

This gives discursive statements “materiality” and creates limits and possibilities for their use (Foucault, 1972, p. 115).

2.3 Genealogy

I use an archaeological approach to find and describe changing discourses of the good doctor. However, my research draws as well on Foucault’s concept of genealogy. Foucault uses the concept of genealogy to link knowledge and power. As described by Davison, genealogy demonstrates that “the origin of what we take to be rational, the bearer of truth, is rooted in domination, subjugation, the relationship of forces—in a word power” (Davidson, 1986, p. 225). Foucault analyzes power not only as something that is repressive, but also as a productive force. Genealogy examines the relationship between power and discursive practices. For Foucault:

Power must be analysed as something which circulates, or rather as something which only functions in the form of a chain. It is never localised here or there, never in anybody’s hands.... Individuals are the vehicles of power, not is points of application (Foucault, 1980, p. 98).

Foucault links power and truth, describing regimes of truth that are made possible by certain discourses:
[T]ruth isn’t the reward of free spirits, the child of protracted solitude, nor the privilege of those who have succeeded in liberating themselves. Truth is a thing of this world: it is produced only by virtue of multiple forms of constraint. And it induces regular effects of power. Each society has its regime of truth, its ‘general politics’ of truth: that is, the types of discourse which it accepts and makes function as true; the mechanisms and instances which enable one to distinguish true and false statements, the means by which each is sanctioned; the techniques and procedures accorded value in the acquisition of truth; the status of those who are charged with saying what counts as true (Foucault, 1980, p. 131).

Foucault’s concept of genealogy informs my research in elucidating issues of power that accompany changing discourses and discursive practices. It helps to analyse the way dominant discourses of the good doctor shape and construct practices in medical education.

2.4 Serial history

Mapping of shifting discourses allows for an understanding of changing regimes of truth. As Foucault further explains, by exploring discursive shifts, it is possible to consider the question:

How is it that at certain moments and in certain orders of knowledge, there are these sudden take-offs, these hastenings of evolution, these
transformations which fail to correspond to the calm, continuist image? (Foucault, 2000, p. 114).

Such analysis helps to establish when rules change and different regimes of truth come to the fore (Foucault, 2000, p. 132). A ‘traditional’ history, according to Foucault, is linear and seeks to explain events in terms of causal factors. These traditional histories are designed to demonstrate progress, with the past being examined to justify and explain the present (Foucault, 1999, p. 423). A serial history, in contrast, does not take current conceptions or ideas for granted, but instead uses archival documents to define its objects by establishing both the internal and external relations of the object (Foucault, 1999, p. 427).

In so doing:

Serial history makes it possible to bring out different layers of events as it were, some being visible, even immediately knowable by the contemporaries, and then, beneath these events that form the froth of history, so to speak, there are other events that are invisible, imperceptible for the contemporaries, and are of completely different form (Foucault, 1999, pp. 427-428).

History becomes “a set of articulated statements” (Foucault, 1999, p. 286).

Language is “an object of description and an ensemble of relations linked to discourse, to the statements that are the object of interpretation” (Foucault, 1999, p. 286).
A focus on serial history and discontinuities, therefore, allows for examination of changing regimes of truth in terms of the good doctor in medical education, and exploration of the way the discourse of the good doctor connects to other languages and practices in medical education. Attention to discursive shifts allows the attendant changes in conceptual understandings that accompany these shifts to be highlighted. For, as Foucault demonstrated with his analyses of madness and criminality, the profound implications of discursive shifts may not be immediately apparent. There can be significant unintended consequences of a new discourse, which nevertheless have major effects on the way a subject is understood. Examining shifting discourses of the good doctor allows analysis of these unintended consequences and implications. For these discursive shifts in terms of the good doctor bring with them changes to the conception and construction of medical education, medical identity, medical knowledge and the relationship of doctors to society.

2.5 Discourse analysis

Discourse analysis helps to show the connection between various statements and ideas that may not at first appear related. As described above, Foucault highlights the complexity of interaction between discursive statements. Martimianakis summarizes:

the goal of discourse analysis is to understand how the hierarchy of knowledge is erected, how this hierarchy works at a given point in time, and what are its possibilities and its limits (Martimianakis, 2011, p. 18).
As further described by Foucault, the point is not merely to identify discourses without looking at their relations. For:

There is nothing to be gained from describing this autonomous layer of discourses unless one can relate it to other layers, practices, institutions, social relations, political relations and so on…. I tr[y] to define the relations between these different domains (Foucault, 1999, p. 285).

Foucauldian discourse analysis is one type of critical discourse analysis. Critical discourse analysis, more generally, is rooted in the idea that language is socially constructed. It is used in many disciplines to explore how language relates to the social construction of phenomena (Hodges, 2009, p. 46). Phillips and Hardy suggest that the different forms of discourse analysis can be categorized as part of either a constructivist or critical approach, depending on whether they focus more on social construction processes or power dynamics (Phillips & Hardy, 2002). Types of discourse analysis can be further classified according to whether they focus more on text or context (p. 20). Critical discourse analysis, in this schema, is a critical, context-focused approach. Wodak and Meyer explain that critical discourse analysis "reveals the contradictions within and between discourses" and the “means by which discourse makes particular statements seem rational and beyond all doubt, even though they are only valid at a certain time and place” (Wodak & Meyer, 2009, p. 36). Further, as described by Rogers, critical discourse analysis is characterized by the “movement from description and interpretation to explanation of how discourse systematically constructs versions of the social world” (Rogers, 2005, p.
Perakyla further describes discourse analysis as seeking to demonstrate the construction of discourses through texts and practices. Attention is focused on the “assumptions and presuppositions” of the content, rather than linguistic detail, with sensitivity to the timing of the historical emergence of discourses (Perakyla, 2005, p. 872).

Critical discourse analysis focuses on changes in language and practices (Guba & Lincoln, 2005). As such, it is a powerful tool to look at changing ideas of the good doctor. However, as with any methodological approach, the nature of its focus also sets limits on its utility. By focusing on intersections of language, practices and power, the approach is less concerned with particular historical figures or institutions. It does not attempt a detailed social reconstruction of events, players or institutional structures. There is a large sociological literature on the medical profession. Freidson has analysed medical power in terms of medical dominance (Freidson, 1994). Abbot and Coburn both highlight competition between health professions as each works to enhance its own status and power (Abbott, 1988; Coburn, Torrance, & Kaufert, 1983). Witz has shown the role of gender in the medical profession’s rise to health professions dominance (Witz, 1992). Bloom analyses the institutional and social structures within academic medicine that allow biomedical science dominance in medical education (Bloom, 1988). This rich sociological literature provides insight into the way that systems and structures have allowed for the prominent place of the medical profession. It also describes the negotiation that has occurred in terms of relations between medicine and other
health professions. Critical discourse analysis, in contrast, allows examination of the way that language, practices and power intersect in the changing understandings of the 'good doctor' within these systems, structures and negotiations.

By taking a critical discourse analytic approach to the *good doctor*, I hope to bring a new lens to some important issues in medical education. Hodges (2009) used critical discourse analysis as his approach to the Objective Structured Clinical Examination (OSCE). Hodges notes that this critical discursive approach has been otherwise very little used in medical education to date (Hodges, 2009, p. 242). I hope that my application of the approach will help to demonstrate both its power and its utility as a way to explore medical education issues more generally.

As mentioned earlier, my approach to discourse analysis draws particularly on Foucauldian serial history, archaeology, and genealogy. I defined my archive and de-limited my data set. The texts were then analysed in terms of discursive shifts and discontinuities. Statements, key words, and metaphors were sought with particular attention to recurring arguments and shifts in these arguments. These discourses were also analysed as *regimes of truth* with attention to practices, institutions and social relations. As such, I explored the implications and consequences (whether intended or unintended) of different discursive formulations of the *good doctor*.
2.6 The Archive

Defining and delimiting the data set required careful consideration, with decisions continuing to be made in an iterative way throughout the process of research. Of course, I had some preconceived ideas at the start, which I attempted to continually question and revisit as I undertook my research to ensure that they remained valid. In terms of considering genealogy as a “history of the present” (Foucault, 1995, p. 31), my starting point was CanMEDS (Frank, 2005). The official online information about the CanMEDS Framework makes very clear its origins in the *Educating Future Physicians of Ontario* (EFPO) project (Maudsley, et al., 2000); hence I knew that my work would involve the EFPO archive. EFPO was a project endorsed and supported by all five Ontario medical schools in the late 1980’s to mid-1990’s aimed at determining what society wanted and needed in doctors for the future, with a view to re-designing medical education as necessary to fulfil these requirements. An outcome of the EFPO project was a definition of a set of roles that physicians ought to play. At the end of the EFPO project, the Royal College of Physicians and Surgeons of Canada (RCPSC) built upon the EFPO work on roles development. The RCPSC took the EFPO roles and modified them for specialist physicians across Canada, calling the re-worked roles CanMEDS.

My starting point was, chronologically, my end point, so I needed to consider how to proceed ‘backwards.’ Drawing upon Foucault’s notion of serial history, I realised that I did not need to proceed in a linear manner. Instead, I took what every medical educator today considers a pivotal moment in North American medical education,
the 1910 Flexner report, *Medical Education in the United States and Canada* (Flexner, 1910). I made an assumption that this point would be important in the discourses of the *good doctor*. I remained open to needing to extend my research time frame back before 1910, however this did not prove necessary. Flexner’s discourses of the *good doctor* provided a very reasonable chronological starting point. Analysis of these two sets of documents, Flexner and EFPO, was extremely revealing, and anchored my research. But I still had a big gap to fill in terms of sorting out what the ‘middle’ set of documents would be and how I would approach the many years that lay between Flexner and EFPO.

Initially, I had wondered about adding some focused, key informant interviews to documentary analysis, particularly related to the EFPO project and the development of the EFPO roles. Somehow as I first began sifting through the EFPO archives, their unsorted, disordered state, gave a greater sense of incompleteness than does a published article in a medical journal. This sense is obviously illusory, and the fragmentary, ‘raw’ nature of the data in the EFPO archives is in fact a very rich and powerful data set. The more ordered and polished documents in medical education journals of course incorporate multiple assumptions, leave just as many unanswered questions and could as fruitfully be followed up with interviews with key figures of the time, were they still alive. So since interviews would only have been possible for the latter part of the period of study, with documents being the only option for the early decades of the twentieth century, I determined that methodologically the use of any interviews would be inconsistent and therefore
problematic. Hence I made the decision, somewhat regretfully, that this research would involve only documents. Future analysis of the EFPO data with a different research question may allow me to delve further into some particularly intriguing areas around the roles development process through key informant interviews.

2.7 Data set: the documents

Since my starting point was CanMEDS, I used the documents available on the official CanMEDS website ("The CanMEDS Physician Competency Framework," 2005). These included a number of CanMEDS publications. The CanMEDS documents make very clear that CanMEDS developed from the Educating Future Physicians of Ontario (EFPO) project. EFPO, in spite of being a very comprehensive project, undertaken by a large number of prominent medical educators, resulted in surprisingly little formal academic output with only three journal publications (Maudsley, et al., 2000; Neufeld, et al., 1993; Neufeld, et al., 1998). Fortunately, I was able to locate the EFPO archives. These are one part of the larger Associated Medical Services (AMS) archives, which are all now housed in the Thomas Fisher Rare Book Library at the University of Toronto. AMS is a not-for-profit medical organization that initiated the EFPO project and maintained the EFPO records during the project.

The EFPO archives include a large number of documents related to the project, including early letters to build interest and support amongst leaders in medical education in Ontario, in terms of the development of the EFPO roles for future physicians. There are an array of letters, memos, meeting documents, results of
surveys and focus groups, summaries from conferences and materials developed for publication. These documents have not been fully catalogued or sorted, and exist in a disorganized collection of fourteen large banker’s boxes and file folders (University of Toronto (UTL), Thomas Fisher (TF) Rare Book Library). The librarians told me, when I went to use these documents and they had to retrieve them from storage, that I am the first researcher to examine them. The image I have of these days and weeks of exploration is that of a journey into Aladdin’s cave, opening one treasure chest after another; some filled with disintegrating and mouldy silks, others with jewels and gold. The Fisher Rare Book Library is a beautiful, serene space, filled with old maps, globes and leather-bound books. My boxes of memos and letters from the 1980’s and 1990’s were amongst the newest objects in the room. They made up for their lack of antiquity by their completely disorganized state. The boxes have not been officially labelled, but I was permitted, after some discussion, to attach temporary, pencil-marked labels to the outside of each box so I could avoid having to open one after another as I went back to look for a particular letter or file. For citation purposes, however, there is no specific way to let others know where in the many boxes any particular letter or document may be found. One librarian noted, with a slight grin, that anyone after me who wanted to use the materials would be subjected to just as much work as I have been. I was instructed to leave things in the same order as I removed them from boxes; my notes to myself include comments to help with re-locating items such as “file of letters 2/3 from top in box ’7.’” At times felt like an archaeologist in a more classic sense as well as a Foucauldian one.
The EFPO archives include information about the beginning of the CanMEDS project. Further information about CanMEDS (2005) was obtained from the CanMEDS website ("The CanMEDS Physician Competency Framework," 2005) which contains documents that were used in the development of the CanMEDS Roles as well as key publications about the CanMEDS Framework.

Since the 1910 Flexner report is widely acknowledged to have been instrumental in the creation of the current medical education system, this report, *Medical Education in the United States and Canada*, was the start, chronologically, of my data set. I also included Flexner's other major work on North American medical education, *Medical Education: A Comparative Study* (1925) in my analysis of Flexner's discourses of the good doctor. In this work Flexner comments on medical education in Europe and Britain, but uses these comparators to highlight deficiencies in North American approaches. Flexner also wrote extensively on medical education in Europe. I looked at Flexner's major work on European medical schools, *Medical Education in Europe* (Flexner, 1912). However, to embark upon a comparative study seemed to broaden the project unduly, and risked a focus on comparisons rather than a detailed examination of changes in one system. It was also not at all certain that such a comparison would assist me in terms of understanding the present and the CanMEDS competency framework. I therefore decided early on that I would limit my focus to North American medical education, with a particular focus on Canadian medical education, as it was possible to do so.
In the medical education literature, there was no obvious data set to look at Canadian-specific data for the early years in this study. There is, even now, no Canadian journal of medical education. The Association of Faculties of Medicine of Canada (AFMC) has not made medical education publications a prominent part of its mandate, unlike the equivalent American body, the Association of American Medical Colleges (Flexner, 1910). The Canadian group was called the Association of Canadian Medical Colleges (ACMC) until the 2004 name change to AFMC. Established in 1943 as a result of a government request to accelerate medical education to help the war effort, this group was, according to the AFMC official website, “a loosely knit...free-floating association of the country's medical deans” until 1960 (“About AFMC: History,” 2011). Even then, the American Liaison Committee on Medical Education was the accrediting body for Canadian medical schools until 1979. Canadian educators therefore published in the Association of American Medical Colleges (AAMC’s) medical education journal, and attended AAMC meetings. Hence tracing the history of the present state of Canadian CanMEDS involves looking into the American as well as the Canadian medical education past.

I therefore turned to the American medical education literature for my data set between the 1920’s and the 1970’s. Fortunately for me, there was, for most of this time period, only one North American medical education journal. This journal, now called Academic Medicine, is the official journal of the AAMC. It began life as the Bulletin of the Association of American Medical Colleges in 1926. From 1929 to 1950
it was called the *Journal of the Association of American Medical Colleges*. *Medical Education* followed briefly in 1951, changing that same year to the *Journal of Medical Education (JOME)*, which existed from 1951 to 1988. From 1989 onwards, the title has been *Academic Medicine*. This set of journals, as a group, will for convenience be referred to in aggregate as the *Journals of Academic Medicine*, or *JAM*, with specific references citing the particular journal name.

In spite of its many names and various incarnations, this journal is internationally recognized, and was in fact the only English language journal devoted to medical education until 1966 (Kuper, Albert, & Hodges, 2010). Kuper et al. cite Bowers to show that in the 1950’s the *JAM* was considered “the only journal exclusively devoted to problems of medical education” (Kuper, et al., 2010, p. 1348). Kuper et al. further note that, while they cannot definitively prove that there were not other prominent journals of medical education in languages other than English at that time:

As the lone dedicated medical education journal until the foundation of the British Journal of Medical Education (BJME; now Medical Education) in 1966, the JOME [JAM] developed an international reputation in the field, such that by 1966 the introductory editorial of the newly founded BJME could state that ‘it is difficult to overrate the service that that journal has rendered to medical education everywhere’ (p. 1348).
Given the prominence and dominance of *JAM* throughout the greater part of the twentieth century, it is a highly appropriate data source for examination of discursive changes in medical education. The *JAM* hence provides my archive for examination of changing discourses of the good doctor from its inception in 1926 through the 1970’s.

### 2.8 Ethics

As described earlier in this chapter, I determined for reasons of methodological rigour to limit my archive to texts and written documents. All of the documents used in this research are publicly available. Flexner’s works are widely disseminated. Articles from the *Journals of Academic Medicine* are published documents. The vast majority of these are available online; some of the journal supplements from the 1950’s are not part of the online collection but are available in any library that subscribed to the journal at that time. The EFPO archive is housed in the University of Toronto library and is as openly accessible as any other part of the library collection. CanMEDS documents are easily available on the official Royal College of Physicians and Surgeons of Canada website.

Given the public nature and availability of all the data and documents used for this research, formal research ethics approval was not necessary. I did find a number of letters and memos in the EFPO archives that carried some personal commentary, not all of it entirely complimentary. None of these were essential to my analytic arguments. Methodologically, it was completely unnecessary to include any such
personal details; as described earlier critical discourse analysis does not focus on individuals but on language, practices and power. Many of the EFPO players remain a most respected part of the medical education community. I therefore deliberately avoided including unnecessary personal comments from the archive.

2.9 Summary

This critical discourse analysis draws upon Foucault’s concepts of *archaeology*, *serial history*, and *genealogy* to explore changing concepts of the *good doctor* from the 1910 Flexner *Report* to the outcomes-based frameworks in use one hundred years later.
Chapter 3

Data Collection and Analysis: Identifying the Discourses

“The truth is rarely pure and never simple.”
(Oscar Wilde)

“Whoever undertakes to set himself up as a judge of Truth and Knowledge is shipwrecked by the laughter of the gods.”
(Albert Einstein)

3.0 Introduction: preliminary discourses

In performing this critical discourse analysis, my data collection and analysis proceeded simultaneously. My starting point, as described earlier, was the CanMEDS Framework (2005). I read the website description of CanMEDS as a framework, and of the specific CanMEDS Roles in detail. I read the related publications on the official website, as well as published articles on CanMEDS development (Frank & Danoff, 2007). CanMEDS has two, slightly different frameworks, CanMEDS 2000 and CanMEDS 2005. The latter framework incorporated a modification to the visual image that depicts the roles, and added details of roles description. Reading through the EFPO archives, it became clear that from the outset, EFPO aimed to define roles required of doctors to meet societal needs. From EFPO and CanMEDS, therefore, I was able to identify a discourse of the good doctor as a compilation of specific roles played. Turning then to the beginning of my timeframe, I pored through the writings of Flexner looking for how he
characterized the *good doctor*. From this analysis, I was able to identify the discourse of the good doctor as *scientist* who was also a man of *character*.

With these ideas, I therefore had a preliminary sense of the discourses of the *good doctor* that were present at the beginning and the end of my period of research. In fact, when I looked at them in more detail, my conception of each changed somewhat. But they provided a very reasonable starting point. The changes that occurred to my understanding of each discourse as I worked highlight the iterative nature of this type of research. Analysis occurred from beginning to end. Data collection also occurred throughout, as I needed to return to different areas as new ideas or themes emerged.

Starting with the end, determining a reasonable beginning and then sifting through the ‘muddle’ in the middle to try to make sense of it forced me to keep going back and forth, questioning my assumptions and revisiting my ideas. Although I had limited my primary data source for the middle period to articles published in *JAM* this still provided me with an overwhelming archive. Luckily, the articles are all online, so I was able to plough through decades of journal titles whenever I had a free moment and Internet access. First I read the articles from the 1926 to 1929. There were many fewer issues per year and articles per issue at the outset. Then I looked through articles at five-year intervals from 1930 to 1970, looking at the entire *JAM* table of contents for the year that started each decade and the halfway mark. I read each article that appeared relevant. I was looking for changes in
language that would signal a shift from the Flexnerian discourse of the good doctor as a *scientist* or as a man of *character*.

### 3.1 The ‘missing hero’

I had an idea that the changes in discourses of the *good doctor* between the time of Flexner and the CanMEDS Framework might perhaps relate to the rise and fall of the doctor as ‘hero.’ Flexner’s *scientist* physician is a fairly noble chap, whereas the *role-competent* product is barely recognizable as human and is more of a checklist than a person. It is commonly claimed (one of the ‘truths’ in medical education) that the medical profession was at the height of its glory and status in the 1950’s and 1960’s. So I was on the lookout for descriptions of the hero or his journey in the medical education literature. A hero does not go to ‘hero school,’ and there is no set of required hero competencies. Hercules and Perseus each have very different attributes that make them heroes. Instead of being deemed heroic because of a measure of biceps strength, or by virtue of attaining a certain velocity or distance in spear throwing, they become heroes by successfully completing a hero’s journey. Northrup Frye has identified the critical elements of the hero’s journey. As he outlines:

> A journey is a directed movement in time through space, and in the idea of a journey there are always two elements involved. One is the person making the journey; the other is the road, path, or direction taken, the simplest word for this being way. (1990, p. 212)

I had a notion that the transformative nature of medical education (as described in much of the literature about socialisation into the medical profession) (Becker,
1961; Klass, 1987; Shapiro, 1978) might well be considered in light of Frye’s hero’s journey. Hafferty focuses on the transformation that is part of the development of medical identity using the idea of resocialization: a “purposeful social process where certain aspects of one’s prior self are replaced by new ways of thinking, acting and valuing… It is a process—for better and/or for worse—to change hearts and minds” (Hafferty 2009, pp. 63-64).

The importance of time in this transformation has been emphasized:

[L]ong hours on duty have come at a cost but they have allowed trainees to learn how the disease process modifies patients’ lives and how they cope with illness. Long hours have also taught a central professional lesson about personal responsibility to one’s patients. (Drazen & Epstein, 2002, p. 1272)

My sense of the hero’s journey being important no doubt related, as well, to an idea that the hero’s journey may have been supplanted by outcomes models after the ‘fall’ of the heroic physician. When I asked medical colleagues, they thought it likely that I would find a ‘hero’ in medicine’s past. There is definitely a current sense of a lost ‘golden’ age in medicine, the days of the doctor who did everything, never slept and worked tirelessly 365 days of the year, always on call for his patients. This hero combines the ‘horse and buggy doctor’ with the life-saving surgeon or intensive care physician. Changes, such as duty hour reforms, which significantly limit the number of hours trainees are required to work each week, are portrayed as taking away from the heroic stance of the physician. Articles with titles such as “Where Have All the Giants Gone” (Lowenstein, 2003) suggest that there is a perception that doctors
were ‘giants’ in the past. I have certainly heard recent medical residents complain that their teachers consider them ‘lesser’ for not enduring the same hardships in residency as used to be required.

Just as I expected to find a hero, I thought I might then trace the fall of the hero. I expect that this preconception derived from well-described accounts of the decline in the status and authority of medicine (Starr, 1982). A fall in status and authority might well be accompanied by a fall from heroic status. The sense that the medical profession was having a harder time appearing virtuous than it did in bygone days permeates a number of recent discussions in the medical education literature in areas such as professionalism (Cruess, et al., 2010; Hafferty & Castellani, 2010; Whitcomb, 2007), changes in duty hours (reduced on-call requirements for medical residents) (Hamstra, et al., 2008; Leach, 2000; Longnecker, 2006) and conflict of interest issues, particularly related to the relationship between the medical profession and industry (Angell, 2000; Cain & Detsky, 2008; Morris & Taitsman, 2009; Rothman & Chimonas, 2008). Recent ‘movements’ including the patient safety movement, the quality movement, the rise of inter-professionalism and the evidence-based medicine/guidelines movements were all factors I considered as possibly influencing discursive changes. I knew that I would not be seeking causal connections between these various factors. Instead, I hoped to see whether some of the potential issues I identified were in fact linked to the changing discourses of the *good doctor*.
As I continued my research in the medical education literature, I was quite surprised by what I found. Simply put, my initial assumptions about the ‘middle’ between Flexner and EFPO were wrong. I did not find a clearly articulated ‘hero’ in the medical education literature of the 1920’s to 1950’s. Nor was there a sudden fall of the hero with the decline in medical legitimacy and authority. Instead, at the height of medical status in the 1950’s, with biomedical research booming, medical educators started to use the language of characteristics. This language appeared very suddenly at the end of the 1950’s. By the early 1960’s I was hard-pressed to find any description of character at all. Characteristics discourse appeared to be a classic Foucauldian irruption. Obviously, this discursive shift warranted close analysis, and I read in detail through all potentially relevant articles published in the JAM during this time period.

Having identified this discursive shift, I then looked back with greater attention at the discourse of the doctor as a man of character. While this discourse was present in Flexner’s writings, the man of character was but one part of the discourse of the good doctor as a scientist. From the late 1920’s (when the JAM began) until the mid-1950s, there was, however, no scientist physician discourse. The good doctor as a man of character was, however, clearly present. The importance of science in medical education was discussed regularly in these medical education articles, without mention of the physician as a scientist. Instead, science was portrayed as a problematic issue for the medical school curriculum. Medical educators wrote repeatedly about the difficulty of fitting all the new scientific advances into the
medical curriculum. Science became factual content for medical school students to learn, rather than the scientist being something they should become. Hence there was a discursive shift I had not realized initially, from that of the good doctor as a scientist physician (incorporating the man of character) to the good doctor as a man of character cleaved from the scientist.

Having identified discourses of the good doctor as a scientist, then as a man of character and then as a set of characteristics, I now had uncovered a series of discourses that preceded the CanMEDS discourse of the good doctor as roles-competent.

3.2 Discursive shifts

As described above, this process of research involved an iterative process. Analysis informed data collection, which then furthered data analysis. Once I had identified the set of separate discourses, I then looked in much more depth at the times in which specific changes occurred to start to outline the statements, structures, practices and social relations involved in the discursive shifts. I examined in detail the discourse of Flexner's scientist physician, and then traced the way that ‘Flexnerian’ reforms became embedded in the medical school curriculum with only partial adoption of Flexner’s ideas, and a focus on the discourse of the good doctor as a man of character.
I followed the discourse of character through the 1920’s, 30’s 40’s and 50’s. Then, characteristics discourse appeared quite suddenly in the late 1950’s and became firmly entrenched by the mid-1960s. I was able to identify several major events that appeared to relate to this discursive shift. Most important appeared to be the AAMC’s 1956 Institute on the Appraisal of Applicants to Medical School (Gee & Cowles, 1957). While referred to in many subsequent articles, the proceedings of this Institute, while published as a supplement to the JAM, is not part of the otherwise extensive online collection of JAM articles. Fortunately, the print version was available and formed an important part of my document analysis. Another pivotal set of documents was the series of articles describing the AAMC Longitudinal Study of the Class of 1960 (Hutchins, 1964). This study was a massive undertaking, following the entering classes of 28 medical schools. Each class was subjected to a large number of psychological tests and followed for years. Articles referring to the study continue to appear into the late 1970s (Zuckerman, 1978). This study was clearly important in advancing the discourse of characteristics. It is also fascinating that, despite its size and import at the time, it appears no longer to be a part of the institutional memory of medical educators. I showed the main study report to multiple medical education colleagues, none of who had encountered it before.

The discourse of characteristics became firmly entrenched in the medical education literature by the mid-1960s. My next step was to trace the change from characteristics to roles-competence. This change started to occur with the rise of performance discourse in the 1960’s. Performance discourse brings ‘on stage’ actors
playing roles, and provides a clear bridge to link roles and competence. Production
discourse also developed, and melded with performance discourse in the
development of manufacturing models of competence. These models emphasize
measurability and accountability, drawing upon accounting logic (Broadbent &
Laughlin, 1997).

Continuing to trace the discursive changes, I examined the EFPO and CanMEDS roles
definition process in detail. Here too, I tried to surface my preconceptions as I
gathered and analysed the data. I went into the EFPO archives with an interest in
tracing roles development. I knew that I started with two particular questions and a
sense of awe. The awe came from a general notion I have picked up from fellow
Ontario medical educators that EFPO forms the social bedrock of our approach to
medical education. I had been a family practice resident in Toronto at the inception
of the EFPO project, and then a stay-at-home mother and part-time clinician/clinical
teacher during the main years of EFPO project, so I had little personal sense of its
impact at the time. However, as I reengaged in academic medicine in the early
2000’s, I noticed that my mentors frequently referred to EFPO in reverential tones
as a noble, visionary project unprecedented in its approach and scope. The wide
community consultations were portrayed as providing a social anchor and giving
true legitimacy to the project’s outcomes. So I approached the archival cave with
defence.
I also had two particular questions at the outset. First, how was the decision made to use roles as the way to define the good doctor? There is a sense amongst Ontario medical educators that roles emerged out of the extensive EFPO consultations as the ‘right’ way to create good doctors. I hoped to find the process that led to that decision. Second, coming from the discipline of family medicine, which did not until very recently adopt the CanMEDS Framework, I had been told tales of the ‘lost role’ in the transformation from EFPO to CanMEDS; that of ‘person.’ EFPO had eight roles whereas CanMEDS incorporated only seven. In the CanMEDS re-working, the EFPO ‘person’ role is embedded in ‘Professional.’ I was interested to see if I could find the ‘birth’ and the ‘death’ of the person in the EFPO and CanMEDS roles definition process. I was fascinated to discover the degree of negotiation that occurred in the roles definition process and the way the roles were re-named and re-worked. As well, I was able to explore the link that occurred between roles and competence to create the discourse of the roles-competent physician.

As will be outlined in detail in subsequent chapters, my data analysis involved careful documentation of all the above-described discursive shifts, as well as exploration of the implications of the different discursive formulations of the good doctor from the time of Flexner to the present.
Chapter 4

In the Beginning: Abraham Flexner's Discourse of the Scientist Physician

“Most people say that it is the intellect which makes a great scientist. They are wrong: it is character.”

(Albert Einstein)

In the beginning Flexner created the medical school. And Flexner said, ‘Let there be science’ and there was science.

4.0 Introduction

Abraham Flexner is widely acknowledged as the creator of modern medical education. Flexner’s 1910 Report on Medical Education in the United States and Canada is the accepted historical starting point for North American medical educators (Flexner, 1910). Rarely do medical educators of today refer to pre-Flexnarian medical education. The report is described reverentially as a tome that sets foundational values and standards for modern North American medical education. The ‘bible’ of medical education (Whitehead, 2010), it is frequently referenced, while also re-interpreted and re-evaluated in different eras.

Given the status of the Flexner Report, it is perhaps no coincidence that the Canadian and American national medical education associations have each issued major reports in 2010, exactly one hundred years after Flexner’s seminal work. Both of
these reports clearly acknowledge Flexner’s legacy. The American report specifically states that it is revisiting issues raised by Flexner, and frames its four major areas of recommended reform (standardization, integration, habits of inquiry and improvement, and identity formation) with direct comparison to Flexner (Irby, et al., 2010).

Since discursively, ‘in the beginning was the word of Flexner,’ it is important to look in some detail at Flexner’s language and assumptions. Although medical education existed before Flexner, from a discursive point of view, his report has been accepted as a major turning point, a fundamental shift of focus and hence a discursive discontinuity in the language and practices of medical education in North America.

While references to Flexner’s legacy are a required convention in medical educational reports, these reports often refer to Flexner’s ideas by describing only particular elements, often those which relate to the partial adoption of his ideas into the medical curriculum (Hodges, 2010). Some academic medical articles rediscover different Flexnerian elements in different eras (Barzansky, 2010; Cooke, Irby, Sullivan, & Ludmerer, 2006; Rabow, Remen, Parmelee, & Inui, 2010; Weatherall, 2011). Others set themselves up as moving ‘beyond Flexner’ or ‘modernizing Flexner,’ often in ways that take up only specific elements from Flexner (Anderson, 2011; Kirch, 2010; Morrison, Goldfarb, & Lanken, 2010; Prislin, Saultz, & Geyman, 2010; Skochelak, 2010). A general assumption that pervades these different readings of Flexner is that he promoted a system of medical training that greatly
privileged and emphasized natural sciences (or biomedical sciences to use current terminology). Given the scope of the changes that occurred in the wake of the Flexner Report, and the ongoing debates about the place of science in the medical curriculum, it is well worth examining these assumptions and looking in detail at the discourses of science and the scientist in Flexner’s major medical education reports (Flexner, 1910, 1925)

4.1 Flexner’s discourse of science

In gathering information for his 1910 Report, Flexner visited every medical school in the United States and Canada. His report was widely circulated and led to well described and significant changes to the medical education system (Carraccio, Wolfsthal, Englander, Ferentz, & Martin, 2002; Ludmerer, 2010). A clear goal of the report, as describe in the preface by Henry S. Pritchett, was to set and reinforce standards for medical training:

Not only the personal well-being of each citizen, but national, state, and municipal sanitation rests upon the quality of the training which the medical graduate has received. The interest of the public is to have well trained practitioners in sufficient number for the needs of society (Flexner, 1910, p. xv).

One key element in this training, according to Flexner, was to ensure its scientific basis. Flexner wrote extensively in his various reports about the exact nature of this
scientific medical approach. His 1925 work, *Medical Education: A Comparative Study*, begins with a discussion of what is fundamental in medical education:

> From what point of view are the problems of medical education to be studied and presented? That depends on whether medicine is conceived to be an empiric art, a science, or something struggling toward scientific status (Flexner, 1925, p. 1).

Flexner’s analysis of the state of medical training across the United States and Canada in 1910 uses a discourse of science to set up his ideal for medicine. He clearly posits that medicine should be a science. And as he does so, he espouses very specific ideas about what it means to him for medicine to be scientific. Flexner’s discursive use of the term ‘science’ positions science in contrast to empiricism and superstition, both of which he describes as antiquated and needing to be cast aside or overcome in order for medicine to wear its scientific mantle:

> From the earliest times, medicine has been a curious blend of superstition, empiricism, and that kind of sagacious observation, which is the stuff out of which ultimately science is made. Of these three strands--superstition, empiricism, and observation--medicine was constituted in the days of the priest-physicians of Egypt and Babylonia; of the same three strands it is still composed (Flexner, 1925, pp. 1-2).

Superstition he disposes of fairly quickly; he acknowledges, however, “the line between an empirical and a scientific observation is not always so clear” (Flexner,
1925, p. 2). The difference, he asserts is in the attitude and state of mind of the practitioner in probing into the reason behind an observation:

The very soundness of an observation challenges the scientist; he is not content with a fact; he asks why, and how far. The scientist is...conscious of the narrow limitations of achievement, seeking to establish larger and surer combinations, while the empiricist, practising his rule of thumb, works disjointedly and tends to remain, in reference to any particular practice or observation, just where he is (Flexner, 1925, p. 2).

Flexner emphatically rejects a narrow notion of science; one “strictly confined to knowledge capable of quantitative expression and utilization” (1925, p. 3), as incorrect, noting that such a definition would leave out the work of Einstein and the social sciences. Flexner then spends considerable time and effort outlining his definition of science in his *Reports*. He emphasizes repeatedly the intellectual attitude he considers foundational to the scientific approach:

In what sense can modern medicine today be called scientific? ...science [is] the persistent effort of men to purify, extend, and organize their knowledge of the world in which they live (1925, p. 3).

Building his definition further, he continues:

For practical purposes, at any rate, science must be considered as simply the severest effort capable of being made in the direction of purifying, extending and organizing knowledge. So long as men strive to transcend their native
powers, to rid themselves of prejudice and preconception, to observe phenomena in a dry light, the effort is scientific (1925, p. 3).

He makes clear that his use of ‘science’ as a concept relies on this definition; science is not knowledge that derives only from the natural sciences but a way of thinking.

Flexner explicitly discusses how this discourse of science links practice to research rather than separating the two:

> On the ground of the increasingly successful effort to expel superstition, speculation, and uncritical empiricism from medicine, and to base both knowledge and practice on observation, experiment and induction, the present volume discusses the science of medicine. In using the term in this guarded sense no distinction can be made between research and practice (1925, p. 4).

Flexner’s discourse of the scientific, therefore, is not simply a positivist view\(^2\) of how the world can be known, but is rather an approach to thinking about knowledge, data and information that is used in medical practice. As a conceptual framework, therefore, it provides a rigorous approach to all forms of knowledge. Flexnerian scientific discourse allows for a very different science than much of what is considered scientific in medical practice today. Many of the early twenty-first century randomized controlled trials (RCT’s), for example, might fit more with

\(^2\) The term positivism is used here to describe the assumption that a stable reality exists and can be sought and (at least imperfectly) defined.
Flexner’s view of the empiric than the scientific. These RCT’s attempt to show what is ‘true’ in practice as distinct from what might make theoretical sense. However, for Flexner, demonstrating that something is a ‘fact’ does not make it scientific:

That quinine cures malaria, that sunlight cures rickets, that morphine quiets pain, that mercury cures syphilis—these observations, being correct may as such be termed empirical or scientific at will. (1925, p. 2)

For Flexner, these ‘facts’ only enter the realm of science once there is an “endeavour to penetrate more deeply” and be “solicitous to limitations” (1925, p. 2) to the factual knowledge. The scientist is “not content with a fact; he asks why, and how far” (1925, p. 2). As well, the early twenty-first century plethora of ‘scientifically derived’ clinical practice guidelines created to steer the decisions of medical practitioners are set up to provide algorithms rather than to encourage ‘why’ and ‘how far’ questions. The process of guideline development would also be unlikely to pass Flexnerian scientific muster. The guidelines frequently draw upon expert opinion when no RCT or other data is available to make recommendations. An ample literature demonstrates significant limitations to the use of ‘evidence’ in the guidelines development process (Devisch & Murray, 2009; Silva & Wyer, 2009; Tonelli, 2009; Wyer & Silva, 2009). For example, guidelines over-emphasize pharmaceutical treatments as these are more likely to receive funding for study and therefore be supported by ‘evidence’ and are often single-disease and specialty-driven in a way that makes them of little relevance and utility for many patients.
(McGoey, 2009; Shackelton, Marceau, Link, & McKinlay, 2009; Tinetti, et al., 2004; Upshur & Tracy, 2008).

4.2 Flexner’s discourse of the scientist physician

Flexner’s discourse of science links directly to his notions of the ‘person’ of the scientific physician. For Flexner, science is not merely a tool to be used by physicians; rather, a scientific approach is a way of being. For example, Flexner repeatedly highlights the lack of distinction between the spirit of research and the spirit of practice. This is a critical aspect of his argument about what makes doctors scientists:

The investigator, obviously, observes, experiments, and judges; so do the physician and surgeon who practise their art in the modern spirit. At the bottom the intellectual attitude and processes of the two are—or should be—identical (1925, p. 4).

As such, in Flexner’s discourse of the scientific doctor, the inquiring approach is fundamental. Science, according to Flexner, is essentially a state of mind:

The scientific inquirer assembles facts from every available source and by every possible means. Science resides in the intellect, not in the instrument (1925, p. 6).

A Flexnerian scientific physician remains so even in the face of a lack of ‘scientific’ knowledge about many areas of medicine. Scientific medicine is a state of rigorous inquiry even in areas and situations of uncertainty:
The clinic is scientific, not merely in so far as it utilizes chemical or physical methods, and techniques, but primarily because it represents a determined, fearless, and painstaking effort to observe, to explore, to interpret, to unravel. It is not saved to science by laboratory methods; it includes them as simply additional weapons with which to do better that scientific clinicians have always done, viz., observe, explore, unravel (1925, p. 7).

Observing, exploring, interpreting and unravelling form Flexner’s concept of the scientific attitude required of physicians, which he suggests must be applied thoughtfully in all clinical situations. There is, to be sure, an aspect of the positivist in his writing, with a hope that scientific approaches will lead towards ‘truth’ over time:

We may then fairly describe modern medicine as characterized by a severely critical handling of experience. It is at once more skeptical and more assured than mere empiricism. For though it takes nothing on faith, the fact which it accepts does not fear the hottest fire (1910, p. 53).

Nevertheless, Flexner’s science is more nuanced and less certain of the static truth of ‘facts’ than has been inferred by many who have claimed to build upon his recommendations. Flexner comments that:

Uniform exactitude is still indefinitely remote; fortunately, scientific integrity does not depend on the perfect homogeneity of all its data and conclusions…. Now it acts confidently, because it has facts; again cautiously,
because it merely surmises; then tentatively, because it hardly more than hopes (1910, p. 53).

Flexner acknowledges that many times physicians must “do something” (1925, p. 8) even when there is lack of certainty about diagnosis or best management.

The fact that disease is only in part accurately known does not invalidate the scientific method in practice. In the twilight region probabilities are substituted for certainties. There the physician may indeed only surmise, but, most important of all he knows that he surmises. His procedure is tentative, observant, heedful, responsive (1910, p. 55).

Flexner contrasts his scientific ideal with a ‘lesser’ empiric approach. The scientific mindset, according to Flexner, allows a sound strategy, even for assessing situations where science cannot offer a definitive answer:

The scientific physician still keeps his advantage over the empiric. He studies the actual situation with keener attention; he is freer of prejudiced prepossession; he is more conscious of liability to error. ...In the end the scientist alone draws the line accurately between the known, the partly known and the unknown. The empiricist fares forth with an indiscriminate confidence (1910, pp. 55-56).

Flexner’s discourse of the scientist is akin to a master craftsman; an intelligent, well-trained individual who utilizes diligently acquired knowledge and skills to practice his craft with mental agility and nimbleness. While Flexner draws upon ideas of the master craftsman in his depictions of the scientific physician, he is harsh in his
critique of the older apprenticeship model of medical training. The place and the way to train his master craftsman scientist are within the hallowed halls of academe, not out on the dirt roads or homes of the sick. Hence, while the discourse of the scientist retains clear echoes of the master craftsman, Flexner’s scientist is used to advocate for significant transformation of medical training.

4.3 Discourses of production and overproduction

The 1910 Flexner report framed its suggestions for how the scientific doctor should be trained as a direct critique of the training that then went on in private, commercial medical schools. Henry Pritchett, in his introduction to the 1910 Flexner report opines:

Over-production of ill trained men is due in the main to the existence of a very large number of commercial schools, sustained in many cases by advertising methods through which a mass of unprepared youth is drawn out of industrial occupations into the study of medicine (1910, p. x).

Flexner contrasts the desired training of a scientific physician to the instructional elements of the commercial medical schools, and as well to the apprenticeship model, which had preceded the commercial schools. Some have questioned how accurate Flexner’s depictions of some of these commercial schools actually were, and suggest that they were tainted by his elitist sense that medicine should be the purview of white men of good social standing (Bonner, 1995; Ludmerer, 1999). They have studied the effects of Flexner’s depictions of these schools in terms of
closing down schools for women and blacks. These are important issues, and had significant impact in terms of who could become a doctor for much of the 20th century. Ludmerer and Bonner have both documented how these changes limited the ability of black, women and Jewish students to gain medical school admission. However, the accuracy of Flexner’s depictions of these commercial schools is not the subject of questioning here; instead the point is to show how Flexner used his own depiction of these models to advance his discourse of the scientist physician and justify the university as the only proper place of training for such a physician. Flexner’s depictions of commercial schools and apprenticeship models of training were accepted by those medical educators who followed in his footsteps. Hence they became discursive truths in medical education, requiring analysis as such.

4.3.1 Production discourse: poor products of commercial schools

Flexner uses the language of ‘cheap production’ in his scathing condemnation of commercial medical schools. Flexner holds these “demoralized” (1910, p. 13) commercial institutions responsible for a “century of reckless over-production of cheap doctors” (1910, p. 15). Framed as turning out a ‘cheap product,’ Flexner suggests that the commercial school is morally tarnished and unable to attain the intellectual scientific rigour he posits for medicine. He sets up the “cheaply made doctor” (1910, p. 14) in direct contrast to his desired ideal. Flexner deems the doctor production model not only undesirable, but also inherently incompatible with the thinking scientific physician. Competency can only be achieved, according
to the Flexnerian *scientist* discourse, through a scientific rather than a production approach:

The professional competency of the physician is in proportion to his ability to heed the response which nature thus makes to his ministrations. The progress of science and the scientific or intelligent practice of medicine employ, therefore, exactly the same technique. To use it, whether in investigation or in practice, the student must be trained to the positive exercise of his faculties.... A professional habit definitely formed upon scientific method will convert every detail of his practising experience into an additional factor is his effective education (1910, p. 55).

How interesting it is then, as will be analysed in detail in chapter seven, that one hundred years later in the name of quantification, efficiency and accountability the production discourse has returned to medical education (Hodges, 2009), hand in hand with competency frameworks.

Flexner’s discourse of production becomes quickly linked to concerns about over-production. Flexner argues that there are, overall, too many physicians, albeit most badly trained. As described by Ludmerer, one objective of Flexner’s report (or at least one consequence of it) was to limit access to medical school and make it more the exclusive domain of socially and financially advantaged students, primarily white males. Having set up a discourse of production, which considers commercial schools to be shoddy factories turning out dubious products, Flexner then discusses the “overcrowding” of the profession with “low-grade material” (1910, p. 14) as an
unfortunate outcome of such production. This over-production reduces the status of the profession and limits the potential for “well-trained men” to secure a reasonable livelihood within the profession (1910, p. 14). Hence the scientist physician discourse is discursively linked to an attempt to increase the status of the medical profession. In so doing, this leads to a reduced access to the profession by those of lower socioeconomic status.

Flexner decries the “exploitation” (1910, p. 18) and “outright misrepresentation” (1910, p. 19) in the advertising of commercial medical schools which entice the “crude boy or the jaded clerk” (1910, p. 19) into the profession. He suggests that commercial schools spend more on advertising than on laboratories, and that:

The school catalogues abound in exaggeration, misstatement, and half-truths. The deans of these institutions occasionally know more about modern advertising than about modern medical teaching. They may be uncertain about the relation of the clinical laboratory to bedside instruction; but they have calculated to a nicety which ‘medium’ brings the largest ‘return.’ Their dispensary records may be in hopeless disorder; but the card system by which they keep track of possible students is admirable (1910, p. 19).

Having first depicted these schools as full of false pretences and promises, Flexner then draws upon a discourse of social need to further criticise the ‘commercial’ approach to medical education:

Such exploitation of medical education...is strangely inconsistent with the social aspects of medical practice. The overwhelming importance of
preventive medicine, sanitation, and public health indicates that in modern life the medical profession is an organ differentiated by society for its own highest purposes, not a business to be exploited by individuals according to their own fancy (1910, p. 19).

In use of the language of the ‘social practice’ of medicine and the ‘highest purposes’ of society, Flexner tries to place medicine on a higher moral plane and condemns petty, financially driven commercial ventures in professional education.

Flexner further describes the commercial school as sweeping aside the preceptorial tradition of medicine and putting all medical training into a lecture hall. On the lack of value of the didactic lecture, Flexner was scathing:

Didactic lectures were given in huge, badly lighted amphitheaters, and in these discourses the instruction almost wholly consisted. Personal contact between teacher and students, between student and patient, was lost (1910, p. 9).

The role of the student became “parrot-like, to absorb” (1910, p. 21). The instructors' drills of memorization “spared [the student’s] senses and his intellect” while successfully helping him prepare him to pass his exams (1910, p. 21). The modern medical student might well wonder ‘how far have we come?’

Flexner did not advocate a return to a pure apprenticeship model of medical training. He does, however, use the apprentice model to further his censure of the
commercial school. Compared to the apprentice, the commercial school student was disadvantaged in that he:

[No] longer read his master’s books, submitted to his quizzing, or rode with him the countryside in the enjoyment of valuable bedside opportunities. All the training that a young doctor got before beginning his practice had now to be procured within the medical school. The school was no longer a supplement; it was everything (1910, p. 8).

Flexner favourably contrasts the apprenticeship experiential approach to the didactic school system. He suggests that there are valuable aspects of the apprentice system, in the “bedside opportunities” (1910, p. 8) and engaging interaction with his preceptor. However, Flexner’s language of the apprentice model also clearly depicts this model as being better suited to romantic days of yore than to the modern times of 1910:

Under the apprentice system, it was not necessary to establish any such general or uniform basis. The single student was in personal contact with his preceptor. If he were young or immature, the preceptor could wait upon his development, initiating him in simple matters as they arose, postponing more difficult ones to a more propitious season; meanwhile, there were always the horses to be curried and the saddle-bags to be replenished. In the end, if the boy proved incorrigibly dull, the preceptor might ignore him till a convenient excuse discontinued the situation (1910, p. 21).
This language clearly places the apprenticeship model in the unsophisticated past, with horse currying and saddle-bag replenishment as time-filling options. As a discursive technique, Flexner contrasts a pleasing but now quaint ‘ancient’ tradition with a highly dubious state of current affairs in the didactic commercial schools to put forth his new and improved option:

The apprentice saw disease; the didactic pupil heard and read about it; now once more the medical student returns to the patient, whom in the main he left when he parted with his preceptor. But he returns, relying no longer altogether on the senses with which nature endowed him, but with those senses made infinitely more acute, more accurate, and more helpful by the processes and the instruments which the last half-century’s progress has place at his disposal (1910, p. 20).

Flexner discursively uses the apprenticeship model as something to return to with fresh eyes and new techniques. This links his preferred ‘modern’ scientific training model (of the early twentieth century) to a past healer tradition, while still moving forward. It allows him even more roundly to castigate the commercial, didactic school.

4.4 Discourses of societal need

Flexner uses language of societal need to justify the scientific training of physicians and further denigrate commercial schools:
Society defrays the expense of training and maintaining the medical corps. In the long run which imposes the greater burden on the community,—the training of a needlessly vast body of inferior men, a large proportion of whom break down, or that of a smaller body of competent men who actually achieve their purpose? (1910, pp. 43-44)

Flexner uses not only a financial argument to support his social needs discourse, but also a moral one:

The physician is a social instrument. If there were no disease, there would be no doctors. And as disease has consequences that immediately go beyond the individual specifically affected, society is bound to protect itself against unnecessary spread of loss or danger (1910, p. 154).

It is a social good, and therefore justifiable, for society to retain control over the quality of its professionals. In addition, Flexner also suggests that early twentieth century society has an inherent right to regulate its professionals:

The medical school cannot then escape social criticism and regulation. It was left to itself while society knew no better. But civilization consists in the legal registration of gains won by science and experience; and science and experience have together established the terms upon which medicine can be most useful (1910, p. 154).

He seems to anticipate some reaction to the argument that society ought to retain regulatory control over doctors, and provides further justification:
Such control in the social interest inevitably encounters the objection that individualism is thereby impaired. So it is, at that level; so it is intended. The community through such regulation undertakes to abridge the freedom of particular individuals to exploit certain conditions for their personal benefit. But its aim is thereby to secure for all others more freedom at a higher level. Society forbids a company of physicians to pour out into the community a horde of ill trained physicians (1910, p. 155).

Society needs and deserves highly trained and competent physicians; the didactic schools do not provide them, and therefore, Flexner concludes, it is a social necessity to improve medical education standards through the training of scientific physicians. Hence he neatly links social needs discourse and the argument to dispense with commercial schools.

4.5 Who is a *scientist* physician: discourses of the educated man

Having set forth a persuasive argument for not only the advantages, but also the social necessity of training scientific physicians, Flexner then discusses what sort of student might best be suited to become a *scientist* physician:

Medical education on a modern basis cannot be imparted to everybody; it can be successfully imparted only to persons of good native intelligence, trained to serious application (1925, p. 83).

He describes the scientific approach to training as inherently compatible with only certain sorts of students. A medical school “cannot provide laboratory and bedside
instruction on the one hand, and admit crude, untrained boys on the other. The combination is both illogical and futile” (1925, p. 22). A choice of one or the other, Flexner asserts, must be made:

A medical school may, the law permitting, eschew clinics and laboratories, cling to the didactic type of instruction, and arrange its dates so as not to conflict with seedtime and harvest; or it may equip laboratories, develop a dispensary, and annex a hospital (1925, p. 22).

Flexner leaves no doubt as to which he considers the only possible choice. Once the choice has been made, it then becomes clear who is appropriate to enter the profession:

The physician should first of all be an educated man; that is required by his position in the community and his relations to the patient and the patient’s family (1925, p. 86).

No “crude farm hands” (1910, p. 22) need apply to become Flexnerian scientist physicians. Flexner is comprehensive in his expectations for appropriate initiates. This comprehensiveness is not limited to a certain number of ‘science’ pre-medical requirements. Instead, Flexner emphasizes the importance of a broad educational base:

Medical education cannot be described or discussed apart from general education. The maturity, previous training, and intellectually competency of the student body determine in advance the scope, quality, method, aims, and outcome of the instruction offered by the medical faculty (1925, p. 59).
The educated scientific physician of Flexner is not trained only in the natural sciences:

Like other sciences, medicine cannot be successfully prosecuted, unless its votaries are enabled to devote their time and energy to painstaking study and experimentation, wide reading in many languages, discursive conversation, and leisurely reflection (1925, p. 53).

Not only do physicians need to have a broad general education before entering medicine, according to Flexner, they also need to be aware of the importance of many things other than the natural sciences in the performance of their duties. Medical educators later in the twentieth century often portray Flexnerian medicine as conforming to a biomedical approach to disease. However, even in 1910 Flexner asserts:

The physician's function is fast becoming social and preventive, rather than individual and curative. Upon him society relies to ascertain, and through measures essentially educational to enforce, the conditions that prevent disease and make positively for physical and moral well-being. It goes without saying that this type of doctor is first of all an educated man (1910, p. 26).

The social and preventive aspects of medical training are amongst those that medical educators in the century following Flexner have continued to rediscover as lacking. In subsequent decades, such areas are frequently described as ones where
medical education needs to go ‘beyond Flexner.’ However, Flexner himself comments:

Curiously enough, despite the increasing importance of preventive medicine consequent upon the advance of bacteriology and the clearer knowledge of the futility or limitations of many therapeutic measures, hygiene continues to occupy a decidedly subordinate position in the undergraduate curriculum (1925, p. 117).

Flexner advocated for a broad and comprehensive approach to medical education. Even a decade after the issue of his Report Flexner appeared quite aware that the reforms he recommended in 1910 were not fully incorporated into medical schools. In 1925 he sorrowfully comments, “scientific medicine in America--young, vigorous and positivistic--is today sadly deficient in cultural and philosophic background” (1925, p. 18).

**4.6 The humane scientist physician**

Flexner considers the ‘person’ of the physician an essential aspect of his being a good scientist. Flexner’s scientific physician is both intellectually rigorous and compassionate:

> It is equally important and equally possible for physicians of all types to be humane, and at the same time to employ the severest intellectual effort that they are severally capable of putting forth (1925, p. 12).
Flexner makes very clear that humanity and a scientific approach are compatible. He acknowledges that there is a tendency to separate scientific inquiry from personal qualities of compassion:

The careful scrutiny, reflection, and decision (which is the essence of scientific method), the employment of every weapon by means of which the causation of disease may be ferreted out and health restored (which is the essence of scientific procedure)--these are sometimes regarded as in conflict with the humanity which should characterize the physician in the presence of suffering (1925, pp. 11-12).

However, Flexner asserts, this perception of conflict is incorrect:

For men are as apt to devote themselves to medical research and medical practice, because their hearts are torn, as because their curiosity has been piqued; and teachers, however intent on training students in the logic of practice, need not forget to inculcate, both by precept and example, the importance of tact and fine feeling (1925, p. 12).

Hence, Flexner argues that the “art of noble behavior is thus not inconsistent with the practice of the scientific method” (1925, p. 12). Instead, the scientist physician is at once and inseparably scientific and humane.

4.6.1 The journey to become a scientist physician

According to Flexner, the scientist physician must learn through action. Flexner repeatedly articulates that becoming a scientist physician is a process, requiring the
student to embark on a personal journey. Northrup Frye’s conception of the hero’s journey provides a useful way to understand Flexner’s descriptions of the development of the scientist physician. As described in Chapter 3, Frye considers the hero’s journey as central to development as a hero. This journey requires a person, a path, and time for the journey to unfold. The hero embarks on the journey to perform heroic deeds that transform him by his doing them. The questing nature of the journey is its essence. The quest involves travelling away, performing tasks, and returning home: “the conclusion is the starting point renewed and transformed by the quest itself” (1990, p. 214).

Elements of the mythology and metaphor of the hero’s journey are evident in Flexner’s articulation of the development of the scientist physician. Flexner emphasizes the importance and complexity of what the medical student has to achieve by differentiating medical training from engineering:

- The engineer deals mainly with measurable factors. His factor of uncertainty is within fairly narrow limits. The reasoning of the medical student is much more complicated. He handles at one, and the same time elements belonging to vastly different categories: physical, biological, psychological elements are involved in each other. Moreover, the recent graduate in engineering is not at once exposed to a decisive responsibility; to that he rises slowly through a lengthy series of subordinate positions that search out and complete his education. Between a young graduate in medicine and his ultimate responsibility--human life--nothing interposes. He cannot nowadays begin with easy tasks under the surveillance of a superior; the issues of life and
death are all in the day’s work for him from the very first. The training of the doctor is therefore more complex and more directly momentous than that of the technician (1910, p. 23).

Flexner asserts that the journey to be prepared to assume this “ultimate responsibility” (1910, p. 23), be ‘more’ than a technician and integrate the many forms of knowledge requires a difficult struggle:

While, therefore, it is sound to proceed from the known to the unknown, from the simple to the complex, it is equally important not to eliminate struggle with the complex and the unknown (1925, p. 111).

By framing the learning as a struggle, Flexner is highlighting the quest-like nature of the process. This struggle requires action, and Flexner considers it essential that students not only know but also do:

On the pedagogic side, modern medicine, like all scientific teaching, is characterized by activity. The student no longer merely watches, listens, memorizes; he does. His own activities in the laboratory and in the clinic are the main factors in his instruction and discipline. An education in medicine nowadays involves both learning and learning how; the student cannot effectively know, unless he knows how (1910, p. 53).

There is a striking similarity of this statement to current performance discourses of student learning, particularly Miller’s Pyramid (Hodges, 2009). This pyramid sets up medical competence as a hierarchy moving from “knows” to “knows how” to
“shows how” to “does” (Miller, 1990). Discourses of performance in medical education are further discussed in Chapter Seven.

Flexner repeatedly highlights the ‘doing’ as critical in learning to be a doctor:

‘Only as a physician does one become a physician.’ Education and, above all, professional education, is self-education. The school’s part is largely limited to training in method and technique, and to inspiration (1925, p. 113).

Furthermore, Flexner explicitly links ‘doing’ to the scientific intellectual approach he espouses:

The facts in question cannot be passively learned and mechanically applied. On the contrary, an extraordinarily active and oft-repeated mental process, involving observation, sorting out, combining, inferring, trying, must be in constant operation in both the diagnosis and the treatment of disease (1925, p. 13).

Flexner uses language that stresses the need for individual, active interaction between student and material. As well, students must also find a way to negotiate through a potentially overwhelming amount of material, since

Medicine is an indefinite portion of [a] vast field...the several portions have no distinct individuality; on the contrary, they merge into one another, and are liable to re-grouping, whenever they are surveyed from a new point of view (1925, p. 114).
Since there is too much to know, Flexner advocates against a set curriculum that would satisfy all educators or students. In so doing, he is furthering his discourse of the individual journey required by each scientist physician. He emphasizes that “no two persons would ever agree on the particular sets of facts and skills which the practitioner needs to master” (1925, p. 114). Instead:

[I]t is once more clear that there need and can be no such thing as uniform medical faculties...[n]or can there be any such thing as a uniform, complete or stabilized medical curriculum (1925, p. 116).

Not only is uniformity impossible, Flexner considers it undesirable:

We have seen that it is impossible to set aside any definite set of facts or skills as constituting the ‘best’ training for medicine. Medicine is scientific, if at all, mainly because of an attitude and technique (1925, p. 138).

Instead of uniformity, each student must proceed on an individual quest to develop into a proper scientist physician. Flexner’s discourse of the scientist physician makes clear that a very personal approach is required, as:

[T]he particular facts learned, the particular skills acquired, are of less importance than the habit of inquiry, the ability to use the senses, the capacity for well-directed effort. These cannot be acquired in the same fashion by all students, any more than they can be acquired in the same time or to the same degree (1925, p. 138).

The very nature of medical training requires a personal journey through a challenging process:
The fact is that medical education is bound to be fragmentary. There is something deceptive in the appearance of completeness. The rough edges are really significant, because they suggest the need of further study, reading, and reflection in many directions (1925, p. 147).

Medical schools must accept that they can only impart a limited amount of potentially useful knowledge to their students:

[T]he medical school cannot expect to produce fully trained doctors; it can at most hope to equip students with a limited amount of knowledge, to train them in the method and spirit of scientific medicine, and to launch them with a momentum that will make them active learners—observers, readers, thinkers, and experimenters—for years to come.... [T]he general arrangement of the curriculum, if sound, can make this task a bit easier, or if unsound a bit harder; but in general much more—very much more—depends on teacher and student than on curricular mechanics or teaching devices (1925, p. 176).

Clearly, for Flexner, the journey of the student is more important than the curricular content. In order to encourage active learning, Flexner argues that students should be given flexibility to spend more time, as they desire, exploring areas of interest to them. He is harshly critical of the rigid North American medical curriculum:

[North American students] pass through medical school shoulder to shoulder, phalanx-fashion, the classes being clamped together and kept apart by term and annual examinations to which the students must all alike submit at the appointed time...at regular intervals, all alike, in the same rigid groups,
performed precisely the same practical exercises, attended the same quizzes and submitted to the same monthly, semi-annual, and annual examinations. Anything more alien to the spirit of scientific or modern medicine or to university life could hardly be contrived (1925, p. 136).

Instead, he advises that a more flexible approach be adopted, following on the example of many European medical schools where:

[T]he actual length of the curriculum is not usually the same as the scheduled length....a student who becomes enamored of physiology or pathology may stop in order to devote an extra year to advanced work (1925, p. 136).

Flexner clearly recommends an individualized approach to medical training.

Flexner’s curricular recommendations are congruent with his scientist physician discourse, which highlights the hero’s journey required to become a Flexnerian scientist physician.

### 4.7 Summary

Abraham Flexner’s analysis of the state of medical education in North America in 1910 led him to articulate a discourse of the scientist physician. This physician was a man with a broad education who applied his extensive knowledge to the care of his patients in a rigorous and thoughtful manner. For Flexner, the good doctor and the good scientist were one and the same. The following chapter will examine the partial uptake of Flexner’s recommendations in the major transformation that occurred in North American medical schools in the wake of his *Report.* The
transformation and partial uptake resulted in a discursive shift from the *scientist physician* to other ways of characterizing the *good doctor*. 
Chapter 5

In Flexner’s Footsteps? Discourses of Science and Character

Science is facts; just as houses are made of stone, so is science made of facts; but a pile of stones is not a house, and a collection of facts is not necessarily science.

(Jules Henri Poincaré)

In the beginning Flexner created the medical school. And Flexner said, 'Let there be science' and there was science. And Flexner said, 'Let there be culture and philosophy.'

But there was not.

5.0 Introduction

Abraham Flexner’s discourse of the scientist physician, as analysed in the previous chapter, promotes a very particular conception of the scientist. The Flexnerian scientist is a man of character, broad education and incisive thinking. The ‘person’ of the scientist and personal engagement in scientific thinking is an integral part of Flexner’s notion of the good doctor.

In the years following the Flexner Report, the system of medical education in North America underwent fundamental change. This transformation has been well described in the literature, and is often referred to as the Flexnerian revolution (Ludmerer, 1999, p. 4). Changes included standardized entrance requirements, and a standardized four-year curriculum with a focus on preclinical science courses in
the first two years, and incorporation of significant laboratory and clinical experiences. Medical schools became part of universities. Approximately one third of the 155 medical schools, which were deemed to be below standard, were closed. As many authors have noted, however, only some of Flexner’s many recommendations were adopted. Hodges has analysed this partial adoption as understandable in terms of how well Flexner’s various recommendations fit with other discourses that were dominant at the time (Hodges, 2010). For example, Hodges notes that the closure of ‘inferior’ schools particularly targeted schools that trained women and African American students fits with certain discourses that were prominent in 1910. These discourses, as uncovered by feminist historians, suggested that women were intellectually incapable of scientific study. Strong-Boag, for example, demonstrates that women were discouraged from engaging in science education at all levels, as science for women was thought to contribute to “de-sexed, feeble and arrogant female students” (Strong-Boag, 1981, p. 208) Witz, in *Professions and Patriarchy*, also provides compelling evidence of the deliberate way the male-dominated medical profession took control of maternity care from female-dominated midwifery (Witz, 1992).

Many of Flexner’s recommendations did not make it into the transformed medical education system. Medical schools did not, for example, adopt Flexner’s idea of program flexibility for students. Moreover, his conception of the *scientist* physician was largely ignored. Instead, a somewhat narrow vision of science, rather than a comprehensive vision of the scientist, prevailed. The medical curriculum was
packed with courses based on natural science knowledge deemed relevant to medicine. Science was inserted into the curriculum as specific areas of knowledge (such as anatomy and pathology) and approaches to knowledge application were deemed useful as the foundation of scientific medical practice. The focus on content removed the ‘stuff’ of science from the ‘person’ of the scientist. It limited the scope of science to knowledge of the natural sciences. Flexner’s conception that science is a rigorous and inquiring approach to all forms of knowledge was lost.

Flexner is credited with (or sometimes blamed for) the prominence of biomedical content in the medical courses (Bonner, 1995; Calman, 2007; Finnerty, et al., 2010; Lambert, Lurie, Lyness, & Ward, 2010). However, the adoption of science into the medical curriculum did not involve the adoption of Flexner’s discourse of the scientist physician. A significant discursive shift occurred in the process of partial implementation of Flexner’s recommendations for reform. Flexner’s formulation of the scientist and the curricular formulation of science as course content are fundamentally different. Therefore, while educators ‘credit’ Flexner with the transformation that occurred, the way science was fitted into the curriculum detached it from the scientist and in so doing discarded Flexner’s discourse of the good doctor as a scientist physician.

In the decades of medical reform following Flexner’s report, two separate discourses developed, each adopting certain elements of the Flexnerian scientist physician. One dominant discourse is that of science as the foundation of medical
knowledge. The other is a separate discourse of the good doctor as a man of character. This chapter will outline this discursive split and explore implications of separating the discourse of science as curricular content from the discourse of the doctor as a man of good character.

5.1 Discourses of science in the medical curriculum

Science is clearly one important element in the medical curriculum. Medical trainees must be able to learn and use biomedical science knowledge in their work as doctors. No matter what else is disputed in discussions about the medical curriculum, there is no suggestion that the natural sciences are irrelevant to medical practice. However, which aspects of these sciences are most important, how they are best learned and how trainees can best be helped to take their knowledge and apply it to the care of patients has been the subject of endless curricular discussions over the past one hundred years.

Although the Flexner Report is credited with being the catalyst for the significant changes that occurred in the structures and systems of medical education in the 1920’s, Ludmerer has shown that many of the ideas contained in the report were already being widely discussed amongst medical educators. In *Time to Heal*, he links changes in educational philosophy to growth of medical scientific knowledge in the latter half of the nineteenth century. Ludmerer highlights the development in the nineteenth century of the fields of pathology and physiology; germ theory and pharmacologic advances; the application of statistical methods to clinical
investigation and improvements in surgery with antiseptic techniques (Ludmerer, 1999, pp. 8-9). He credits such developments with creating a sense amongst medical educators and the public that the approach to medical education must change, hence setting the stage for Flexner. He notes, too, that the system that emerged had a very comfortable fit with medical issues in the early twentieth century. Infectious and nutritional diseases were easily and effectively treated by scientific medicine at relatively little cost (Ludmerer, 1999, p. 25). As described by Hodges, there was thus already a dominant scientific medical discourse that allowed easy adoption of Flexner’s recommendation to enhance the scientific basis of medical education (Hodges, 2010). Ludmerer points out implications of the way in which Flexner’s recommendations about enhancing science were adopted, noting that:

[T]he new system fostered a narrowing of medical schools’ interests to issues of technical concern. From the beginning, the focus of the modern medical school was on disease organically defined, not on the system of health care or on society’s health more generally. (Ludmerer, 1999, p. 25)

Preventive health, for example, never became properly integrated, and a “narrowness of the vision” accompanied the introduction of scientific medicine into medical education (Ludmerer, 1999, p. 25).

Regardless of the weight given to Flexner versus other social forces and dominant discourses in creating this change, there is no doubt that a very significant
transformation in medical education occurred early in the twentieth century. Medical school curricula in the years following the Flexner Report soon became science-filled (Ludmerer, 1999). Entrance requirements became much more rigorous, with expectations of at least two years of university training which included courses in biology, chemistry and physics. Proprietary medical schools were closed, and university-based schools became the standard, with close links between medical research and medical education (Ludmerer, 2010). A medical school teaching structure of two pre-clinical years of primarily natural science courses followed by two clinical years (the “2+2 model) was established (Finnerty, et al., 2010).

A standardized curriculum was developed through the work of the Association of American Medical Colleges in 1919 (with some adaptations in 1923). The curriculum included 3600—4400 prescribed hours in anatomy (including embryology and histology), physiology, biochemistry, pathology (including bacteriology and immunology), pharmacology, medicine (neurology, psychiatry, pediatrics, dermatology and syphilis), surgery (orthopedic, urology, ophthalmology, otolaryngology, roentgenology) and obstetrics and gynecology. Beyond these, the only other required topic, hygiene and sanitation, was given a meagre 3-4% of curricular hours. Elective work could amount to up to 24% of curricular hours, however there were no prescribed areas of study outside of these ‘scientific’ subjects (Capen, 1926). Hence ‘science,’ in the form of the basic and clinical sciences, became the primary focus of the medical school curriculum.
With the Flexner *Report*-inspired changes in medical education, it is clear that science became the dominant content of the curriculum. Specific discourses of science also became dominant in the medical education literature after these changes in North American medical schools. The *Bulletin of the Association of American Medical Colleges*, which began publication in 1926, provided an academic forum to discuss issues about medical education. As described in Chapter 2, the *Bulletin* is the first in a series of journals that preceded *Academic Medicine* referred to in aggregate as the *JAM*. The *JAM* provides the archive for examination of changing discourses of the good doctor from the journal’s inception in 1926 through the 1960’s.

### 5.1.1 Discourses of science: knowledge and curricular overcrowding

In the post-Flexner era, medical educators implemented changes that embedded science in pre-clinical courses. From the outset, there was much discussion in the literature about curricular content. It was a *truth universally acknowledged* that there was an enormous amount of science content that could be considered relevant to the practice of medicine. It is therefore no surprise that curricular overcrowding quickly emerged as an area of significant concern in curriculum design. Educators struggled with how to include the many relevant aspects of science and also encourage students to question and think.
Flexner himself, as described in the previous chapter, clearly acknowledges that difficult choices need to be made in deciding what to include in the curriculum. Flexner’s approach, congruent with the scientist physician discourse, stresses the importance of limiting content and recognizing that the curriculum can never encompass every relevant area of knowledge. Flexner eschews the idea that it is possible to have one set curriculum that would satisfy all educators or students. Instead, he emphasizes that specific factual content is less important than an approach to learning:

To be sure, the student needs to know some things well in order to be able to observe, compare, draw conclusions; but the power and the will to observe, compare, and infer, which always involve knowing particular things well, are more vitally important than the knowledge of any particular set of facts as against some other set (Flexner, 1925, p. 114).

Moreover, too much focus on curricular detail is in Flexner’s view detrimental:

Medical curricula the world over contain too many subjects as well as too much material. The burden would be heavy enough, if it were confined to the larger, original units; but within the last fifty years one specialty after another has been split off, erected into a professorship, made a subject of special teaching, and finally won a place on the examination list. (Flexner, 1925, p. 148)
Flexner’s prescription for an approach to curricular content is one of many aspects of his report that was not adopted by medical schools. Instead, curricular overcrowding became a prominent theme amongst medical educators. This focus on curricular content contributes to a discourse of science as something to be learned (as opposed to Flexner’s *scientist* physician as a way of thinking). An examination of articles in *JAM* between the 1920’s and the 1950’s reveals many discussions about the crowded curriculum. For example, in 1927, Zapffe asserts that the curriculum has too many planned hours, and as a result:

[M]urmurings as to too many hours have developed into a hue and cry...we have been trying to stuff [the student] like a Strasbourg goose—with the accumulated knowledge in every subject (Zapffe, 1927, p. 322).

The image of a student‐goose as a passive object being filled with science content gives a very different sense of science than does Flexner’s *scientist* physician. Roberts in 1928 similarly comments that:

We are attempting to teach the medical student too much...the crowded curriculum with the overwhelming mass of fact and detail...is a jumble of successive subjects and hours running with military precision often from eight to five, the teacher often wanting more time and the student confused by the persistent bustle and hurry” (Roberts, 1928, p. 368).

While these authors portray the curriculum as too crowded, they nevertheless frame science as an object in that curriculum. They suggest ways to make the stuff of science more relevant for the unfortunate student, by reducing hours to allow time to think, or by better integrating the science content and clinical experiences
(Zapffe, 1927, pp. 322-349). But science has become, in this schema, the content of the curriculum. Science is something that students learn, rather than a scientist being something a student is.

In the 1940’s the push to graduate doctors faster to assist with the war effort led to many discussions about how the curriculum could be shortened. An educator at the AAMC meeting in 1944 notes that:

> In most medical schools the curriculum has become overcrowded and rigid. Yet new developments...must be included in the instructional program if our graduates are to be prepared to deal with the medical problems of the future (Tresidder, 1945, p. 66).

A medical school Dean in 1945 comments that “[o]ne of our greatest undergraduate needs is to revise the curriculum horizontally, delete dead wood, reduce course content and add new material...much factual material should be drastically reduced in the present curriculum” (Branch, 1945, p. 284). In 1958, the JAM reports that Johns Hopkins University was considering major curricular revision because of a sense that the “combined undergraduate and medical curriculum has grown undesirable long” as a result of additions to the curriculum (“A Revised Program of Medical Education at Johns Hopkins,” 1958, p. 225).

By framing curricular volume as a problem in medical education, science itself is made into a problem. For if there is ‘too much’ science for the curriculum to accommodate, then science discursively becomes a force to be battled and grappled
with, in order to bring it under curricular control. The medical curriculum, rather than the science or the student, let alone the patient, society or the health care system, becomes the point of reference and concern. Discourses of curricular overcrowding also distance the science from the student by framing the volume of science content as harmful to students. Instead of a *scientist* physician, there is now an overwhelmed student who is harried, harassed and science-stuffed.

### 5.1.2 Discourses of science: the exploding knowledge ‘problem’

In addition to being a problem to fit into the curriculum, science is also discursively portrayed as a problem in that it continues to grow and expand in volume. That this ‘problem’ of the growth of scientific knowledge was a discursive truth one hundred years ago may surprise twenty-first century educators. Knowledge explosion as a ‘problem’ for medical education is still a dominant discourse in 2010, with the “[e]xplosion of scientific discoveries and new knowledge” currently portrayed as one key challenge driving medical education reform (FMEC, 2010, p. 9). However, the idea that ever-increasing scientific knowledge greatly complicates decisions about medical training has been prominent in medical education discourses for the past century. A fascinating aspect of this discourse is the fact that it repeatedly portrays this problem as newly discovered by each era.

For Flexner, the ‘knowledge problem’ is easily solved through the discourse of the *scientist* physician. Focus on the scientist rather than the overwhelming amount of science allowed Flexner to consider knowledge in the context of the professional
person. He notes that “medicine is an indefinite portion of [a] vast field” of scientific inquiry, which is growing rapidly and will, presumably, continue to grow (Flexner, 1925, p. 114). Flexner allows that in the early twentieth century “the requirements of medical education have enormously increased. The fundamental sciences upon which medicine depends have been greatly extended” (Flexner, 1910, p. viii). Flexner accepts this as an obvious and entirely manageable factor in curriculum design:

The fact is that medical education is bound to be fragmentary. There is something deceptive in the appearance of completeness. The rough edges are really significant, because they suggest the need of further study, reading, and reflection in many directions (Flexner, 1910, p. 147).

Flexner celebrates the growth and advances in scientific knowledge as providing practitioners with better ways to help their patients. His scientist physician eagerly draws upon scientific advances to better clinical practice.

However, in the post-Flexner reforms to medical education, science becomes a discursive object embedded in the curriculum instead of the scientist being the discursive subject who uses science. Science is now a thing to be placed in the curriculum, so new science becomes something to be added, contributing to curricular crowding. The discourse of knowledge explosion hence turns scientific advances into a problem for medical educators and students.
The discourse of the knowledge explosion ‘problem’ remains a dominant one throughout the twentieth century. In the inaugural volume of the JAM in 1926, an address by the Chancellor of the University of Buffalo notes the “necessity for constant vigilance” in medical education “because the present rate of increase is scientific knowledge is even more rapid” (Capen, 1926, p. 4).

A professor of urology in 1935 lecturing on the foundations of medicine expounds to medical students “professional and technical knowledge grows by leaps and bounds, gaining momentum and tapping forever new sources from its accumulating storehouses” (Kaufman, 1935, p. 297). In the early 1940’s a major focus of medical education related to “accelerated programs” to reduce the time spent in medical school to train more doctors to help with the war effort. Continuing to draw upon the discourse of knowledge explosion, emphasis was placed on the importance of ensuring that doctors trained under these circumstances would undertake ongoing education:

Advances in the prevention, diagnosis, care and treatment of diseases have progressed almost beyond the realm of understanding and continuing changes make it virtually imperative for the intellectual awareness of the doctor as well as the physical welfare of his patient, to participate in or avail himself of some form of refresher course annually (Branch, 1945, pp. 285-286).
Knowledge expansion continues as a theme in medical education in the ensuing decades. Robert Loeb welcomed the incoming class of students at Colombia medical school in 1950 by remarking that:

The emphasis now laid on scientific research with its critical exploitation of new ideas and the integration between the basic sciences and clinical medicine has produced within the lifetime of all of us momentous and tangible advances in the treatment of disease (Loeb, 1951, p. 348).

Ward Darley, the executive director of the Association of American Medical Colleges writes in 1962 that:

Particularly since World War II...the growth in knowledge important to medicine has been phenomenal. Paradoxically it is this rapid growth of knowledge that is creating a situation...[where] the gap between what is known and what is taught is wider than can be justified...we are belabored by the fruits of progress (Darley, 1962, p. xiii).

Some years later, at a plenary session of the AAMC discussing new directions in health care, Reuther comments on:

[T]he fantastic acceleration of man’s scientific and technological know-how....This is the first time in the history of man when we are capable of mastering our physical environment...more than ninety percent of all the scientists who have lived throughout the history of the world are alive today,
and their creative and productive minds are unlocking the mysteries of the universe (Reuther, 1970, p. 96).

Instead of celebrating the fact that medical science potentially has more to offer patients and society, when expanding knowledge science is discursively framed as a problem, it becomes a headache for curriculum planners and a problem for individual physicians in terms of being able to be up to date.

New scientific discoveries continue to improve the treatment of disease and provision of medical care. One interesting aspect of the persistent discourse of knowledge explosion is that each generation of medical educators perceives it as a nearly insurmountable challenge never before encountered. The issue of what needs to be in the medical curriculum then becomes a novel problem, rather than an ongoing historical conundrum. Discursively, this issue creates an ahistorical approach to curriculum design and reform. It allows educators to ignore the fact the medical curriculum has developed as a result of negotiated processes in cultural contexts. It more easily permits the curriculum to be considered in 'objective' ways, rather than as historically contingent. It also makes it easier to believe that there may be a 'right' or 'ideal' way to design medical education.

The discourse of novelty in terms of expanding medical knowledge has important implications for how educators conceptualize the medical curriculum. This sense of being the first generation of medical educators to face this curricular 'difficulty' may limit solutions to curricular 'tweaking' rather than giving serious consideration to
comprehensive curricular reform. The sense of novelty also significantly limits understanding that the curriculum is a historically derived product. Flexner understood this, and his 1925 Comparative Study of Medical Education noted, “Accident rather than reflection or design has very largely made medical education what it now is in different countries” (Flexner, 1925). More recently, Segouin and Hodges have described differences between North American and French medical education, noting various historical processes that have led to differences between these two systems (Segouin & Hodges, 2005).

In the post-Flexner transformation of medical education, science is discursively portrayed as both foundational and impossibly vast. Hence, the discourse of science as a problem in medical education combines with the discourse of science as foundational curricular content to create the notion of science as overwhelming. Science overwhelms the curriculum designers; it overwhelms the students. The educator fights to channel the tsunami of information into required courses. The student battles the onslaught. How utterly different this discourse is from that of the Flexnerian scientist physician described in the previous chapter, who eagerly engaged in thoughtful reflection upon scientific principles and ideas as they pertained to the health and well being of his patient.

The discourses of science as both necessary and overwhelming allow science to be given precedence over everything else in the curriculum. It is perhaps no wonder then, that the ‘non-science’ or ‘beyond-science’ areas of medical education quickly
become marginalized when such discourses of science are at the fore. Along with this marginalization, however, exists a parallel discourse, that of the insufficiency of the natural sciences in meeting all the needs of medical training.

5.2 The insufficiency of science in medical training

The discourse of science as the foundational knowledge of medicine necessitates a science-filled curriculum. The curriculum is so crowded that addition of other things appears impossible. Moreover anything additional will be peripheral to the science core. Yet medical educators clearly agree (another truth universally acknowledged) that a good doctor is not created solely through hours of science classes during medical school training. The problem of how to best equip medical students with necessary attributes, approaches and understandings beyond science knowledge is a constant theme of medical educators. This discourse existed in the time of the Flexnerian scientist physician, even before the discourse of natural science as the dominant form of medical knowledge emerged in the post-Flexner reforms. Flexner’s discourse of the scientist physician allows for easy incorporation of various areas of learning, all of which are made use of in a rigorous way by the scientist physician. Flexner argues that the ‘fundamental’ (natural) sciences:

[F]urnish, indeed, the essential instrumental basis of medical education. But the instrumental minimum can hardly serve as the permanent professional minimum. It is even instrumentally inadequate. The practitioner deals with facts of two categories. Chemistry, physics, biology enable him to apprehend one set; he needs a different appreciative apparatus to deal with the other;
more subtle elements. Specific preparation is in this direction much more difficult; one must rely for the requisite insight and sympathy on a varied and enlarging cultural experience (Flexner, 1910, p. 26).

Flexner is clear that the natural sciences are only one important area of instruction. He was not pleased that the natural sciences were so strongly taken up in medical reforms that followed his 1910 report without also incorporating other aspects. In 1925 he laments, “scientific medicine in America--young, vigorous and positivistic--is today sadly deficient in cultural and philosophic background” (Flexner, 1925, p. 18).

Flexner comments that:

[T]he physician’s function is fast becoming social and preventive, rather than individual and curative. Upon him society relies to ascertain, and through measures essentially educational to enforce, the conditions that prevent disease and make positively for physical and moral well-being (Flexner, 1910, p. 26).

This is an ongoing concern. In the very first article in the inaugural edition of the JAM in 1926, not many years after the Flexnerian curricular reforms, a medical school dean expresses concern about the science focus of the premedical requirements:

I am not prepared to admit at the present time that in the equipment of the practitioner a knowledge of science is of more real value than a knowledge of
the way in which mankind has behaved in the past and how he is on the whole behaving at the present time. The problems of medicine, on the whole, are quite as likely to require sound judgment based upon a knowledge of history, sociology, philosophy and psychology as on the facts of science (Cabot, 1926, p. 2).

In a 1935 lecture to medical students, a professor of urology describes the “foundation” of medicine as including not only technical scientific knowledge but also, equally as important, character, cultural and social/public aspects of medicine (Kaufman, 1935, p. 297). In 1945 another medical school Dean suggests that, “More attention be paid to social medicine, child health, mental health, protection of health and the prevention as well as the care of disease” (Branch, 1945, p. 281). In the opening address to the AAMC in 1951, the speaker admonishes medical educators’ “Failure to give attention to social and cultural factors affecting human beings” (Dollard, 1952, p. 161). Similarly, an author in 1955 comments:

[0]ur present day curricula...can produce a scientist and a technician. However to produce a humanist creates our greatest problem. We should strive to reach a balance between the sciences and the broad liberal education and not swing the pendulum too far to one side as was done in the case of the sciences (Witt, 1955, p. 189).

Medical educators continue to re-discover this imbalance. In 1962 a professor of pediatrics notes:
The success of great physicians in the past has often rested as much on a psychosocial base as on a biophysical one.... The education of physicians for the present and future must provide a scientific and systematic acquaintance with both the sociological and the biological fields and methods for utilizing, for applying the principles in both. Physical factors involved in illness are fundamental, but comprehensive medical care must include whatever the humanities and social sciences can contribute (Smyth, 1962, p. 496).

In 1975 a survey of medical school deans reports that “[a]lmost 90 percent of deans indicate support for new emphasis in the curriculum on behavioral sciences, social sciences, and the humanities; but this change is seen as having only a marginal probability of occurring” (Keyes, Wilson, & Becker, 1975, p. 321). That a group of medical schools deans consider themselves to have minimal ability to influence changes they see as important in improving medical school curriculum is certainly intriguing.

In an article describing a new social science curriculum in 1980, the authors note:

To receive a comprehensive medical education, students must understand the interaction of biological, psychological, and social factors in the onset and treatment of illness. (Begun & Rieker, 1980, p. 185)

They comment, however, that most faculty and students do not see the relevance of social sciences to medical training and suggest that new ways of demonstrating the
importance of the social sciences must be found (Begun & Rieker, 1980, p. 181). This discourse of biomedical science in adequacy is also very much a contemporary one; recent articles and initiatives continue to highlight the need for more social science training in medical education (Kuper & D'Eon, 2011; Sales & Schlaff, 2010).

These discourses of the insufficiency of science have been present from before the dominant discourses of science as the foundational knowledge of the curriculum. They are persistent themes in the medical education literature. Yet little curricular change based on these concerns has occurred. The post-Flexnerian separation of the discourse of the character of the physician from the physician as scientist may provide one way to understand this difficulty that has bedevilled medical educators over the past one hundred years.

5.3 Discourses of the good doctor as a man of character

The post-Flexnerian discourse of science separates science as knowledge from the ‘person’ of the physician. As this occurs, a separate discourse, that of the good doctor as a man of character emerges. A comment on gendered language is required here. Authors in the JAM from the 1920’s to the 1950’s consistently refer to doctors as male. No doubt this partly relates to the fact that women had a much harder time getting a medical degree after the reforms that closed schools that admitted them. No doubt too it relates to language use, gender assumptions and discourses of this historical era. Feminist historians have amply documented the impact of language and gender assumptions during this era (Strong-Boag, 1981;
Witz, 1992). For the purposes of this analysis, given the prevailing language of the time, the discourse of the ‘man’ of character will be kept in the gender-specific form in which it was used at the time.

Throughout the 1920’s and 1930’s, the character of the medical trainee was frequently discussed. Character is sometimes considered innate, sometimes a product of environment, and sometimes a product of premedical education. Regardless of where and how influence on character is considered possible, the discourse of character dominates discussion of the good doctor and ideal trainee. One area where the ‘person’ of the trainee is portrayed as particularly relevant in the medical education literature discussions about selection of students for medical school admission. Admitting only those students who have ‘the right stuff’ is considered critical to being able to produce the good doctor. For example, the author of an address on “determining the fitness of the premedical student” in 1927 contemplates the “necessary, essential qualifications of one fitted to successfully pursue the high calling of the study and practice of medicine” (Barker, 1927, p. 17). He suggests “the real doctor is born and not made” and thus educators must “discover these embryo doctors and develop these inborn qualities” (Barker, 1927, p. 16).

The need to focus on character is sometimes directly contrasted to an over-emphasis on knowledge. In 1927 the Dean of McGill Medical School suggests that:

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\text{The rapid advance of knowledge has apparently made us lose sight of our direction in education. And in our haste to impart facts, we forget the} \]

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influences that help to mold the students' character and outlook; we lose sight of the fact that cultural interests, on the one hand, and professional interests on the other are best revealed in later life by a well balanced personality (Martin, 1927, p. 156).

An elitist element definitely permeates some of the discussion of the character of doctors. For example, in a discussion at the AAMC meetings of 1928, a speaker asserts that:

Modern medicine cannot be imparted to everyone; it can be imparted to the best advantage only to persons of good character, fixed purpose, good native intelligence, trained to serious application. The maturity, previous training and intellectual competency of the student body determine in advance in large measure the scope, quality, method, aims and outcome of the instruction given by the faculty (van Beuren, 1929, p. 204).

Educators frequently point to premedical education as a place to improve the character of students. One common prescription for improvement lay in better education in secondary school and premedical arts training:

Entering medical students know too little of history and literature. They are lamentably weak in language—even of English; and philosophy is hardly more than a meaningless word in their vocabulary (Lyon, 1928, p. 156).

In discussions about the purpose of medical education, the ‘product’ is deemed to be:
An individual of good character, strong personality, a knowledge of fundamental science which will enable him to apply these sciences, and qualified to appreciate the reactions of human beings (Cabot, 1927, p. 105).

Both temperament and pre-medical education are linked to good character. The right mix of the two of these is deemed necessary for the medical trainee to embark on the path to becoming a good physician. A surgery professor addressing new trainees comments:

You ask how to become first class physicians. Let us begin by assuming that you are fitted both by temperament and education to undertake the study of medicine....The path that you choose is a difficult one, but, if you follow it intelligently and diligently, it will lead you to greater satisfactions than are to be gained in any other profession or occupation (Bird, 1936, pp. 357-358).

This sense of physician as having a higher calling than the rest of the world is dominant in the writings of these decades, and is repeatedly linked to the discourse of the character of the physician. For example, in 1936 Bevan asserts that:

Above all, the physician must be a man of character. He must in his life and professional work accept a high code of ethics which controls all of his actions (Bevan, 1936, p. 379).

Bevan links good character to the qualities that set medicine apart from “most commercial pursuits” and suggests that medicine needs to “elevate” the “standards of character” in order to “eliminate the undesirable students” who sometimes enter
the profession (Bevan, 1936, p. 380). The discourse of character is used to limit both the number and the type of person who is considered suitable for the profession. As Bevan argues:

Medicine requires not only a proper scientific training but also certain other qualifications which are equally essential. The physician and surgeon is often the court of last resort; the life and health of the patient is often in his hands. The physician must cultivate and acquire the judicial attitude, the judicial quality of mind, in order that he may decide properly the important questions that confront him (Bevan, 1936, p. 379).

The discourse of character is used to describe the candidate who is best suited for the difficult personal journey to becoming a physician. Such a student’s:

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\text{[V]ery approach to medicine will be largely his own. His constant desire to know the truth will lead him along fascinating paths through every step of which he has blazed trails for himself too deep to be erased and always ready to be retraveled with confidence...Even if he misses his exact goal at times, his ‘search will be crowned with courage’ and he will ‘find along the path a rich reward of unexpected things’ (Lynch, 1930, p. 60).}
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Character is considered to be “first and foremost” of the foundational elements of medical education, ranking above general education, technical knowledge and the social aspects of medicine (Kaufman, 1935, pp. 297-298). The discourse of character again calls upon a heroic approach to medical work:
[W]e, whose job it is to revify, must possess a boundless energy and ambition and force. This presupposes health and strength, necessary for the arduous undertaking in which we are engaged. There is no room for shirkers, for medicine demands an infinite capacity for work, expanding as demands on your time and strength steadily increase in the fullness of maturity from the very inception of professional work in college through the stress of graduation and emergence into practice. Men possess these qualities or not, as a part of their protoplasm, but they are so fundamental that they must be cultivated and developed by conscious effort (Kaufman, 1935, p. 299).

Medical training, according to this framing, takes men of character and sends them on a hero's journey. Kaufman not only implies this, he actually uses the language of questing knights to describe medical education:

The very rock bottom of the foundation of medicine is the medical school. Here is where is forged in the furnace of four scorching years the very steel and armor of your professional career with which you shall come forth knighted (Kaufman, 1935, p. 301).

The medical education literature in the early 1940's is less focused on discourses of character, and more on rapid preparation of medical trainees to assist with the war effort. Whether and how it is possible to reduce time spent in medical school dominates discussion. After the war, the good doctor discourse of character is again seen. A comment on Postwar Premedical Education, for example, notes that "character is stressed" above particular courses of study in determining ideal
candidates for medicine ("Editorial", 1945, p. 196). Another early post-war article by senior medical students asserts that in medical school selection criteria “there should be more weight placed on the individual’s character” ("What Medical Students Think About the Medical School," 1945, p. 296).

In 1945 Harrell and Vann comment that:

   In spite of this evolution of the science over a period of two thousand years, the basis of medical practice is still one man—the doctor—at the bedside assuming responsibility for one patient (Harrell, 1945, p. 139).

In the 1950’s the discourse of character as exemplifying the good doctor continues:

   Medical education is a preparation for social service; it is a preparation for a consecrated life.... Medical men know that they may have a theoretical right to refuse to answer the call for their services, but society knows that they will not exercise it because medical education is an education in social responsibility and disciplined behaviour (Klapper, 1950, p. 313).

A man of character who enters into the calling of medicine has replaced Flexner’s scientist physician. While science is no longer part of the ‘person’ of the man of character, elements of the heroic physician clearly remain. This ‘hero’ is accorded great respect and honour by society. Starr has shown that the status of the physician increased to a peak in the 1950’s (Starr, 1982). Ludmerer further points out that in the 1940’s and 1950’s medicine enjoyed an “exalted position in the public eye” (Ludmerer, 1999, p. 38).
5.4 Summary: discourses of science and character

From the early days of the implementation of the post-Flexner science course-filled curriculum, discourses of knowledge explosion and the overcrowded curriculum maintain science as the core of the curriculum, leading to the marginalizing of all other material. These discourses of science create an understanding that all the science can barely be managed and fit in even when ‘science’ completely dominates everything else. These discourses of science continue in the present era. Any educator who attends medical school curriculum committee meetings knows well the battles over the potential addition of any curricular content. Today’s medical students continue to feel overworked and overwhelmed by the amount of material they are expected to absorb, let alone master.

Discourses of the insufficiency of the biomedical sciences are also current and well recognized by medical educators today. From medical humanities courses to discussions about how to incorporate ‘non-medical expert’ competencies such as collaboration, professionalism and advocacy into the curriculum, the discourse of the inadequacy of biomedicine is alive and well. Alive and well indeed, and as it has been for the past one hundred years, still marginalized from the biomedical core.

The other prominent discourse of the era following early twentieth century medical school reforms, that of the good physician as a man of character, is not, however, still current. Character discourse became prominent at the same time as discourses that allow science domination of the curriculum. The Flexnerian scientist discourse
was not taken up, and science was separated from the person of the physician. Divided from the science, the discourse of character became the focus for much of the discussion of the discourse of biomedical (natural science) inadequacy. Social science and humanities knowledge is positioned as ‘outside’ the scientific knowledge core. The character of the student doctor is similarly discussed discursively as separate from the science knowledge that needs to be learned and used in medical practice. This allows for a focus on whom to admit to medical school, and how to find and inculcate character without seriously having to question the science-dominated curriculum. It also makes easier the marginalization of the ‘non-science’ elements of the curriculum. As will be seen in subsequent chapters, this marginalization of the social sciences and humanities remains even as the discourse of the good doctor as a man of character is supplanted by other discourses in the decades that follow.
Chapter 6

Dissecting the Good Doctor: From *Character* to *Characteristics*

Naming of Parts

Today we have naming of parts. Yesterday, We had daily cleaning. And tomorrow morning, We shall have what to do after firing. But today, 
Today we have naming of parts. Japonica Glistens like coral in all of the neighboring gardens, 
And today we have naming of parts.

This is the lower sling swivel. And this Is the upper sling swivel, whose use you will see, 
When you are given your slings. And this is the piling swivel, Which in your case you have not got. The branches Hold in the gardens their silent, eloquent gestures, Which in our case we have not got.

This is the safety-catch, which is always released With an easy flick of the thumb. And please do not let me See anyone using his finger. You can do it quite easy If you have any strength in your thumb. The blossoms Are fragile and motionless, never letting anyone see Any of them using their finger.

And this you can see is the bolt. The purpose of this Is to open the breech, as you see. We can slide it Rapidly backwards and forwards: we call this Easing the spring. And rapidly backwards and forwards The early bees are assaulting and fumbling the flowers: They call it easing the Spring.

They call it easing the Spring: it is perfectly easy If you have any strength in your thumb: like the bolt, And the breech, and the cocking-piece, and the point of balance, Which in our case we have not got; and the almond-blossom Silent in all of the gardens and the bees going backwards and forwards, For today we have naming of parts.

(Henry Reed, 1942)
6.0 Introduction

The good doctor continues to be described as a man of character in the medical education literature throughout the late 1940’s and early 1950’s. Other discursive statements related to the discourse of science in medicine described in the previous chapter also continue, including knowledge explosion, curricular overcrowding, science as the core of the medical curriculum and the insufficiency of science in the training of medical students. However, while many themes related to the science in the curriculum and medical training continue, the discourse of the good doctor changes suddenly and significantly between the late 1950's and early 1960's. The language of character vanishes, supplanted by a new discourse of characteristics. This discursive shift is the subject of this chapter.

6.1 The medical student as the subject of study

In the years following the Second World War medical school applicants and students increasingly become an object of study and inquiry. The study of medical students did not begin in this era; medical educators have long enjoyed contemplating their trainees. Hurd, for example, lists fifty-eight articles describing factors for student success or failure that were published between 1927-1948 (Hurd, 1949). The medical sociologist Samuel Bloom describes such early studies as “doorkeeper” studies focused in a fairly narrow way on the selection of the best possible students (Bloom, 1979, p. 3). Bloom acknowledges that he takes his doorkeeper terminology directly from Flexner:
It is necessary to install a doorkeeper who will, by critical scrutiny, ascertain the fitness of the applicant: a necessity suggested in the first place by consideration for the candidate, whose time and talents will serve him better in some other vocation, if he be unfit for this; and in the second, by consideration for a public entitled to protection from those whom the very boldness of modern medical strategy equips with instruments that, tremendously effective for good when rightly used, are all the more terrible for harm if ignorantly or incompetently employed (Flexner, 1910, p. 22).

Bloom asserts that many sociologists, such as Becker, Geer, Miller and Levine, consider the mid-1940's as the beginning of any serious study of medical education (Bloom, 1979, p. 6). Bloom counters this claim with a suggestion that this definition “reflects the bias of current definitions of behavioral science” (Bloom, 1979, p. 6). Instead, he proposes a broader approach to the definition of medical education scholarship, incorporating evaluations of medical education based on descriptive education surveys (including the Flexner report). Bloom agrees, however, that the post World War II era brought a new focus to the study of medical education, one that incorporates greater interest in student culture, processes of medical teaching, and the educational environment (Bloom, 1979, p. 9).

From a discursive perspective, reading through the titles, abstracts and relevant articles in the mid 1940’s and into the 1950’s in JAM allows easy identification of a shift in focus compared to articles from before World War II. In the late 1940’s, the
scope of study of the medical student expands. *JAM* articles at this time are written with language that shows a zeal to examine various aspects of the medical school applicant and medical trainee. Authors give various explanations for this interest. Some medical educators comment on the need to embark on in-depth study of students because of expected increases in the numbers of medical school applicants. If greater selectivity is possible, they reason, educators ought to choose the best students. Another cited rationale for more detailed study of students relates to concern about high failure rates amongst medical students (approximately one-fifth of entrants, as is repeatedly discussed with consternation in many articles of the era). (Hurd, 1949) Post-World War II, cold war rhetoric no doubt also plays a role in influencing the language used in medical education at this time. For example, an editorial in March 1955 declares:

> Since the beginning of World War II military service or the threat of it has made long-term planning of our teachers and researchers almost impossible. In this period...over 3,000 graduate students in the sciences have had their careers either interrupted or terminated by military service. How long can we continue to ignore the need for medical teachers and researchers before we find ourselves falling behind Russia in our ability both to train new physicians and to carry out important life-saving research in such fields as aerophysiology, antibiotic therapy and radiation therapy? ("Editorial", 1955, pp. 167-168)
The changing approach to the study of students relates as well to new ideas in the 1950’s about medical education as a legitimate research area. Kuper et al’s analysis of the JAM from 1955-1959 describes the development of the field of medical education research during this time. They document a number of socio-historical factors, which converge in the mid-1950’s to shape the emergence of research in medical education. Whereas in 1955 “the academic community was just awakening to the possibility of medical education research” (Kuper, et al., 2010, p. 1349), by the end of the 1950’s medical education research was established and institutionalized (Kuper, et al., 2010). They suggest that many factors, including a desire for accountability and control and the availability of money for medical education research led to increased interest in the study medical education. Bloom further emphasizes the role that medical sociology also started to play in defining the field during this time (Bloom, 1979). He highlights the growth of interest in the sociology of professions generally, and the emergence of medical sociology as a legitimate academic discipline (Bloom, 2002).

There are clearly a variety of reasons for a shift in focus in the study of medical students by those interested in medical education. For the purposes of this Foucauldian discourse analysis, causality or relative ranking of these factors is not necessary. Instead, the discursive changes that occurred at this time are themselves the subject of study. For during the same years that medical education entered the research arena under the auspices of psychology and sociology, a distinct discursive shift occurred in the language used in studies and discussions of medical trainees.
Instead of the good doctor as a man of *character* (or, increasingly in the 1950’s, a man or woman, as articles start to explicitly acknowledge women in medicine), the language of *characteristics* comes to the fore. Many studies, including very large longitudinal studies, describe their goal as examining the characteristics of good doctors. The shift from discourses of *character* to discourses of *characteristics* is a sudden and significant one, with *characteristics* discourse replacing discourses of *character* as the dominant framing of the good doctor over a period of less than five years.

With this discursive shift came a very different focus in terms of thinking about the medical student. Discourses of *character* consider the trainee as whole person. Discourses of *characteristics* aim to dissect aspects of the medical student in order to try to understand particular components of that person. Such dissection of the student has many implications for the perception and formulation of the student, education and the curriculum.

### 6.2 Discourses of *character* in the study of students

Discourses of the good doctor as a man of *character* remained dominant in the 1940’s and early 1950’s. During this time, medical educators frequently questioned how to identify good character in order to select the best possible medical students. Davison, a medical school dean, for example, creates his own list of ideal qualities:

> What are those superior qualities and how can they be detected? Most of us agree that if a student or physician has honesty, character, intelligence, a
good memory, accuracy, application, intellectual curiosity, charity, faith, humility, hope and patience, he will surely become the ‘true physician’ (Davison, 1946 p. 228).

Educators also considered ways to enhance such virtues during the process of medical training. This is seen through the many studies and statistical reports which attempted to identify factors that contribute to student success (Moon, 1934, p. 267). Many medical schools used medical aptitude tests, first developed in the late 1920’s, as one criterion for admission from the 1930’s onwards (Hale, 1946; McGaghie, 2002). Educators attempted to predict students’ medical school success on the basis of premedical training or other factors. Premedical grades, premedical courses, intellectual tests and personal and demographic data were all considered as potential predictors (Stuit, 1948). In the late 1940’s, additional evaluation tools, in the form of various “appraisals of interest and personality” became available for medical educator use (Stuit, 1948, p. 159). However, even while there was significant interest in the use of various tools to assess medical students, the discourse of the good doctor remained one of character. For example, Stuit, in “The Discovery of Medical Talent,” (1948) summarizes the use of psychological tests, noting that none of these tests answer the question:

What really constitutes a good doctor. What sort of a person is he? Is he a man who should be primarily interested in helping people or should he be a scientist who is primarily interested in the human being as a biological organism? (Stuit, 1948, p. 162)
Stuit comments that answers to such “fundamental questions” are more important than a series of tests in order to decide what the most appropriate premedical training ought to be, as well as how to set standards to guide student selection. Other medical educators in the late 1940’s also highlight the need for a clear understanding of how the tests are to be helpful. F. J. Mullin, for example, writes that:

If we could have a firm agreement on the aims and objectives of medical education, we would go a long way toward solving our problem of the selection of medical students (Mullin, 1948, p. 163).

A.W. Hurd, in 1948, provides a summary of 58 articles published in the JAM which address issues that might contribute to medical student success or failure (Hurd, 1949). Hurd groups these as 124 factors, ranging from mood to “domestic infelicities” to mental habits. He notes great diversity of opinion amongst authors. For example, the most common factor is that premedical grades are predictive; the second that premedical grades are not predictive. Hurd suggests that the long and at times contradictory list of factors indicates that educators are still struggling to identify key issues in this area (Hurd, 1949, p. 29).

Medical educators used psychological tests and lists of factors to try to better predict which students will do well at medical school. Their use of these tools did not alter the discourses of character that continued to be dominant. Many authors also questioned or suggested limits to the use of tools to measure aptitude. In 1946 for example, W. Hale comments that early efforts to measure aptitude occurred
when “suddenly” there were more applicants than positions available in medical schools. At that point:

Standards for selection had to be improvised with no backlog of time or experience. What did measure aptitude for medicine anyway? To determine aptitude we know well that many aspects of an applicant must be appraised: his character, his dependability, durability, his forcefulness and his vitality (Hale, 1946, p. 147) (emphasis added).

Hale’s list of desirable attributes continues, with a conclusion that many of these attributes “do not lend themselves to measurement in figures and percentages. Their appraisal remains relative and must be made by those who understand men, their virtues and frailties” (Hale, 1946, pp. 147-148). He goes on to compare the selection of a student to the making of a medical diagnosis:

Just as medical diagnosis is aided by the laboratory, the selection of medical students is improved by using more than one test. But both in medicine and in the admission office tests should take their proper place and not more. The prognosis for both patient and applicant is to be determined clinically and not with an adding machine (Hale, 1946, p. 151).

Taylor, an Assistant Dean, expresses similar concern about judicious use of such tests. He comments, for example, on the role of the personal interview in assessing applicants, pointing out that:

It has been said that we are losing the art of judging character as we place more reliance on objective tests and measurements. Success in life a few
short years ago was dependent on an individual’s ability to quickly ‘size up’ a stranger. Our pioneer forefathers’ daily existence depended to a large extent on this faculty. The Pony Express riders were chosen in a twenty-minute interview. Napoleon chose the generals of his armies after a thirty-minute conference (Taylor, 1948, p. 171).

He disparages the use of multiple psychological tests as a way to assess for complex aspects he deems necessary for the selection of the person who has the potential to become a good doctor. He draws upon Davison’s list of necessary attributes of a good physician (cited earlier in this chapter) and adds that the applicant must also:

[H]ave a well-developed social conscience. He should be a good citizen. He should be well read. He should be able to speak clearly and well. He should be a rapid, sound reader (Taylor, 1948, p. 171).

He makes it clear that only “a few of these qualities lend themselves to objective measurement” (Taylor, 1948, p. 171). The rest, he argues, must not be forced to fit into the psychological “methods in vogue” but might perhaps best be explored through well-conducted personal interviews (Taylor, 1948, p. 175).

The discourse of the good doctor as a man of character leads some educators, such as Taylor, to question the utility (or at least rein in the scope) of psychological testing. However, interest in psychological tests as a way to measure and distinguish between medical students grows in the early 1950’s even while the discourse of character is still dominant. Quite a number of articles in the JAM
examine the use of personal interviews over the late 1940’s and early 1950’s. Many more, however, focus on the development of various psychological tests. From a discursive point of view, it is important that the increased use of these standardized tests occurs without any shift in discursive formulations of the good doctor as a man of character. Instead, psychological testing is proposed as one tool that may help to address aspects of student selection. Standardized testing and discourses of character are not seen as discordant.

Even while the discourse of character remains, the use of psychological testing gradually expands. For example, in 1946, Jacobsen describes a study in an article entitled “Interest and Attitude as Factor in Achievement in Medical School,” in which four successive classes at his medical school are given a series of psychological tests (Jacobsen, 1946). He attempts to use these various tests to answer the question of whether it is possible to distinguish aspects of “ability, interest, attitude and experience that differentiate the successful from the low standing and failing students?” (Jacobsen, 1946, p. 152) He exhorts his colleagues not to quail when faced with the challenge of finding objective ways to measure the “intangibles” of personality:

From observation and personal experience all will acknowledge that the attitudes, sentiments and feelings of the doctor toward his patients and fellow human beings can and do play a role in his ultimate success. We seek among applicants to the medical school those youngsters we characterize as
sound, or as stable persons, and, in turn, try to avoid the emotionally immature, the queer fellow or the screw-ball (Jacobsen, 1946, p. 155).

While suggesting some success in extracting information from the tests used to identify problem (“screw-ball”) students, he readily acknowledges in his conclusion that no “sure fire method of selection” exists (Jacobsen, 1946, p. 157).

Two years later, Benton and Kornhauser co-authored an article, “A Study of ‘Score Faking’ on a Medical Interest Test.” The authors state that existing methods used to judge personal factors of students are “subjective, unreliable and admittedly inadequate” (Benton & Kornhauser, 1948, p. 57). While they express great desire that objective methods be identified, they note that the “difficulty involved in such a task is conceded by all and the possibility of its successful accomplishment denied by some” (Benton & Kornhauser, 1948, p. 57). With specific reference to Jacobsen’s study, they then describe their own study in which they demonstrate the potential for “score faking” on one of the psychological tests, a vocational interest inventory, deemed by Jacobsen to show moderately positive results (Benton & Kornhauser, 1948, p. 58). Hence not only are psychological tests questioned in terms of their ability to capture elements important for medical student selection, they are also shown to be potentially unreliable.

In addition to growing interest in using psychological tests, there is also a desire in the medical education community to find ways to apply quantitative measures to
students more generally. For example, Darley, in his Presidential Address at the AAMC 1953 Annual Meeting, comments that:

[In our enthusiasm for recognizing the significance of the patient as an individual, I feel that we are not giving enough of the same kind of consideration to our students (Darley, 1954, p. 12).

He seems not to be in jest as he suggests a mathematical equation to describe medical education:

$$\frac{CM}{R} \cdot TP = ME$$

CM/R is the medical student, with C representing “intellectual talent,” M denoting motivation and R “those factors that interfere or detract from the student’s reaching his full potential.” TP represents the educational environment of medical school programme, with T being the teaching environment (including curricular content, curricular organization, faculty, and teaching methods and facilities). P represents “practical service and research situations” of which the most important element is the patient, whether in hospital, clinic, home or community. The mathematical interaction of these factors equals medical education (ME) (Darley, 1954, pp. 12-13). Darley suggests that attention to this equation will assist medical educators in taking a “more personalized approach to the student.” (Darley, p. 12)

### 6.3 From character to characteristics

Before the 1950’s the dominant discourse of the good doctor and desirable medical student remains that of character. By the latter half of the 1950’s, the language of
characteristics starts to appear in the medical education literature. Obviously, the word ‘characteristics’ existed before the 1950’s. It appeared on occasion in the medical education literature, sometimes related to students. But it was then merely a descriptive word, used occasionally, rather than being the dominant framing of the approach to the study of medical education and medical students. By the early 1960’s, however, characteristics became virtually the only way to describe medical students. Discussions of character, so prominent in previous decades, vanish. The shift in language is striking. In seeking the origins and process of this discursive rupture, I started with the emergence of the new language of characteristics and looked back to trace the process of change.

An article written by D.M. Kole and J.D. Matarazzo in 1965 entitled, “Intellectual and Personality Characteristics of Two Classes of Medical Students,” was extremely helpful in highlighting the extent of the discursive shift. In the introduction, the authors comment on a paper by E. Gottheil and C. M. Michael in 1957 which “reviewed 95 articles dealing with characteristics of medical students” (Kole & Matarazzo, 1965, p. 1130). I had seen little talk of ‘characteristics’ in the late 1950’s (let alone in the preceding years in which at least some of the 95 articles must have been written). Intrigued, I examined the 1957 article and to my great surprise, Gottheil & Michael (1957) does not use the language of characteristics, but is firmly embedded in character discourse (Gottheil & Michael, 1957). Kole & Matarazzo (1965) appear to have re-framed the writings of Gottheil & Michael (1957) in terms of the newly dominant characteristics discourse of 1965. Hence, Kole & Matarazzo
(1965) provide strong evidence of the discursive shift that occurred. To follow the shift, it was then necessary to trace the path of change.

Gottheil & Michael (1957) is an extensive review of published articles that relate to medical student selection. Entitled “Predictor Variables Employed in Research on the Selection of Medical Students,” the purpose of the review is described in the following terms:

Presumably, the goal of medical education is to produce ‘good’ doctors of medicine. What constitutes the good doctor however, and how to evaluate the constituent factors remains the most perplexing problem in the field. This question represents the fundamental problem basic to all other problems in selection (Gottheil & Michael, 1957, p. 131).

The authors comment that success both in medical school and success in practice are extremely difficult to define and measure. However, “[i]n spite of the many complex problems, there has been no lack of enthusiasm in the attempt to find and develop suitable measures for the prediction of success in medical schools” (Gottheil & Michael, 1957, p. 132). They then review the existing literature (not a common thing to do at that time in medical education articles) to “group and discuss” some of the variables that had been used to aid in selection procedures (Gottheil & Michael, 1957, p. 132). Amongst the variables they consider are premedical grades, aptitude tests, intelligence tests, achievement tests, interest tests, personality tests, interviews, and background variables. They conclude that the results obtained
“have not appeared to be highly impressive,” however they suggest that perhaps a combination of such tests might hold out greater promise (Gottheil & Michael, 1957, p. 141).

Hence, in this 1957 article, the discourse is still one of attributes, values and qualities of the good doctor. Gottheil & Michael do not describe their work, or the many papers they review, as relating to characteristics. Rather, the word ‘characteristics’ is virtually absent from their 1957 review, appearing only once in relation to a Rorschach test that proved useless in distinguishing high from low ranking students. Instead of characteristics, the language is that of qualities, attributes, interests, motivation, and aptitudes. The fact that only a few years later their review is read as an analysis of ‘characteristics’ demonstrates the extent of the discursive shift that occurred.

6.4 Early use of characteristics terminology

An early example of use of the term ‘characteristics’ appears in an article by Dr Alberto Hurtado, Dean of a Peruvian medical school (Hurtado, 1957). Hurtado attended the AAMC’s 1956 Institute on the Evaluation of the Student. This Institute brought together medical educators who discussed characteristics of students in terms of how these might assist with selection for admission to medical school. As Hurtado describes:
There is a unanimous opinion that the future of medicine and the quality of medical care are fundamentally based on, among other factors, the caliber of men and women who enter medical schools (Hurtado, 1957, p. 847).

The need to find a solution to this selection problem is stressed, as:

[N]o other professional career demands more rigid qualifications...These requirements have acquired a greater emphasis in recent decades with the almost unlimited expansion of the activities and responsibilities which a medical man may be called to perform in society (Hurtado, 1957, p. 848).

Study of student characteristics is proposed as the solution. Hurtado notes that there is “no general agreement” on what methods are effective for assessing the calibre of applicants (Hurtado, 1957, p. 847). He divides applicant characteristics into “intellectual characteristics” and “non-intellectual characteristics:”

There is no doubt that an estimation of the non-intellectual characteristics of the candidates constitutes the most difficult aspect of the selection procedures. The personality, integrity, motivation, and attitude of the prospective medical student are of the greatest importance; but we have no available method, or methods, which may give, in a simplified manner, such information (Hurtado, 1957, p. 848).
Hurtado seems to question just how much such methods for assessing non-intellectual characteristics will be able to assist with student selection. He also makes the salient observation that:

One of the most noteworthy aspects of the Institute was the attendance of a large number of psychologists, most of them not members of the medical faculties....[They discussed] the importance of using psychological tests in assessing, in an objective or projective manner, the personality of the candidate and some of his non-intellectual characteristics (Hurtado, 1957, p. 849).

With psychologists attending in force, it is perhaps not surprising that a strong case was made for the use of psychological tests. In addition, as reported by Hurtado the psychologists also made clear that they themselves needed to be in charge of such testing:

Psychological tests are of different natures...so that in consequence a battery of tests may be needed. A point of importance, frequently mentioned, was the need for giving the responsibility of the performance and the interpretation of these tests to men well trained in this field (Hurtado, 1957, p. 849).

By this argument, non-intellectual characteristics become the property of psychologists. Hurtado, while noting that these methods are “still in an experimental stage” also highlights the “growing tendency to assign significance to psychological tools in the appraisal of candidates” (Hurtado, 1957, p. 849).
Hurtado’s article led me to seek any other reports or comments from the AAMC’s 1956 Institute that appeared in the JAM at the time. There were few such articles in the regular issues of the JAM. However the Institute proceedings were published as a supplement to the JAM.

6.5 The 1956 Institute on the Appraisal of Applicants to Medical School

The proceedings of the AAMC’s 1956 Institute on the Appraisal of Applicants to Medical School are published as a book, and as a supplement to the JAM in 1957. This supplement is not available in the otherwise extensive online archive of the JAM, but only in print form. This 1956 Institute marks a key moment in which the language of characteristics comes to the fore in a medical education setting. Analysis of the language and discourses of the Institute therefore provides insight into the way the language of characteristics starts to be used in medical education. The Institute is a pivotal gathering of key players in medical education of the time, and the language of ‘characteristics’ first appears in print as a result of this gathering. Subsequently over the next few years, the major themes, issues and language patterns that were prominent at this Institute start to appear in the medical education literature. The new discourse of characteristics, arising from ideas strongly promoted by psychologists and educational researchers at the 1956 Institute, emerges and then gradually rises to dominance over several years, eventually becoming a regime of truth. The emergence of characteristics discourse at the 1956 Institute and its subsequent adoption provides a compelling
demonstration of Foucault’s notion of historical contingency. As described by Kendall and Wickham, “when we describe an event as historically contingent, what we mean is that the emergence of that event was not necessary, but was one possible result of a whole series of complex relations between other events” (Kendall & Wickham, 2003, p. 5). The 1956 Institute had a clear temporal relationship to the emergence of characteristics language, and the role of psychologists in promoting its emergence seems pivotal.

The Report from the 1956 AAMC Institute, held in Colorado Springs in conjunction with the 67th AAMC annual meeting, is filled with language of promise and excitement for new and innovative ways to choose the best possible applicants for medical schools. Ambitious and hopeful, the Preface begins, “[t]o succeed at horse racing, one must have horses that not only can, but will run fast” (Gee & Cowles, 1957, p. v). Participants attended from 84 American medical schools, eleven of Canada’s twelve medical schools, and 3 overseas countries, along with “a score of psychologists” (p. v). These psychologists “marshaled experimental evidence” that, “showed how one can study objectively the non-intellectual characteristics of man that so dominate the uses that are made of intellectual endowment” (p. v). A close reading of Institute documents shows that there is by no means unanimity of support for the psychological approach, and even the Preface notes that “polarization became strikingly apparent” (p. vi). The Preface continues:

The impact that the psychological material was having on the traditional but unverifiable educational tenets was attested to by this polarization. Great as
was the unsettling effect of the psychological finding on long-accepted doctrines, it was the psychologists themselves who emphasized again and again the limits of available knowledge and the ever-present danger of substituting one type of dogma for another. The medical teachers and deans, in being tossed overboard, were warned by their psychological confreres not to go overboard (p. vi).

To issue a formal report that happily “tosses deans overboard” makes clear that the Institute authors see radical implications of this new approach to the medical student and his selection for admission to medical school.

### 6.6 Characteristics at the 1956 Institute

The Institute proceedings are structured around a division of the student into his ‘intellectual’ and ‘non-intellectual’ characteristics. One chapter of the report examines ‘intellectual characteristics,’ largely focused on the MCAT test and college grades. This fifteen-page chapter appears relatively uncontroversial and none of the five Institute Symposia specifically focus on this area. Three chapters and over eighty pages then follow on ‘non-intellectual characteristics.’ These chapters describe several Institute Symposia, and incorporate large amounts of tabular, graphic and numeric data, much of it derived from extensive pre-Institute questionnaires. Ceithaml, author of the overview to this section, comments that:

> [A]dmissions committees generally evaluate the intellectual capabilities of an applicant first. Once, however, it has been established that the applicant
possesses the necessary intellect for the study of medicine, committees
consider the equally important but more elusive non-intellectual
characteristics of their scholastically qualified applicants (Gee & Cowles,
1957, p. 47).

He provides a table, which correlates a variety of medical student characteristics
deemed important to assess by admissions committees. This tabular data is used to
highlight that admissions committees feel confident in their ability to evaluate
intellectual characteristics with existing tools. However, “in sharp contrast,” non-
intellectual attributes are highly valued yet extremely difficult to assess (p. 47).
Hence the stage is set, the parameters defined, and the work ahead set on the
particular course of ‘non-intellectual characteristics.’

6.6.1 ‘Non-intellectual Characteristics’
The Report authors examine both the interview and psychological tests as potential
‘non-intellectual characteristics’ assessment tools. The medical school interview is
subject to particular scrutiny, and fares poorly in contrast to psychological tests.
While recognized as the most commonly used instrument to evaluate ‘non-
intellectual characteristics’ of medical students, it is cast as unscientific and lacking
objectivity. With historical flourish, J. Zubin explains that the interview, “or its
essence, conversation,” is a “primitive” tool similar to a subjective description of
temperature or distance before the yardsticks or thermometers were invented (p.
61). After describing a variety of potential types of interviews of applicants
(including a psychiatric interview) the authors conclude that there is “surprisingly
little evidence of validity,” to support the use of interviews in student selection (p. 80). This conclusion is echoed in the Preface, which notes, “the most disconcerting data” emanating from the Institute “were those that stripped the interview of its status as a valuable aid in selecting applicants” (p. vii).

Psychological tests, in contrast, receive enthusiastic endorsement. The Report describes a multitude of formal psychological tools, including both “objective” personality tests (such as the Minnesota Multiphasic Personality Inventory and the Strong Vocational Interest Blank) and “projective” tests (such as the Rorschach Ink-Blot Method) (pp. 118-124). The Report emphasizes that psychology remains a young science, and that much more work is required to perfect the use of psychological tests in medical school admissions processes. E. Lowell Kelly, a psychology professor, is nevertheless given the final platform at the Institute. His comments form the concluding chapter of the Report, and summarize highly concerning findings from early use of psychological tests. While he acknowledges that psychologists do not yet “think we have all the important dimensions,” nevertheless, “we are planning to try to get at some other measures of what may be very important dimensions of ‘the good physician’” (p. 195). The spectre of admitting the wrong sort of student is writ large. Lowell Kelly warns that medical educators have an “idealized image of the young physician” whereas “the data we have been collecting on our own medical students has shaken considerably [our] belief” in this ideal (p. 195). Psychological tests instead demonstrate that:
[O]ur medical students are persons who, if they were not becoming physicians, would be planning to become manufacturers, big businessmen, production managers, engineers; they are not the kind of people who would become teachers, ministers, social workers, i.e., professional persons interested in doing something for the good of mankind (p. 195).

He summarizes starkly (and the Preface repeats for emphasis) that, “[a]s a group, medical students reveal remarkably little interest in the welfare of human beings” (p. 195). Instead psychological testing has uncovered that:

All of the evidence available to us leads to the conclusion that the typical young physician has little interest in cultural aspects of the society in which he lives, has very little sensitivity to or feeling for the needs of the community, and is generally not inclined to participate in community activities unless these contribute to his income (p. 196).

A dire situation indeed! And one that might have passed unnoticed were it not for the sagacity and perspicacity of the psychologists. Personality tests reveal the problem; personality tests provide the solution. Prior to this revelation, medical educators were contemplating the use of psychological tests as an adjunct to other measures, not because they perceived any crisis, but merely as a way of selecting the best among an increasing pool of applicants. Suddenly, the testing itself creates a crisis. There is no suggestion, of course, that the test might be the issue. Nor is there any doubt that this must be a new phenomenon. It is clearly framed as a discovery related to current students and recent medical graduates. The “worry
about the kind of people who are becoming physicians,” relate only to the “kinds of people going in to medicine today,” not the students of yesteryear (p. 195). The physicians attending the Institute as deans and medical educators are not subject to these tests. No question is raised about the integrity, devotion to service or interest in the care of the sick of already practicing physicians.

Lowell Kelly offers several examples of use of the Strong personality scores to help medical educators in the newly discovered environment of crisis ensure selection of the right sort of student. With great flourish he throws a gauntlet to the medical education community. Psychological testing exists and can help. However:

I am not saying you must do these things, but if you don’t you are either shutting your eyes to the availability of such evidence or saying that it is none of your business what the profession becomes. Knowledge which enables you to predict the characteristics of the product of your medical schools puts in your hands the power to change the nature of the entire profession. Such power is almost frightening, but refusal to use it may be an abdication of responsibility (p. 196).

In spite of being given prominence at the Institute, Lowell Kelly’s formulation of a crisis in terms of the sorry state of medical applicants is not accepted by all Institute participants. Instead, the Institute summary discusses “challenging horizons” and the need to further study these “disconcerting” revelations (p. vii). The inroads
made by psychology are, however indisputable, and psychology’s contributions are highlighted as having “profound implications for the future of medicine” (p. v).

6.7 The rise of characteristics discourse

Following the 1956 Institute, there is not an immediate change in the language of articles in the JAM. Apart from the article by Hurtado described earlier in this chapter, the only other reference to the Institute I found in the following year (1957) is a report from the Director of Research, Helen Hofer Gee. This appears in the minutes of the 67th Annual Meeting of the AAMC in a regular issue of the Journal. Gee’s entire research report for the year focuses on the “study of diversity of characteristics of medical school students” (Gee, 1957, pp. 61-62). She notes that the AAMC plans a programme of studies of “intellectual and non-intellectual characteristics,” which was “given added impetus” when they learned that the Carnegie-supported Institute of Higher Education at the University of California planned related studies on student characteristics in many areas of higher education (p. 61). The Institute of Higher Education’s question, “how many students at what levels of ability and with what patterns of personal and social characteristics are to be found in what types of colleges and universities” (p. 61), is phrased using characteristics language. Characteristics discourses are clearly emerging more generally in education.

Gee reports on a plan jointly supported by the AAMC, member medical schools and testing organizations to undertake:
Intensive, long-range studies that are involved in exploration of the characteristics of medical students, the motivational variables related to medical school performance, the impact of medical education upon the student, and finally the characteristics of the members of the profession of medicine in all of its varieties (p. 62).

Characteristics language is clearly embedded in the research agenda. The “real aim” of such ambitious projects, moreover, is to:

Identify the relevant intellectual and non-intellectual characteristics that can be measured—then we can proceed with some confidence in applying the findings to the problems of medical education in filling society’s need for medical service (p. 62).

Gee further reports that a number of research projects related to characteristics were underway at the AAMC. For example, the AAMC convinced 48 medical schools to administer a series of three psychological tests (the Strong Vocational Interest Blank, the Edwards Personal Preference Schedule and the Allport-Vernon-Lindzey Scale of Values) to students. Analysis of the results these tests used the discursive formulation set up at the 1956 Institute of ‘intellectual’ versus ‘non-intellectual’ characteristics. Questions considered relevant to ‘intellectual characteristics’ included: “Is there a lower level of intellectual endowment necessary for the study and practice of medicine? ...Are intellectual characteristics related to the choice of a specialty?” (p. 62). Questions related to ‘non-intellectual characteristics’ included:
“How can we identify such intangible qualities as integrity and social responsibility that are so important in the practice of medicine?” (p. 62).

A research agenda based on characteristics furthers the adoption of characteristics discourse. Clearly, the research branch of the AAMC was promoting this discursive formulation of the medical student. Gee’s report shows that characteristics discourse had taken hold within the medical education research branch of the AAMC. Her report states that “[l]earning as much as we can about the identification of characteristics that make for the best kind of physician,” will “contribute to the advancement of education in general and medical education in particular” (p. 62). The AAMC educational research agenda is now framed in the language of characteristics.

Gee’s report shows the continued shift towards the dominance of the language of characteristics. The 1956 Institute with its prominence of psychologists likely played a role in the discursive shift. The shift is also, however, clearly linked to other educational discourses of the time. New discourses are far more likely to take hold if they are congruent with other dominant discourses of the era. The plans of the Institute of Higher Education to embark on a characteristics research agenda showed a general societal interest in using discourses from psychology to gain greater understanding of aspects of human nature (Gee, 1957).
Through the 1956 Institute, psychologists clearly gained a major foothold in defining the research agenda and approach to understanding the medical student. By extension, they had influence in shaping the changing discourse of the good doctor. However, the rise of characteristics discourse was not inevitable. The psychometric approach to the analysis of the medical trainee characteristic by characteristic need not necessarily supplant the pre-existing discourse of character. One of the main arguments made by the psychologists, that of an impending crisis in terms of student selection, did not continue to be a major theme. Even the significant focus on batteries of intensive psychological tests did not completely take hold. However, even while medical educators did not embrace all the rationale for psychological testing, the language of characteristics that accompanied it became entrenched.

6.7.1 Crisis and characteristics discourse

Contrary to the view of the psychologists at the 1956 Institute, medicine was not in crisis. The medical student need not be considered an impending disaster. Medicine was, in fact, in its glory days. As described by Starr in his definitive work, *The Social Transformation of American Medicine (1982)*, in the late 1950’s medicine was at the height of its status in North American society, the erosion of medical authority and autonomy had not yet begun, the promise of science was still untainted, and there was enthusiastic investment in medical research.

Crisis appeared in another form: the crisis of scientific confidence with the Soviet success with Sputnik. The Soviet launches of the satellites, Sputnik 1 and 2, in
October and November 1957 surprised the United States and called into question American dominance in science and technology. The government quickly increased funding for many types of scientific research as the Americans tried to assert superiority. Medical educators moved quickly to position medicine as one of those research areas requiring funding.

The need to attract the best possible students in order to have high quality medical research was highlighted through the ongoing discourse of explosion of scientific knowledge, and enhanced with Cold War rhetoric. An editorial in 1958 expressed concern that the response to Sputnik would draw top students away from the study of medicine to the physical sciences and engineering. The editor explains:

> The launching of Russia's two earth satellites has also precipitated a great deal of discussion regarding existing or potential shortages of scientific manpower...Medical research...should be pursued as vigorously and intensely as other sciences, and the need for a flow of promising young scientists into medicine and for funds to support their research is more pressing than ever before (J.Z.B., 1958).

Similarly, Coggeshall, then president of the AAMC, commented on the “highly important responsibility,” medicine has to society, since medical talent and research are at the core of the nation’s health. “Surely,” he argues, “the well being of our people is secondary only to our national security” (Coggeshall, 1959).
Along with this need to promote the importance of medicine at a time of other priorities, there was growing angst expressed in medical education articles about a possible decline in the quality of medical school applicants. The *Study of Applicants, 1957-58*, for example, notes a decline in MCAT scores and suggests a decrease in the “relative attractiveness of medicine,” as a career choice for top students (Klinger & Gee, 1959). The authors ominously note that:

> [I]f the present shift continues to the point where the lowest echelon of accepted applicants becomes a group that is incapable of applying scientific advancement and methodology in the treatment of human illness, there will be cause for real alarm (p. 435).

Educators wanted a way to ensure that appropriate measurements were available to screen potentially problematic applicants. *Characteristics* discourse suggests that such screening is possible.

### 6.8 Entrenching of characteristics discourse

The extent to which *characteristics* discourse took hold in medical education was evident by the increasing number of articles in the early 1960’s in which *characteristics* are the unquestioned approach. Aagard, in his Presidential Address at the 72nd *AAMC* Annual meeting in Montreal, highlights the importance of identifying “those characteristics which are needed by the practicing physician,” in recruiting students (Aagaard, 1962, p. 87). J. Ceithaml writes in 1962 about “Student Selection in United States Medical Schools,” directly drawing upon the
language of ‘intellectual’ and ‘non-intellectual characteristics’ made prominent in the AAMC’s 1956 Institute. He comments that a first step is to ensure that students possess sufficient ‘intellectual characteristics’ through postsecondary grades and the MCAT (Medical College Admission Test). The second step for the admissions committee is to consider the “equally important but more elusive non-intellectual characteristics of this scholastically qualified applicant” (Ceithaml, 1962, p. 174). Psychological tests are one of the key approaches to this evaluation. While Ceithaml notes that both the reliability and validity of such tests had not yet been proven:

> Nevertheless, such tests do show promise, and if a medical school were able to identify clearly those personality characteristics of its students which lead to the successful completion of the program of study at that school, it is probable that personality tests could be devised to identify applicants with such characteristics (p. 176).

Even if difficult and unproven, medical educators were encouraged to take the characteristics path. If they could define a characteristic, the psychologists could devise a test to measure it. This language has striking parallels to early twenty-first century discourses on outcomes-based education. The hypothesis underlying outcomes-based education is that, “if the desired product can be defined, and appropriate assessment tools developed to ensure that the trainees have achieved these competencies, then the job will be done” (Whitehead, 2010). Be it of a set of characteristics or an end product, the definition will lead to measurement tools in straightforward—if not simple—progression. Whether objective definitions are possible is not part of the discussion.
Even when psychological tests appeared problematic, the *characteristics* discourse, once adopted, prevailed. C.W. Schlageter and V. Rosenthal’s study, “What are ‘Normal’ Medical Students Like?” provides fascinating insights. The authors openly acknowledge that “[c]onfusion was the spark that stimulated this research” (Schlageter & Rosenthal, 1962, p. 19). Their confusion arose from noticing that when providing psychiatric care to medical students who, through psychological testing, were identified as being “severely mentally incapacitated,” many students recovered very rapidly and successfully completed their medical training. Their study aim was therefore to use psychological tests to define characteristics of “normal” medical students. Their findings show a “dominant pattern of functioning” which corresponds to the obsessive-compulsive personality type and an absence of empathy, humanitarianism, and intellectual curiosity (pp. 24-25). While this might seem alarming to many readers, the authors do not appear concerned. They neither question the quality of students who have been accepted into medical nor worry about whether their findings might suggest problems in terms of the validity of the psychological tests used. Instead they point to the “evolving global picture of the student,” that they contribute to as a result of their study, suggesting that they are adding to the growing and valuable literature on medical student characteristics (p. 19).

*Characteristics* became the way to approach many diverse aspects of medical education. For example, one study examines how faculty ratings and psychological
tests intersect through applying the same psychological tests to faculty interviewers. The authors find that “a faculty member’s assessment of an applicant as suitable for medical training implies a recognition of this applicant’s characteristics and potentials as being similar to his own” (Korman, Stubblefield, & Martin, 1964, p. 198). An AAMC study draws on characteristics discourse when looking at medical student attrition. It “compares various student characteristics with dropout rates,” and suggests medical schools add psychologists and psychiatrists to their admissions committees to better consider these characteristics in their application process (Johnson, 1965). Measurement of such characteristics is extended to physician performance. Price et al. present data from a study of four “types” of physicians (faculty, specialists, urban and rural general practitioners) and argue “it will not suffice,” to categorize a physician, “simply as ‘good’ or ‘poor’” (Price, Taylor, Richards, & Jacobsen, 1964). Instead, in spite of not entirely convincing results from the 849 inter-correlations they examine, nevertheless “meaningful criterion-data can be collected” and studied in “a single integrated project” (Price, et al., 1964). The good doctor is now a compilation of “criterion-data.”

6.8.1 Characteristics in the AAMC Longitudinal Study

One very large study that draws upon and furthers the characteristics discourse is the AAMC Longitudinal Study of the Class of 1960 (Hutchins, 1964). This study involves the entering classes of 28 medical schools, (selected to be ‘representative’ in terms of a variety of factors such as geographical region). In 1956, the entire entry class of students at these 28 schools was subject to “a battery of psychological
instruments” (p. 265). The overall goal of the study is to obtain information about characteristics of these 2800 students, and to relate these characteristics to both future career choice and performance in the chosen career. The AAMC president at the time, as quoted in the description of the study, provides support for such an ambitious undertaking:

Our success in attracting, selecting, and preparing men and women for the practice of medicine will determine not only the medicine of today but, more important, the medical care, medical research, and medical education of tomorrow (Anderson, as cited in Hutchins, 1964, p. 266).

In addition to the extensive battery of tests upon entry, the students at all 28 schools were subject to a series of additional yearly evaluations. Data collected include class rank, National Board scores, and “evaluations by fellow students on a variety of characteristics” (p. 267). In the final year of medical school “additional experimental instruments were employed” (p. 267). Extensive data were simultaneously collected about the medical schools: “objective” data on school structures and governance, “subjective” data derived from students, and historical data (Hutchins, 1964).

Hutchins’ 1964 article provides the outline for the study and suggests some initial implications. Medical students were found to be less interested in economics than the average “college male” but also less oriented towards altruistic pursuits (p. 269). At the beginning of their medical training, medical students scored higher on
Achievement and Endurance but lower in measures of Autonomy, Dominance and Heterosexuality (p. 271).

In a second article in 1964, Schumacher reports on a further breakdown of the “personal characteristics” of medical students related to the types of careers they choose (Schumacher, 1964). This particular section of the study aimed to answer the question: “[h]ow do students who eventually choose different types of medical careers differ in terms of personal characteristics measured at the time they enter medical school?” (p. 278). Schumacher highlights, however, the greater overall aims of the study: finding what psychometric tests and tools would assist with medical student selection and then, once admitted, with medical student counselling and guidance in career choice. In spite of very modest results (students with higher scholastic tests were more likely to end up in academic careers; students from rural areas were more likely to choose general practice), Schumacher was enthusiastic about the need and potential for continued research in this area (Schumacher, 1964). With the AAMC Longitudinal Study, characteristics discourse is now central.

6.9 Summary: implications of characteristics discourse

This chapter documents a significant and fairly sudden shift in the discourse of the good doctor in the late 1950’s. By the early 1960’s I was unable to find articles that use the term, let alone the discourse of character. Instead, the language of characteristics had completely taken over. This chapter traces the increased use of psychological testing in medical student selection prior to the discursive shift. It
shows a general desire amongst educators to enhance measurement and apply quantitative techniques where possible. It provides examples of the growing interest in and use of psychometric tools in medical education research.

In terms of discourses of the good doctor, the shift from character to characteristics suggests that the good doctor can be analysed in terms of component parts. Any identifiable component part appears to be fair territory for analysis by admissions committees and medical faculty members. The ‘person’ of the medical student is dissected into personality scores, intelligence scores and various aptitude test scores. In addition, admissions committees considered it their prerogative to analyse and select students according to gender, marital status, or age as such factors were shown to affect medical school success. Some medical schools even interviewed applicants’ spouses (Johnson, 1965). If “emotional stability” were considered a possibility, a referral for an “extensive psychiatric interview” was suggested (Ceithaml, 1962, p. 175). The intrusiveness of these measures jumps out at twenty-first century readers. Current discourses of equity and diversity make the approaches of the early 1960’s unacceptable.

The dissection of the student is not only intrusive; the discourse of characteristics also sets up an assumption that component parts can provide important insights into the whole. Analysis of a bit part is deemed to make meaningful contribution to understanding of the whole. Instead of a man of character, the good doctor is now best considered a compilation of desirable pieces.
Examination of the discursive shift from character to characteristics that occurred in the late 1950’s demonstrates the power of Foucauldian discourse analysis. It was no foregone conclusion that the language of characteristics would supplant notions of character. Once entrenched, characteristics discourse may have seemed inevitable. But along the way, aptitude tests and psychological tests lived comfortably alongside character discourse. Characteristics emerged on a trajectory towards dominance with the strong voice accorded to psychologists at the 1956 AAMC Institute. Characteristics as a discourse blasted past character with its entrenchment in the AAMC research agenda, through projects such as the AAMC Longitudinal Study of 1960 Medical School Graduates. Its ascendancy was bolstered by similar language and approaches in higher education studies generally. The Soviet blasts into space further cemented the hold of the discourse of characteristics on the medical education research field as North Americans anxiously questioned whether the Russians were winning the Cold War. Anxious medical educators also worked to ensure that top students and top research dollars continued to find their way to medicine rather than being diverted to aerospace engineering.

As described earlier in the chapter, no document is more telling in terms of the totality of the discursive shift than the 1965 Kole & Matarazzo study, “Intellectual and Personality Characteristics of Two Classes of Medical Students.” This study cites the 1957 Gottheil & Michael article (which looked at predictor variables that had been used in 95 articles describing medical student characteristics) as a
summary of ‘characteristics’ when the authors had actually used the language of 
*character*, not characteristics. By 1965, the discursive shift has been so complete 
that Kole & Matarazzo re-frame Gottheil & Michael in their own new discursive light. 
Kole & Matarazzo administered “a broad battery of psychological tests" to members 
of the third and fourth year medical classes, as well as similar numbers of police 
applicants and fireman applicants (Kole & Matarazzo, 1965, p. 1130). These young 
men were indeed battered with psychological tests—a total of six tests each. 
Medical students were deemed “intellectually superior, physically healthy and 
emotionally stable,” but otherwise the array of tests revealed “a modest common 
core of intellectual and personality characteristics amongst physicians.... [and] 
evidence of considerable individual difference from one student physician to 
another” (pp. 1143-1144).

Sort of alike, sort of different—strikingly mundane findings, one might think. Yet 
*characteristics* discourse is far from mundane in its implications. The medical 
student is dissected into discrete separable parts. Fragmented bits of the person are 
examined individually, with an underlying assumption that these fragmented 
examinations can be pieced back together to say something useful about the person 
of the medical trainee. The discourse of *characteristics* provides the lens with which 
to look at the medical student. In addition, *characteristics* discourse is increasingly 
taken up and used by medical educators to examine the entire medical training 
environment. Characteristics of medical schools become an object of interest. The 
“clinical learning environment” begins to undergo its own dissection (Parker, 1960).
Sociologists join psychologists in examining the social environment of the medical school and professional socialization. Seminal studies, such as Becker et al.’s *Boys in White* (1961) drew attention to the effects of the culture and environment on the socialization on students. With such studies, focus shifts from the student as raw material to the shaping forces of the training environment. Terms such as ‘ecology’ and ‘learning environment’ appear, and are teased apart in terms of characteristics that make them more or less conducive to student learning. Educators seek “clues” on the “educational climate” (Miller, 1962, p. 59). The head of the AAMC’s Division of Education proposes “a series of concerted studies on key educational problems,” while noting that:

> Before any significant modification of educational programs can be recommended, we must define the specific criteria by which to measure and appraise achievement and change in students’ knowledge, skills and attitudes. Precise identification of the factors that influence students’ perception of medicine and educational environments and study of how these in turn influence student performance are essential (Sanazaro, 1963, p. 70).

The language of *characteristics* permeates all of this. With the dissection of both student and environment, there is now a mass of materials ready to be mechanistically pieced back together.

Flexner’s *scientist* physician is nowhere to be seen in the world of *characteristics*. Instead of the thoughtful physician scientist using a microscope to understand and
examine the world, the student and the medical school are now under the magnification lens. The doctor as a man of character also vanishes in this dissection. Characteristics discourse, with its dissection of the person and the environment, has removed the locus of control from the student and depersonalized the process. The student is now something to be measured, chopped apart and moulded through environmental manipulation, rather than someone who embarks on a personal journey of professional discovery.
Chapter 7

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**Pieces and Parts: The Good Doctor as Roles-Competent**

Humpty Dumpty sat on a wall,
Humpty Dumpty had a great fall.
All the King's horses, And all the King's men
Couldn't put Humpty together again!

“Competence, like truth, beauty, and contact lenses, is in the eye of the beholder.”
(Lawrence Peter, 1969)

“To say that a man is made up of certain chemical elements is a satisfactory description only for those who intend to use him as a fertilizer.”
(Hermann Joseph Muller)

**7.0 Introduction**

By the mid-1960's, the *good doctor* in the medical education literature has become a set of dissected personal *characteristics*. This doctor is trained using an array of teaching techniques in an environment whose various sets of social and cultural influences are understood to have profound influence on the doctor who emerges from the mélange. This messy mix becomes the dominant discourse during the height of medical authority and autonomy in the 1950’s and 1960’s. It continues as a discourse during the well-documented “stunning loss of confidence” (Starr, 1982, p. 379) in medicine in the 1970’s, when medical authority, morality and legitimacy are all subject to scrutiny and found wanting. However, with the dramatic change in
perceptions of medicine’s place in society in the 1970’s, discourses of the good doctor are also in flux. Another discursive thread appears and takes hold, one of the good doctor as *roles-competent*. In this discursive formulation, the ‘person’ of the good doctor completely vanishes. No longer are personal characteristics of the student the sole object of focus in medical education. Instead, the doctor discursively becomes an actor on the stage of medical practice and player of assigned parts. The development of this language, of the physician as a player of roles, is associated with the rise of discourses of *competence*. The discourse of *competence* initially arises in conjunction with a *performance* discourse in the 1960’s (Hodges, 2010). *Performance* discourse melds seamlessly with the emergence of roles-based competency frameworks that promote a discourse of *competence as role*. A discourse of *production* also appears, which intersects with the language of competence around ideas of outcomes-based education in the creation of the discourse of the *roles-competent* physician. This intersection of performance, roles and product removes both the person and the personal journey of development over time from the discourse of the good doctor. The process of this change, and implications of this formulation of the *good doctor* in medical education, is the subject of this chapter. Discourses of *performance* and *production* are examined as they relate to discourses of *competence*. The growth of roles-based competency frameworks is then examined in detail through a case study of the development of the CanMEDS Roles. CanMEDS (2005), a particularly influential roles framework, drew upon the Educating Future Physicians of Ontario (EFPO) project, which preceded and greatly influenced the CanMEDS Roles.
7.1 Medicine’s ‘loss of authority’

The medical profession enjoyed several decades of high status, autonomy and authority in the 1950’s and 1960’s. The two decades following World War II are depicted as a “golden age” for medical schools in terms of prestige and funding (Ludmerer, 1999, p. 151). During this time, medical research became a much bigger part of the medical school enterprise. Teaching hospitals developed into large, complex structures with significant research funding. The phenomenal growth in biomedical research in the 1950’s and 1960’s led to a greater focus on research than on teaching and clinical practice in many of the large medical schools (Ludmerer, 1999, p. 139). Residency programs expanded, and increasing numbers of physicians trained as specialists rather than general practitioners (Starr, 1982, pp. 358-359).

However, this was not to last. Starr, in *The Social Transformation of Medicine* (1982) traces the rise of the medical profession to a position of authority and economic power followed by the loss of legitimacy in the 1970’s. He describes the powerful position the profession was able to carve out for itself in the mid twentieth century:

[Medicine’s] authority spills over its clinical boundaries into arenas of moral and political action for which medical judgment is only partially relevant and often incompletely equipped. Moreover, the profession has been able to turn its authority into social privilege, economic power and political influence (p. 5).
Starr first describes the rise to power of the medical profession. In the 1950’s, the medical system as a whole came to occupy a much more prominent place in society than it had previously. Doctors were able to position themselves and their profession as autonomous figures of authority within the medical system. However, hospitals and funders of medical services also expected to share a piece of this power (p. 359). Greater prominence and greater costs led to greater tensions between doctors and funders of health care.

As the medical system became more complex and more expensive, different solutions were found in different countries to pay for these services and structure the health care system. In the United Kingdom, for example, the government played a major and direct role in medical service funding through the National Health Service, founded in 1948. The United States took a very different path with government funded medical care for only a small proportion of the population, and an array of private insurance models. In Canada, led by the tireless and publically celebrated hero Tommy Douglas, the Canadian Medicare system was born, first in Saskatchewan and then nationally, providing government funding for necessary physician and hospital services. In each of these systems, battles between government and physicians were played out differently, but in each, there has been tension over the place of doctors in health systems, particularly related to physician autonomy and authority. Medical sociologists and health policy analysts have explored in detail the structures and strategies by which these struggles have played out, and how the medical profession has positioned itself in relation to other

Medicine as a profession is perceived to have significantly less status now than it did in the 1950’s. Starr convincingly traces the decline in the authority of the medical profession, particularly in the 1970’s:

The economic and moral problems of medicine displace scientific progress at the center of public attention. Enormous increases in cost seemed ever more certain; corresponding improvements in health ever more doubtful...Rising costs brought medical care under more critical scrutiny (p. 379).

Accompanying the economic concerns was a loss of faith in medicine’s power to improve health. While medicine had done wonders in terms of acute and infectious illness, the rise in incidence, prevalence and burden of chronic diseases brought into question medicine’s healing powers (Boyd, et al., 2005; Tinetti, et al., 2004; Upshur & Tracy, 2008). The authority of doctors was also questioned through health services research that demonstrated that doctors did not routinely incorporate the best evidence into practice (Coburn, Rappolt, & Bourgeault, 1997; Rappolt, 1997). There has been a rapid rise of a multitude of ‘movements’ in health care, including evidence-based medicine, inter-professionalism, quality and patient safety. Collectively, these movements have advanced the argument that doctors, as individuals, are unable to ensure good medical care.
The legitimacy of the profession was further brought into question in terms of conflict of interest issues. Doctors were increasingly seen as fallible and driven by personal economic interest. Links between practitioners and industry, particularly the pharmaceutical industry, raised questions about the extent to which physicians were guided by what was best for their patients (Angell, 2008; Dana & Loewenstein, 2003). Practices such as industry sponsored trips, meals, and speaker fees for clinicians had become common, as were grants, consultant fees, and royalty agreements for researchers (Angell, 2000; Rothman & Chimonas, 2008; Rothman, et al., 2009). Compelling literature showing the influence of the pharmaceutical industry on physician practice (Cain & Detsky, 2008; Morris & Taitsman, 2009) made medical schools scramble to develop conflict of interest guidelines to limit industry involvement in medical education (Angell, 2000). In 1984, the New England Journal of Medicine started to require authors to disclose potential conflicts of interest including financial support by companies (Angell, 2000). Hafferty & Castellani consider conflict of interest issues a major “flash point” (Hafferty & Castellani, 2010, p. 294) that has contributed to a sense of medicine’s loss of professionalism, such that medicine’s moral legitimacy is also at stake.

In addition to concern about the effect of conflicts of interest on physicians (both in terms of their specific clinical practices and their reputations), physician engagement in political disputes with government also had impact on the public face of doctors. For example in Ontario, a 1986 physician strike protesting the Canadian government’s ban on ‘extra-billing’ (a practice whereby physicians
charged patients amounts greater than those paid by the government health plans) had serious negative repercussions in terms of the Canadian public’s perception of physicians (Heiber & Deber, 1987). That the province’s doctors would withhold health services to try to increase their incomes was seen as highly questionable physician behaviour.

7.1.1 Medical education and medical research

By the 1950’s in medical research, the seeds of change were also being sowed even at the zenith of medicine’s status and authority. Ludmerer (1999) documents changes in the nature of medical research that had profound implications for the relationship of the individual physician to the medical research enterprise. Pre-clinical research up until the 1940’s could generally be seen as having fairly direct connections to questions of immediate relevance to medical practice. The cell was generally the smallest unit of study, and much research focused on the level of the organ, tissue and organism (Ludmerer, 1999, p. 35). Clinical research, meanwhile, focused on disease pathophysiology. Medical students could easily see the relationship between their studies and the scientific research enterprise. The individual medical researcher commanded high individual authority without needing to resort to complex statistical measures to demonstrate ‘significance.’

As the research enterprise expanded in the 1950’s and 1960’s, methods of study and analysis also changed. Medical research turned to sub-cellular and molecular structures. The term ‘biomedical’ was coined. ‘Basic science’ replaced the term ‘pre-
clinical’ (Ludmerer, 1999, p. 148). Biostatistics became a requirement for rigour in research. As described by Ludmerer, biostatistics were used “to help structure studies, eliminate investigator and participant bias, control for multiple interacting factors, and determine levels of statistical significance” (p. 37). The clinical scientist with his associated biases needed to be separated from his data. A biostatistician was required on a research team. The work undertaken in research labs had less immediate relevance to clinical issues. This led to wider separation between the research enterprise and the clinical work of faculty and medical students taking care of patients on the teaching hospital wards (or, less often, in outpatient clinic settings). These various disciplinary practices all contributed to the sense of distance between biomedical science research and the clinician. All of this accentuated the perceived separation between science content the trainee had to learn and the scientific approach to knowledge creation. Finding ways to ensure that students knew enough science to get by now became daunting; creating scientists out of every medical student in this new world of scientific and biostatistical complexity seemed an impossibility.

7.2 Emerging discourses of competence

In this complex milieu of changing medical systems, changes to medical research, questions of medical expertise, moral issues related to conflict of interest, and competing professional and government interests with economic and political tension over the place and power of the medical profession, changing discourses of the good doctor can be seen. Discourses of competence, initially linked to discourses
of performance, start to emerge. Such discourses can be seen as having a better fit in this social context, rather than discourses of character or good characteristics, when the reputation of the medical profession has been sullied. Not necessarily honourable, but at least generally competent, seems a rather limited formulation of ‘good.’ However, as will be shown, the discourse of competence gradually gains dominance, hand-in-hand with discourses of accountability, performance, roles, production and outcomes.

Carraccio et al. describe the emergence of competency as a construct in medical education in the 1970’s. Based on an extensive literature review, they find that the term competency began to be described in the medical education literature in the 1970’s, with many different definitions appearing at that time (Carraccio, et al., 2002). They link the appearance of competency definitions to public demand for accountability and standards. For example, W.G. Spady, an author frequently cited as foundational to the competency movement in education, outlines the connection between the emerging language of competence and the assumption that this language will “satisfy the public’s need for school system accountability” in 1977 (Spady, 1977, p. 13). Spady characterizes competency-based education in 1977 as “a bandwagon in search of a definition,” and highlights the need to develop ways to measure competence, and the difficulty of creating “reliable, valid and timely measurement of applied role performance” (p. 11). It is important to note that even this early competence discourse makes direct links between competence, performance and roles. Spady is hopeful that the “technical obstacles to adequate
measurement can somehow be surmounted,” and urges educators to work on the development of such new models (p. 11).

By the late 1980’s Spady is more optimistic about the results that can be achieved with such competency models. He uses the language of outcomes interchangeably with that of competencies. “Organizing for results” will allow the educational system to “achieve clearly defined exit outcomes” (p. 4). He further elaborates that outcomes-based education is “a way of designing, developing, delivering and documenting instruction in terms of its intended goals and outcomes” (p. 4). He documents a few examples of success on a small scale and sounds very confident as he assures readers that “[e]ducators can be confident that Outcomes-Based Education can truly help them organize for—and get—results” (p. 8).

7.3 Discourses of performance and competence

Discourses of performance start to appear in the medical education literature in the 1960’s and are well established by the 1970’s. The language of performance is, from early on, tied to the emerging discourses of competence. Hodges has traced this emergence and notes:

Linked to a movement away from knowledge-as-competence towards performance-as-competence, the performance discourse emphasizes observational and behavioural, rather than cognitive measures of human performance (2009, p. 73).
Performance and competence are combined as constructs in the medical education literature. *Performance* discourse is used, for example, in Miller’s Pyramid, a hierarchy of competencies developed by George Miller. Lowest on the pyramid is “knows,” followed by “knows how,” “shows how,” and finally “does” (Miller, 1990).

By the 1970’s, *performance* discourse is well entrenched, and has supplanted the previously dominant discourse of *characteristics*. For example, a 1973 Supplement to the *JAM* is entitled “Survey and Evaluation of Approaches to Physician Performance Measurement” (Barro, 1973). This study is conducted as follow-up to the *AAMC Longitudinal Study of the Class of 1960* (Hutchins, 1964). As described in the previous chapter, when the *AAMC Longitudinal Study* began it was a classic example of *characteristics* discourse. The study, which included students from the entire classes of twenty-eight medical schools, began in 1956 with a series of psychological tests of all 2800 students. It then followed the students looking for definable personal and social characteristics that would predict success in medical school and medical practice. But this follow-up research in the 1970’s drawing on the *Longitudinal Study* makes no mention of characteristics. Instead, it is framed entirely in the language of performance. The introduction notes:

> The performance of the individual physician is of particular interest because he is the major figure in the health care team, thereby assuming the primary responsibility for delivering quality care. Thus if the quality of the individual physician’s performance is raised, the general level of medical care should improve (Barro, 1973, p. 1053).
This study aims to “investigate the dimensions of physician performance” (p1053) and looks at approaches that focus on process, outcome, technical processes, interpersonal processes and qualities. After a detailed examination of all of these, the author concludes that:

[A]t the present time there exists no system for measuring the overall performance of individual physicians that has been validated in the sense that physicians who measure higher have been shown to produce better patient outcomes (p. 1085).

While the language of performance is present, the measurement of performance has not been proved. Instead, as the author points out, no measure or scale has been found that matches (let alone betters) direct observation. After all of this, it seems, medical educators are no further ahead in measuring student performance than in the days of the horse and buggy doctors when apprentices learned and practiced under their master's watchful eye. The 1973 study goes on to note that direct observation methods “probably have the highest potential for accurate, valid measurement,” although implementing direct observation is considered prohibitively expensive (p. 1086). Simulation methods are “easy to standardize,” and relatively inexpensive but it “remains to be demonstrated that physicians’ scores on simulation tests correlate with their performance in the real world” (p. 1086).
Regardless of the concerns expressed in this 1973 Report, *performance* discourse and simulation continue in lock step together. Hodges provides a detailed description of this link between the language of performance and the emphasis on simulation through the development of the Objective Structured Clinical Examination (OSCE) (2009). In the OSCE, the discourse of *performance* is linked to the use of simulated patients. Language of the stage, theatre, acting and performance are all tied up in this discourse. The language resonates with the work of sociologist Erving Goffman, whose suggests in *The Presentation of Self in Everyday Life* that ‘real’ interactions can be construed in terms of theatre and performance (1959). The ability to analyse real life in terms of metaphors from theatre does not, however, mean that theatre is necessarily an appropriate substitute for reality. In simulation settings, there is a clearly recognized ‘fake’ element to the interaction. Trained actors perform as simulated patients, playing scripted roles, and primed to give certain medical details and respond in particular ways depending on the approach used by the student in the encounter. In working with simulated patients the student can be considered an amateur, stepping on stage and entering into a theatrical performance with real actors. *Performance* discourse, through its link to simulation, therefore construes clinical encounters as theatrical and artificial. The medical trainee plays a stage role in demonstrating competence.

From the assessment of student competence through stage roles, it is not a big step to considering competence itself as a series of roles played by these acting doctor trainees. And indeed, as will be explored later in this chapter, a series of
frameworks which define competencies as roles start to be developed in the 1990’s and early 2000’s. Of course, roles-based competency frameworks are not the only possible type of competency framework that might have emerged. However, the convergence of competence and performance discourses perhaps helps to explain the appeal of roles-based frameworks at this time.

7.4 The disembodied doctor: discourses of production

Once competence is established as a dominant discourse, competency frameworks of many varieties begin to appear. These frameworks have taken the medical education community by storm, with the medical education literature describing a “paradigm shift” away from a time-based approach (with specified amounts of time spent in classes or clinical rotations) to one that “requires documentation of proficiency” (Aggarwal & Darzi, 2006, p. 2695).

In medical education, Carraccio et al. note a “three decade lag” between the initial description of ‘competencies’ in the 1970’s and widespread adoption of competency frameworks internationally in the late 1990’s (p. 361). They attribute this to “lack of evaluation strategies” and highlight an ongoing need to ensure the development of tools for assessment of competence (p. 361). Albanese et al. (Albanese, Mejicano, Mullan, Kokotailo, & Gruppen, 2008) also discuss the historical rise of competencies as a focus in medical education. They focus on the “second coming” (p 249) of competencies in the 1990’s with, amongst other factors, the development of specific competency frameworks such as the Canadian Royal College of Physicians and
Surgeons CanMEDS Framework (Albanese, et al., 2008). Parallel to the work of Spady in education more generally, the language of competencies and the language of outcomes become synonymous in medical education. R. W. Harden, for example, published a seminal five part series in *Medical Teacher* in 1999 (Harden, 1999).

The language surrounding competency discourse draws upon accountability, patient and societal expectations and health care complexity. In his introduction, Harden states:

> Medical schools need to prepare young doctors to practise in an increasingly complex healthcare scene with changing patient and public expectations, and increasing demands from employing authorities. Outcome-based education offers many advantages as a way of achieving this (p. 7).

Explicit links are made between outcomes and production. Outcomes-based education is defined as:

> [A] performance-based approach at the cutting edge of curriculum development, [which] offers a powerful and appealing way of reforming and managing medical education. The emphasis is on the product—what sort of doctor will be produced—rather than on the educational process. In outcomes-based education the educational outcomes are clearly and unambiguously specified (p. 7).

The doctor is now an object to be produced by the medical curriculum. The rise of *production* discourse in medical education has been described in detail by Hodges
(Hodges, 2009). He notes the use of language from manufacturing, industry and mass production. Students are considered raw materials, to be shaped into end products. Hodges further highlights the appearance of concepts of efficiency in production discourse, with added appeal from “the promise that manufacturing models will reduce educational cost and training time” (2010, p. S42).

The implications of the discourses of *competence*, *performance* and *production* are significant. These discourses fundamentally change the formulation of the medical student and how he becomes a doctor. No longer is the student a person involved in a developmental process of education. The discourse of *character* from the 1920’s considered the student as a whole person. *Characteristics* discourse of the 1960’s still considered the student a person, albeit one best understood when fragmented and dissected. *Characteristics* discourse allowed the student to be seen much like a live anatomic specimen, with hematopoietic systems, nervous systems and important organs on display. The vivisection of the student did not, initially, lead to his demise. However, with the rise of *competence* discourse, combined with discourses of *performance* and *production*, the student is perhaps better understood as Humpty Dumpty, who, fallen (a result in part of medicine’s tarnished reputation?) lies fragmented in many parts. All the king’s horses and all the king’s men in the form of medical educators now need to define the good doctor who must be created from the eggshells. The bits of Humpty Dumpty are sent along a factory production line to be pieced together according to specified outcomes.
7.5 The rise of roles-based competency frameworks

As competency frameworks took over medical education, a common approach was to describe competence in terms of a series of roles. The ACGME framework (1999), the Medical Schools Objectives Project (MSOP, 1999), and the CanMEDS framework (2005) are just a few such examples. Hodges (2010) describes these frameworks as collectively advancing a discourse of competence as role. This discourse considers the competent physician as one who successfully performs a collection of requisite roles. The roles in aggregate are deemed to capture the behaviours and actions that demonstrate professional competence. The CanMEDS Framework (2005) has been particularly successful in its uptake, being used in over 16 countries for tens of thousands of learners worldwide. Enormous effort has gone into defining and describing various roles deemed necessary for physicians to play as competent professionals. Many clinical teachers have welcomed the explicit recognition of roles such as advocate and collaborator. These emphasize that work as a physician involves the social context and includes interaction with colleagues and systems as well as patients. However, it is important to examine in detail the historical development of roles frameworks, as the social construction of these models has implications in terms of the nature and use of such frameworks. As the foundation for one of the most widely used roles frameworks, CanMEDS (2005), the EFPO project provides insight into the process of roles development and the rise of the discourse of roles competence.
7.5.1 The EFPO project: historical background and context

In the development of the discourse of roles-competence, the Educating Future Physicians of Ontario (EFPO) roles project is a particularly important early roles framework. It is unusual in that it used extensive community consultations in its development. Furthermore, EFPO roles were later adapted for use in the influential CanMEDS Framework (2005). As such, it is a particularly appropriate set of roles definitions to examine in detail in tracing discourses of competence as role. Such analysis may provide important insights into the development of roles-based frameworks more generally, and allow exploration of some implications of defining physician competency according to such roles.

The ambitious and extensive Education Future Physicians of Ontario (EFPO) project was undertaken to “make medical education in Ontario more responsive to that province’s evolving health needs” (Neufeld, et al., 1993, p. 1471). Analysis of EFPO requires a description of the political and historical context in which the EFPO roles were developed. In 1986 physicians in the province of Ontario, Canada went on strike to protest against federal government legislation banning “extra-billing”—a practice by which physicians deemed their services of greater value than the amount the government paid under the medicare health plan, charging patients the difference. The Canada Health Act of 1984 prohibited this practice. C.J. Tuohy (1988) argued that for physicians, even though only a minority engaged in the practice of extra-billing, the practice was of symbolic importance, as it “summarized and epitomized the claim of physicians to be ‘private’ practitioners” (p. 285). Hence,
for the physicians who supported the strike, the issue was not so much about a few extra dollars, but about control over practice. For example, an article in the Canadian Medical Association Journal (CMAJ) at the time of the strike argued that the *Canada Health Act* “seems intent on interfering with the practice of medicine,” and suggested that it infringed upon the constitutional rights of doctors (Manning, 1986, p. 1166). The medical professional establishment (particularly the Ontario Medical Association) decried the ban, and portrayed it as a threat to physician autonomy. The Ontario Medical Association (OMA) made clear links between perceived over-regulation by the government and a sense of a loss of physician power. As a correspondent in *The Lancet* (1990) opined, “[d]octors in Canada have come to feel helpless, even hopeless.” The result of the government’s ban on extra-billing “appears to be less money for health care, less professionalism, and fewer doctors” (1990, p. 364)

The extra-billing strike lasted only a few weeks, was only partially supported by physicians and ended in dismal failure. On a financial level, physicians were unsuccessful in their attempts to have extra-billing reinstated. Even more importantly, the people of Ontario were “overwhelming against the strike” (Sinclair, 1997, p. 429). Hence the strike failed on the level of rhetoric and public relations, tarnishing the public’s perception of physicians and undermining the reputation of physicians with the people of the province (Heiber & Deber, 1987).
Medical educators at the time of the Ontario physician strike were very concerned that the strike demonstrated a gap between physicians and the public. They perceived that physicians were straying from values of service. As educators they felt that the medical education system needed to better prepare trainees to be responsive to changing social needs. The EFPO project was proposed as a solution. By seeking broad public input into the question of what the role(s) of physicians ought to be, the project leads hoped that this information could be used to re-design medical training. With such reform, they sincerely hoped that medical schools would then be better able to produce physicians whose values were aligned with societal needs (Neufeld, et al., 1993).

As described in detail in the methodology chapter, the EFPO archives consist of an array of letters, memos, meeting documents, results of surveys and focus groups, summaries from conferences and materials developed for publication. These documents have not been fully catalogued or sorted, and exist in a collection of fourteen large banker’s boxes and file folders in the University of Toronto, Thomas Fisher Rare Book Library. The EFPO archives include information about the beginning of the CanMEDS project, and further information was obtained from the CanMEDS (2005), which contains documents that were used in the development of the CanMEDS Roles.

EFPO involved wide consultations with multiple stakeholders. Surveys and focus groups were conducted with physicians, educators, students and other health care
providers. Care was taken to include groups perceived as vulnerable or marginalized. Representatives of multicultural groups, chronically ill and disabled persons groups, women’s groups, AIDS groups, seniors’ groups and non-health professionals were all surveyed. Multiple steps and many sources of data were used. There were scientific literature reviews, summaries of major reports, surveys and analysis of health data ("Component 1 Interim Report, Ontario Health Needs and Expectations of Future Physicians," 1992) Initially, the Public Expectations Working Group conducted mail and telephone surveys to “determine which roles the respondents saw physicians currently performing.” ("Overview of the Mail/Telephone Survey Reports,” 1990)

7.5.2 Discourses of threat and protection

Early archival documents describe EFPO as having had its “genesis following the 1986 Ontario physicians’ strike which revealed a gap between the Ontario medical professional and the public” (Seidelman, 1992). From this starting point, the project is conceived as aiming to “bridge the gap by making undergraduate medical education more relevant to the needs of society” (Seidelman, 1992). First strands of two discursive threads are hence seen at the outset of the project: a discourse of threat and a discourse of societal needs.

The language of threats to the medical profession is pervasive in the project documents. The 1986 doctor strike is described as having “raised questions about whether doctors were losing traditional values” (Crellin, 1998). This language of
loss denotes the need to protect. Concern was expressed that “the medical profession was in danger of becoming too self-serving” and “abandoning the covenant of service to society” (Crellin, 1998). A mechanism was needed to protect against such “danger” (Crellin, 1998). Hence one underlying motivation for embarking on a re-definition of the physician was defensive: to re-build physician reputations and return to “traditional values” (Crellin, 1998). The language of protection extends beyond the original correspondence and internal documents of the project. For example, the description of the project published in the *Canadian Medical Association Journal* explicitly states that EFPO was prompted “by a concern that the relationship between the medical profession and the Ontario public was showing signs of stress” (Neufeld, et al., 1993, p. 1472).

Moreover, as the EFPO project wound down and the Royal College of Physicians and Surgeons of Canada (RCPSC) took the work from EFPO to inform the CanMEDS project, discourses of threat and protection continue to be prevalent. Frank and Danoff (2007) describe the process by which physicians involved early in the CanMEDS project “highlight their concerns with the new health care environment and how best physicians could be prepared for it” (p. 643). Preparation for this concerning work environment involves arming the professional workforce with appropriate protective gear. The CanMEDS developers “identified such forces as patient consumerism, government regulatory encroachment, financial imperatives, medical information in the internet, litigation, technology and the explosion in medical knowledge” (p. 643). These “forces” are portrayed as aspects of a hostile
environment for which preparation and protection is needed. This list highlights that attacks on medical status are seen as arising from multiple sources. It also includes threat to medical expertise in terms of increased patient access to information and a changed relationship with patients as litigious consumers.

This language is still present in the current official CanMEDS website materials. The very first page of the CanMEDS 2005 document states:

Today's physicians continue to witness significant change in the nature of health care delivery.... We live in an era with a rising emphasis on accountability and a declining appreciation of professionals and various authorities. Never has the true nature of a physician been such (sic) at risk. (2005, p. 1)

A profession at risk is a profession that needs to arm itself, to try to stave off the "declining appreciation" of its importance. The introduction continues:

The question arises, as it did at the Royal College at the beginning of the 1990s: 'How can we best prepare physicians to be effective in this environment and truly meet the needs of their patients?' (2005, p. 1)

To be "effective" in a hostile environment is placed in the same sentence as "truly meet the needs of their patients." This marrying of physician protection to 'patient needs' is a curious juxtaposition from a logical or semantic perspective. Yet it is one that occurs repeatedly through the roles development process, with a discourse of
patient and societal needs appearing as the rhetorical response to the discourse of protection.

7.5.3 Discourses of societal and patient needs

From the inception of EFPO, the goal of the project is “to modify the character of medical education in Ontario to make it more responsive to the evolving needs of Ontario society” (Neufeld, et al., 1993, p. 1473). Early correspondence discusses the importance of making “undergraduate medical education more relevant to the needs of society” (Seidelman, 1992). The midpoint external review of the project notes that it “is a noble, imaginative and visionary concept, and speaks directly to the increasing recognition and acceptance of the social responsibility of medical schools and the medical profession” (“Exernal Review of the EFPO Project at Midpoint,” 1992, p. 12).

The societal needs discourse of EFPO continues in CanMEDS, with the Societal Needs Working Group being a key component of the initial CanMEDS project. The “two fundamental concepts” of CanMEDS 2000 (Jabbour, 1996) are identified as:

- changing the focus of specialty training from the interests and abilities of providers (supply) to the needs of society (demand); and
- orienting these programs to consider the needs of individual patients in the context of the population at large (Jabbour, 1996).

Both societal needs and individual patient needs are deemed “fundamental.” The CanMEDS 2005 document begins with the statement: “The Royal College is
committed to meeting societal needs” (2005, p. v). Clearly, the discourse of social relevance is prominent in these documents.

7.5.4 From societal needs to roles

Two dominant discourses in the EFPO documents relate to threat and societal needs. But how do these discourses lead to the development of a roles-based solution to the problems they raise? What exactly is the connection between societal needs and roles? Discursively, there is no question that the connection is central. For, from a discursive standpoint, the societal needs discourse is strongly connected to roles definitions, with the language of societal needs explicitly linked to the framing of physician attributes as a series of roles. Moreover, in both EFPO and CanMEDS, the development of roles is identified as the way to meet societal needs. Yet a thorough search of the EFPO archives reveals no rationale for the use of roles, nor any discussion of why this approach was chosen. Instead, ‘societal needs’ are simply placed repeatedly in the same sentence as ‘physician roles’ as prima facie justification for roles becoming the new and improved approach to physician education.

Roles appear in the very earliest letters of the EFPO archives as the desired means to the end. The initial 1988 submission for EFPO funding notes that the primary objective of the project is “to define the future roles of physicians in Ontario in relation to community health needs, and to translate these role descriptions into educational objectives for undergraduate medical education in Ontario” (Neufeld
&Sellers, 1988). More formally, the overall EFPO project aim is to “assess the needs and expectations of society as they relate to the roles and competence of future physicians” ("External Review of the EFPO Project at Midpoint," 1992, p. 2). This statement appears at the beginning of all major EFPO documents. The major outcome of the project becomes roles definition.

If roles were deemed the solution before the extensive consultations began, then they obviously did not emerge from the consultative process. Additionally, there is no stated theoretical or conceptual underpinning for the use of roles as the ‘solution.’ And what, exactly, is the problem that is being solved? An important discursive thread in the EFPO and CanMEDS projects relates to threat and the need for protection. Is, perhaps, ‘societal need’ also a discursive attempt to rationalize roles that help to defend against the threats the medical profession is facing? In order to more fully explore this question, it is important to look in detail that at the process of roles naming and development in EFPO.

7.5.5 The social construction of EFPO roles

The first step in EFPO roles definitions for future physicians was an assessment of existing roles performed by physicians. Extensive surveys were conducted, incorporating wide consultations with multiple stakeholders. As an initial step in the project, the Public Expectations Working Group conducted mail and telephone surveys to “determine which roles the respondents saw physicians currently performing” ("Overview of the Mail/Telephone Survey Reports," 1990). Results of
the mail survey were analysed and four key “current roles” were identified:

- Medical expert
- Gatekeeper and resource manager
- ‘Humanist’
- Patient educator

There are no details available in the archive of the process of analysis that led to the defining of these four roles. Commentary, however, accompanies the description of the “current roles.” In terms of the “medical expert,” it is noted that respondents “saw physicians in the role of an expert in providing medical care. This is what they believe physicians are trained to do—to treat physical diseases” (“Overview of the Mail/Telephone Survey Reports,” 1990). The language used to describe the “gatekeeper” role is double-edged: helpful “as the entry point into the larger health care system” but also negative as “in addition to personal attitudes, some external influences constrained the physicians if effectively providing or assisting access to health care services for their patients” (“Overview of the Mail/Telephone Survey Reports,” 1990). The role of “humanist” is listed in quotation marks, with commentary that respondents “perceived a role for the physician that extended beyond the two foregoing roles, a role that involved interpersonal relations between the physician and the patient on a personal and individual level” (“Overview of the Mail/Telephone Survey Reports,” 1990). Finally, language describing the “patient educator” role is curiously tentative: “respondents seemed to believe that the physician should take an active role in sharing medical and health knowledge with the patient” (“Overview of the Mail/Telephone Survey Reports,” 1990).
The next step in roles definitions was an analysis of the strengths and weaknesses of current roles played by physicians. These strengths and weaknesses were determined based on “implied critiques” of current roles in the survey and focus group responses. There is no description in the EFPO archives as to the theory or methods used for the analysis of either the current or the desired roles. Those performing the analysis are not identified by name or by discipline. In a detailed search of all the files and banker’s boxes I found no scribbled notes nor typed summaries of stages of the analytic process. Instead, the EFPO documents merely note that:

After considering the identified strengths and weaknesses of current roles, the following roles emerged as the implicit ‘ideals’:

- The health and illness expert
- The health care resource consultant
- The health care system advocate
- The patient educator/enabler
- The “humanist”
  (“Overview of the Mail/Telephone Survey Reports,” 1990)

Hence, role definition moves from current roles to implied critiques to “implicit ideals.” These five “ideal roles” were then used in more detailed focus groups with a variety of stakeholders.

By May of 1992, the information from the public surveys had been combined with other data collected, and an initial proposed list of roles was:

- Physician as medical expert/clinical decision maker
• Physician as Communicator (Educator/'Humanist'/Healer')
• Physician as Collaborator
• Physician as “Gatekeeper”/Resource Manager
• Physician as Health Advocate
• Physician as Learner


In comparison to the five “implicit ideals” the language used to describe these six roles appears distanced and sanitized. For example, a ‘medical expert/clinical decision maker’ seems less encompassing than a ‘health and illness expert.’ The embedding of “humanist” (which never made it out of quotation marks) in ‘communicator’ similarly limits physicians’ humanity to the way they communicate. Communicator subsumes ‘patient educator/enabler’ as well. In the same vein, the policing tone of “gatekeeper/resource manager” is somewhat more ominous and less compassionate than “health care resource consultant.”

In addition, the nature of the roles, and their relation to each other were subject to ongoing debate. For example, at the EFPO 1992 Annual Conference, it is noted, “the ‘roles’ are a public perception, not necessarily an ideal” and “the six ‘roles’ are not necessarily of equal importance” ("EFPO 1992 Annual Conference Prototype Problems in Medical Undergraduate Curricula. Consensus Summary of Group Sessions," 1992). Relative ranking and sorting of the roles had begun.

The next step in the EFPO project was a series of conferences and workshops. As a
result of those discussions, two additional roles were added: ‘scientist/scholar’ and ‘person.’ A note at the end of the Overview and Synthesis document discusses the process by which these two roles were added ("Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.," 1993). These roles "were not identified as prevalent themes in consultations with the public or health professionals" ("Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.," 1993, p. 47), and hence they were not part of the initial list. Once they were suggested as potential roles, the data from the various reports, as well as the mail and telephone surveys and focus groups were reviewed. Data was subsequently found in these data sources that supported the addition of these two new roles of ‘scientist’ and ‘person.’ The way the addition of these two roles are described, it is hard not to conjecture that the naming of desired additional roles finds support in the mountain of data, rather than roles ‘emerging’ from the data.

Medical school faculty members highlighted the ‘scientist/scholar’ role. While “the influence of science in medicine appears to be generally accepted,” respondents “did not explicitly address the issue of physicians as scientists” ("Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.," 1993, p. 47). This role was added by medical faculty “to capture ...aspects of the relationship of physicians to science and scholarship” which includes the understanding and application of the scientific method as well as the involvement of a small proportion of physicians in scientific research ("Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.," 1993, p. 47). The
aspects of the scientist important for physicians are described as twofold, one applying to all physicians and the other to a small minority. All physicians are expected to embrace the scientist role in the need to:

[Understand the scientific method (gathering, organizing, analyzing and interpreting relevant information) and to apply that method to patient encounters, community health issues and critical assessment of literature related to the biological, psychological and sociological basis of illness (“Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.,” 1993, p. 47).]

The scientific approach is not limited to the biomedical sciences, but social science is also included. Educational implications of the role include providing opportunities for students to “learn the relevance of research in all areas including behavioural and social sciences” (“Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.,” 1993, p. 49). While the application of scientific method to clinical situations is portrayed as a role important for all physicians, a second scientific role “relates to a relatively small group of physicians who are actively engaged in scientific research” (“Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.,” 1993, p. 47). These “physician scientists” are those “who spend a major portion of career time in research or scholarly activities” (“Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.,” 1993, p. 47).

Given the strong sense in medical education that medical practice is, at least on
some level, scientific, it is noteworthy that the aspect of the physician as scientist did not emerge from the initial information gathering. Intriguing but perhaps not surprising given the disappearance of the *scientist* physician discourse (as described in Chapter 5) in the post-Flexnerian entrenchment of science in the curriculum. Even if the reason for its initial absence is, as the EFPO authors suggest, that the scientific basis of medicine is assumed, this example nevertheless demonstrates the socially constructed and interpretive nature of roles definition. It also demonstrates the ongoing tension, present since the time of Flexner, in of the relationship of the physician to science. Is the doctor a scientist, someone who is able to think scientifically, or merely a user of the facts of science?

The ‘person’ role has an even more contentious and convoluted history in EFPO roles development. Both the initial ‘current roles’ and the ‘implicit ideal’ roles included ‘humanist,’ which, as noted earlier, was then embedded in ‘physician as communicator.’ In discussion of the ‘implicit ideals’ the ‘humanist’ was specifically highlighted as needing to be “expanded in the ‘ideal’ physician” (“Overview of the Mail/Telephone Survey Reports,” 1990). Moreover the humanist role was described as “basic to the physician’s personal service provision” (“Overview of the Mail/Telephone Survey Reports,” 1990) in a way that suggests rather more than mere communication skills. Nevertheless, it was embedded in ‘communicator’ for the initial proposed list of roles. However, at a 1992 EFPO workshop, largely instigated by the student EFPO representatives, the role of ‘physician as person’ was proposed as an addition. This role has two strands; first “concerns about the
increasing demands on physicians” and second “the importance of the physician being more personal in their relationships with patients as one way to demonstrate caring and build trust” ("Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.," 1993, p. 50). These two strands are quite different. The first relates to concern about “stress placed on the personal lives of physicians” ("Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.," 1993, p. 50). The ‘person’ role was seen to encompass the need to “develop strategies for coping with professional demands and ‘normalizing’ their personal lives” ("Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.," 1993, p. 50). The second strand of the ‘person’ related to “dropping some of their distancing,” being “more personal” and understanding that the physician-patient interaction is a “human relationship” ("Overview and Synthesis: What People of Ontario Need and Expect from Physicians. Part 2.," 1993, p. 51). ‘Physician as person’ became the eighth EFPO physician role.

EFPO ultimately designated eight physician roles, which were approved and finalized in 1992:

1. Medical expert, clinical decision maker
2. Communicator, educator, humanist, healer
3. Collaborator
4. Gatekeeper, resource manager
5. Learner
6. Scientist, scholar
7. Health advocate
8. Person
Although eight roles were named, there were open disagreements about the relative weight that should be given to each role. There was apparent consensus that ‘medical expert’ was the first and foremost role. However, obvious controversy erupted about the relative weight of the ‘non-medical expert’ roles. For example, at a 1995 EFPO invitational conference four such roles (manager, collaborator, communicator and advocate) were presented as the priority roles. The processes leading to the determination that these roles were the most important are not reported, but it is clear that dissent was not taken lightly. For example, one of the conference discussion groups, which chose to focus on the person role, is labelled a “rebel group” because it “decided to ignore” the priorities set by organizers ("Report from the November 19-21 1995 EFPO Invitational Conference, "Enduring Values in Changing Times: Challenges for Medical Education"," 1995). In spite of differing views, the “priority roles” were nevertheless decreed to be “medical expert/decision-maker (traditional focus of continuing medical education); manager; health advocate; team player; communicator” ("Report on "Next Steps,"

7.6 CanMEDS Roles

Early documents from CanMEDS 2000 are included in the EFPO archives; some
documents are also available on the CanMEDS website. As the EFPO project wound down in the mid-1990s, the CanMEDS project was moving rapidly forward. The EFPO archives contain notes from a symposium that drew together public, specialist and global perspectives. Attached to the symposium notes is a draft of a “Proposed ‘Coordination of Effort’ Grid” from April 1996 which sums up the coordinated roles as “Medical Expert, Communicator, Scholar, Collaborator, Manager, Health Advocate and Professional” ("Summary: Strategies for Defining the Competencies of Future Physicians ", 1996). The CanMEDS group then undertook wide consultations and surveys to test and validate these roles (Frank, Jabour, Tugwell et al., 1996). The roles were later placed into a diagram, “to illustrate the elements and interconnections of the CanMEDS Roles embodied by competent physicians” (Frank, 2005, p. 2).

CanMEDS took the eight EFPO roles and reduced them to seven. In so doing, the “Scientist” was removed, with Scholar subsuming the scientist elements. “Person” was also removed, replaced by “Professional.” There is no description of the process that led to these changes to roles names in either the EFPO documents or on the CanMEDS website. Aspects of the CanMEDS Professional Role do include one of the two previously described strands of the EFPO person role, that of balancing personal and professional roles CanMEDS (2000). However, the ‘death’ of the person in the transition from EFPO to CanMEDS parallels the discursive removal of the ‘person’ of the medical student in production models of competence discourse.
7.6.1 The CanMEDS Flower Image

The CanMEDS Framework (2005) uses a trademarked image of a self-described ‘daisy’ or ‘flower’ with Medical Expert at the centre, surrounded by ‘petals’ denoting the six other roles (communicator, collaborator, manager, health advocate, scholar, professional). The fact that the image is trademarked places it in the marketplace as a protected product. Ownership and control are clearly denoted. Moreover, the CanMEDS 2005 Roles description explicitly states that the Medical Expert is the “central and integrative Role, and the Role that most distinguishes physicians from other professionals” (2005, p. 7). Supporting Roles are depicted as ‘petals’ around the expert core. Not only are these non-medical expert’ roles placed around a centre of medical expertise, they are also precisely positioned. CanMEDS 2005 explains that for “historical reasons, and by tradition, the official order in listing the Role is: Medical Expert, Communicator, Collaborator, Manager, Health Advocate, Scholar and Professional” (2005, p. vii). Hence the image is a carefully crafted product with a specified order of Roles in relation to each other. There are also instructions for sanctioned use of CanMEDS terminology: a capital letter is required for the word ‘Role’ and the name of each specific CanMEDS Role (p. vii). Clearly, both language and image have been very deliberately designed and structured, with precise prescriptions for its use. It is a carefully contrived and controlled visual construction.

This CanMEDS daisy image provides a clear and workable model for educators. Many medical educators can—with a few moments of thought—count off the Roles, although not necessarily in the prescribed order. But visual images are not just
useful as a memory aid. Visual rhetoric theory describes how the very nature of the visual construction imparts values and meanings. As elucidated by Zibrowski, Singh, Goldszmidt et al. (2009) the “theory of visual rhetoric approaches visual, nonlinguistic structures...as not being merely aesthetic. Rather, they can convey meaningful, value-laden messages” (p. 5). The authors use visual rhetoric theory to show how integration of roles, a stated intention of the CanMEDS (2005) document, is not understood as such by medical trainees when presented with the Roles listed in linear format in their evaluations. Just as the descriptions of the Roles convey meaning and values, so too may the visual message of the daisy itself.

Given the careful construction of the trademarked image of the CanMEDS daisy, it must be assumed that the decision to use a flower image was not simply a convenient diagrammatic representation, but was instead a deliberate choice. And as a deliberate choice, it is appropriate to examine implications of selecting this specific image. To choose a flower image is to link the framework to nature and the natural world. This implies that the particular choice and placement of roles is not only appropriate but also ‘natural.’ Moreover, flowers suggest romanticized simplicity and naivety. The daisy in particular is a symbol of innocence and purity.

Beyond the general symbolism of flowers in Western society, the flower image has had more particular historical connotations. ‘Flower power,’ from the anti-Vietnam war days in the 1960’s and 1970’s, drew deliberately on the romantic symbolism of the flower in protesting against American military involvement in Vietnam. The
flower became a potent symbol of opposition to military might and technological domination. The flower as such is not only a reflection of innocent nature, but it also symbolically represents a way to battle the intrusive might of government. For the educators who reacted to the physician strike of the 1980s in crafting these roles images, the ‘flower power’ movement, not to mention the popularity of 1970s flowered wallpaper and general profusion of flower images, were a thing of the recent rather than the distant past. Hence the CanMEDS daisy image may be considered in the context of the flower both as a romanticized ideal of nature and as a symbol of power.

7.7 Flower Power: Roles as armour?

A clear visual message of the CanMEDS daisy is that the Medical Expert Role is surrounded and supported by roles that encase it. This message is reinforced by the CanMEDS (2005) description of Medical Expert as the “central and integrative Role” (p. 7). If Medical Expert is central, the other roles are, by definition and by visual design, peripheral. To have medical expertise at the core necessarily implies that the surrounding roles are non-core.

The development of the EFPO roles, regardless of all the obvious goodwill and noble intentions that went into defining virtues that should be possessed by physicians, occurred historically as a defensive strategy to uphold the status of physicians. This status had been threatened by negative public perceptions of physicians in the Ontario doctor’s strike about billing, and was being eroded by challenges to medical
expertise and medical authority over both the processes and content of medical care. As described by Milner in his theory of status relations, “status is stereotyped approval (or disapproval), and is primarily ‘located’ in other people’s minds. To change your status or someone else’s you must change other people’s opinions” (Milner, 1994, p. 30). It was obviously important to physicians at the time of the competency roles development to ensure that their status remained, even as their authority was being questioned.

Medical expertise and authority were clearly seen as being under threat at the time of the roles development. Medical professionals and academics placed the failed strike in the context of general decline in medical privilege and authority (Coburn, et al., 1997). Coburn et al. (1997) argued that medicine was losing control not only over the economic context of care (fees, income, financing) but also over the content of medical care (p. 5). As outlined by Coburn et al. (1997), health services research in the 1980s was questioning “medicine’s claims to expertise in both the provision of medical services and the development of health policy” (p. 14). Health services research demonstrated that both the processes and the content of medical care could be called into question, as “physicians’ autonomous clinical decision-making...can be skewed (whether consciously or inadvertently) to serve the practitioner’s economic interests since the type and frequency of therapeutic intervention has a direct bearing on physicians’ incomes” (p. 14). This in turn further undermined medical claims to scientific expertise:
If many medical procedures do not have scientific justification, as is now claimed, the state can sponsor ‘medical’ or non-medical experts to determine the ‘scientific’ basis of medical practice itself. A major underpinning of medical power, its scientific basis, is being undercut (p. 18).

One reaction to questions about the scientific basis of medical expertise was the introduction of clinical guidelines and best practices, a process that was just beginning in the 1980’s (Rappolt, 1997). This approach was supported and funded by the government. Naylor and Hollenberg noted at the time of the development of the competency roles, that clinical guidelines were a “strategic shift by organized medicine in its quest to protect the autonomy of medical practitioners” (Naylor & Hollenberg, 1990, p. 1327). They pointed out that while guidelines might help to “enhance or maintain the profession’s collective control over clinical standards of practice” the guidelines movement also risked being used for “cost containment and utilization management that compromise rather than protect the autonomy of the individual physician” (p. 1327). Hence even attempted solutions to the expertise crisis had the potential to reduce physician authority.

Given the clear crafting of the CanMEDS daisy as ‘non-medical expert’ roles surrounding central medical expertise, it is reasonable to consider how such roles might enhance or re-define medical authority. The addition of ‘non-medical expert’ roles may not simply be an acknowledgement that doctors function in ways that go beyond their biomedical expertise. Instead, as medical expertise was being
questioned, and government started to exert control over processes of care, perhaps these roles were in part an effort to re-define the scope of the physician to include aspects (such as manager) that reinforced the place of physicians in the management of health systems. Physicians were important and trusted health-care professionals (even if their medical expertise rested on shaky ground) because they integrated their expertise with communication, advocacy and professionalism in the service of their patients. In examining the CanMEDS visual construct, the ‘non-medical expert roles’ (as they are frequently referred to by educators) bear a different relation to Medical Expert than to each other. As daisy petals, perhaps they could be considered appendages of the Expert Role. Certainly, in the parlance of educators, the non-medical expert roles are frequently discussed as add-ons to the centrality of medical expert teaching. Or, perhaps, these roles are not simply appendages to expertise, but rather armour that protects and defends battered expertise, while claiming medical ownership of a broad arena of medical practice. The roles did emerge as a defensive stance in reaction to the physician strike and subsequent threats to physician status, and armour is a potent form of protection. If the supporting/peripheral roles are considered as armour, the use of flower imagery to depict this armour is of particular interest. The armour is hidden within the romanticized image of a daisy. The supporting/peripheral roles can be seen as a form of camouflage. The romanticized image of an innocent daisy works to hide the defensive and protective functions of these roles. Yet at the same time, the connection to the ‘flower power’ symbolism of the 1970s suggests power through purity.
7.7.1 Flower Power and competence

Analysis of this example of roles development demonstrates that roles are not simply impartial abstractions that objectively describe a professional. Instead, they are historically and socially derived, and influenced by many forces and factors. There is a tendency in outcomes-based approaches to consider competencies as static, with little room left for change once a framework is set (Martimianakis, Maniate, & Hodges, 2009; Reeves, et al., 2009). As noted by Reeves et al. (2009), competency-based approaches are used by professions to claim ownership of particular aspects of practice, and “may be regarded as reinforcing conventional discourses about professional norms, behaviours and attitudes, and perpetuating existing domains of professional legitimacy” (p. 452). The various CanMEDS Roles might be seen as an attempt by physicians to claim aspects of advocacy, collaboration and managerial involvement in the health system as part of the physician professional realm. The visual representation of these aspects of physician expertise as encasing and surrounding medical expertise highlight the defensive aspects that accompany this formulation of the competent physician. If roles-based frameworks do function at least in part to defend professional authority, the non-medical expert Roles may indeed be seen as ‘armour’ constructed to shore up threatened medical expertise, and retain professional privilege.

Explicit recognition of the importance of ‘non-medical expert’ aspects of the competent physician is essential. However, the visual construction of these roles as discrete petals may have the unfortunate unintended consequence of fragmenting
these aspects of competence. As discussed by Zibrowski et al. (2009), the intention of the CanMEDS Roles is to promote role integration, but the translation into practice has frequently involved checklists and evaluation role by role. This approach may actually further fragment rather than integrate aspects of the physician professional persona.

**7.8 Critiques of the discourse of roles-competence**

Despite the popularity and current discursive dominance of roles-competence in describing the good doctor, some researchers and educators have started to question aspects of outcomes-based theory and its application. While there is not yet an apparent successor to the discourse of the good doctor as a roles-competent (although discourses of reflection are potentially becoming a competing discourse), the competence discourse is being subject to scrutiny. A major area of discussion relates to putting theory into practice, particularly in terms of competency assessment tools (Carraccio, et al., 2002; ten Cate & Scheele, 2007). Attempts have been made to develop approaches that incorporate the higher-level competencies, such as ten Cate's Entrustable Professional Acts (EPA's) (2007). There is a realization, even amongst competency enthusiasts, that improved competency assessment tools are needed in order to achieve the successes hoped for in such models.

Many authors also call into question whether outcomes-based approaches are pedagogically desirable. For example, Rees suggests that outcomes-based learning
objectives, by creating narrowly specified requirements, centralize control, which limits teachers’ ability to draw upon a variety of teaching strategies. This detailed curricular control simultaneously leads to disempowerment of learners and discourages creative approaches to learning (Rees, 2004). Talbot similarly argues that outcomes-based models inappropriately narrow paradigms of learning (Talbot, 2004).

Another area of debate relates to whether competency definitions are adequate to portray all the nuanced aspects of professional training. Huddle and Heudebert, for example, question whether the “anatomizing” (Huddle & Heudebert, 2007, p. 541) of a set of specific competencies can capture the complexity of competence. They argue that the types of objective measures used to assess competence “will not (because they cannot) actually assess the kind of competence we wish to assess” (p. 541). Grant argues that competence as a construct is a fundamentally flawed approach, noting that the “sum of what professionals do is far greater than any of the parts that can be described in competence terms” (Grant, 1999, p. 273). Another concern relates to whether attention to end-product definitions inappropriately ignores essential time and process-based aspects of professional development (Whitehead, 2010).

An additional focus of scholarly discussion relates to the nature of competency definitions themselves. Lingard suggests that competency models inappropriately focus on the individual when “competent individuals can—and do with some
regularity—combine to create an incompetent team” (Lingard, 2009, p. 626).

Hence, she notes, individual-based competency models do not capture important aspects of collective competency. Reeves, Fox & Hodges also question the relationship of competencies to interprofessional practice, suggesting that competencies may be “regarded as an effort by professions to define activities that ‘belong’ to them” (2009, p. 452). Martimianakis, Maniate and Hodges further point out that a roles-based approach to competency can give a sense that professional organization and roles exist in a static state. Instead, they suggest that roles-type definitions “in and of themselves may actually serve as a way for a profession to safeguard its power in relation to the state...and to defend its authority in relation to other professions” (2009, p. 832). Hodges has likened outcomes-based rhetoric to an “i-Doc” (analogous to the Apple ipod) which utilizes “the notion that medical schools, like factories, can produce highly desirable products adapted to user needs and desires and can continuously improve successive iterations through quality assurance and feedback mechanisms” (2010, p. S8).

### 7.9 Summary

The discourse of *roles-competence* is currently the dominant discourse of the *good doctor* in medical education. This discourse is linked to both *performance* and *production* discourses. Frameworks that define competence as a series of roles played by physicians are common, with CanMEDS being one of the most widely used of these models.
One potential problem with the explicit description of competencies as a set of roles is that they may come to be seen as separable. By the very nature of this design, such frameworks may impose unintended limitations on understandings of professional work. Defining aspects of competency as roles may, for example, lead to a tendency (clearly not intended by roles framework developers) to fragment elements of professional competence. While naming the ‘non-medical expert’ roles explicitly highlights the importance of these areas, it may also lead to aspects of the good physician such as advocacy or collaboration be deemed separable from or peripheral to the medical expertise core. Such frameworks need a mechanism to ensure integration of roles.

Competence as a construct is, of course, inherently desirable as a requirement for professional practice. Nobody would claim to be happy with an incompetent doctor. However, the use of outcomes language suggests that product definitions will provide straightforward direction as to how to ensure that all trainees enter into practice with the requisite competencies. Anyone who has attempted to put together a garden shed or IKEA cabinet brought home in a box (‘some assembly required’) realizes the difficulty of assembling even fairly simple objects according to the instruction manual. Merely identifying each of the 327 listed parts (assuming they all made it into the box) can be a challenge. In following the steps to construct the shed, it may quickly become clear that the place it is to be erected in the back yard is on a slant or has tree roots that get in the way. Even if the instructions are straightforward and written by someone with a good command of the English
language, improvisation is usually required in the process. Usually, it seems, several steps are assumed. Why should they not be—the end product is clearly defined and depicted with a pretty picture in the instruction brochure.

The CanMEDS Competency Framework provides statements that outline ‘key’ and ‘enabling’ competencies (2005). These are considered to provide adequate direction for the development of teaching and assessment strategies. But is it possible for a series of statements to allow definitive assessment of all necessary aspects of the development of professional competence? The hope that it can links to a general societal desire for accountability and measurability. Derived from accounting logic, this approach assumes that an activity can “be evaluated in terms of some measureable outputs achieved” (Broadbent & Laughlin, 1997, p. 37).

However, as some of the critiques of competency models have suggested, it is not at all certain that the good physician can be so defined and measured.

As has been demonstrated through the analysis of the process of development of the EFPO and CanMEDS Roles, these competency frameworks and roles definitions are socially constructed. Since roles-based frameworks are socially derived and subject to the negotiation of diverse interests and power relations, then it is naïve to consider these models able to list definitively all aspects of the competent doctor. Discourses of the roles-competent physician greatly oversimplify understandings of the good doctor. These discourses do not acknowledge that the construction of working models of health professionals is affected by the many political, economic
and social factors that shape health systems. *Competence* discourse ignores the fact that roles-based approaches are inextricably bound to history and social context, and that as such, they do not and cannot offer a static and quantifiable approach to physician competence.

*Competence* and outcomes discourse create a tendency to hope that outcomes-based frameworks will simplify assessment of medical trainees. Optimistically, they would allow for clarity of standards, reproducible measurement of learners, and therefore permit educators to state with certainty that all trainees graduate with the requisite knowledge, skills, attitudes and behaviours to make them effective and competent practitioners. Such simple quantification would certainly make the life of medical educators much easier. However, such quantification and certainty is not possible. The context-bound and socially negotiated nature of professional competence must explicitly be incorporated into training models, something that *competence* and outcomes discourse fails to do. *Competence* and outcomes discourse gives false hope that physician competencies can be expressed as a set of objective ideals and measured with certainty. The student, disembodied and fragmented, has little active to do in the outcomes discourse of *competence*. Insofar as the *performance* discourse prevails, she must play her part and act her roles. Acting out discrete roles will, somehow, move her along the production belt and allow the manufacturing process to turn her into the *roles-competent* product that is the *good doctor* of the early twenty-first century.
Chapter 8

Captive on a Carousel: Round and Round in Medical Education

“And the seasons, they go round and round
And the painted ponies go up and down
We’re captive on a carousel of time”
(Jonie Mitchell, The Circle Game)

8.0 Introduction

“Brains alone won’t get you into med school.” This is the title of an article in Canadian newspaper, The Globe and Mail, on 13 December 2010, providing proof that discussions about making good doctors remain very topical. The premise of the article, as described in the first paragraph, is that:

When it comes to medicine, training bright people simply isn’t enough. Their smarts alone don’t predict how appropriately they’ll prescribe drugs, or how likely their patients who suffer cardiac arrest are to live (p. A9).

The article then describes the work of Dr. Harold Reiter at McMaster University to develop a new tool for screening applicants to medical school. Lo and behold, after all these years of training doctors, we in the twenty-first century now realise that medicine is not all about intelligence and are looking for better selection methods. The article goes on to cite Reiter, the Chair of medical school admissions at McMaster University, as saying:
We do a very good job at making sure people who go to medical school are smart...What we’ve done very poorly is on the side of personal characteristics (p. A9).

In 2010, characteristics discourse is accompanied by a computerized test, the Computer-based Assessment for Sampling Personal Characteristics, or CASPer. CASPer grew out of the Multiple Mini Interview (MMI) (Eva et al., 2004), a test that subjects those students chosen for interviews to “challenging live scenarios at up to a dozen stations” (Bradshaw, 2010). The MMI is now used by twelve of Canada’s seventeen medical schools. CASPer, as a computer test, provides medical schools the additional option of requiring all applicants to view and answer questions on video scenarios prior to deciding which students they will interview.

An intriguing element in the development of this test is that, according to the Globe and Mail article, the impetus for its development comes not only from the ‘smart is not enough’ discourse, but also from a “fear that an overemphasis on marks was driving away male medical students” (p. A9). This “gender gap” had resulted in McMaster’s medical school class being 77% female in 2002 (p. A9). By 2009, with a change to admissions criteria through the use of the MMI and CASPer “the school had restored some balance” with women making up 61% of the class (p. A9). The ‘problem’ is one of dominance by women when using marks-focused standards for selection. A solution is creating another measure, which “has proven its neutrality to gender” (p. A9). This parallels Harvard University’s adding a personal interview to admissions criteria when it was perceived that there were a ‘disproportionate’
number of successful Jewish applicants in the 1950’s and 1960’s (Gladwell, 2005), or current reported concerns that Canadian Universities are becoming “Too Asian” (Findlay & Kohler, 2010).

The desire to shift the gender balance of the medical class by changing admissions criteria is coupled with discourses of the good doctor as ‘more than brains.’ This link perfectly highlights the crux of the admissions issue and elucidates the complex nature of discourse. The good doctor is not only the best person to care for the health of all members of society, but also the best person to uphold the standards and status of an elite profession. Discourses of the good doctor, as they have been analysed in the preceding four chapters, are obviously linked to social, economic, gender and political factors. What is ‘good’ in terms of a powerful health professional is not something that is determined in an idealized way, but in social context and related to other prevailing discourses of the time.

8.1 The carousel

While discourses of the good doctor have changed over the past century, there are simultaneously a series of persistent discursive strands and statements that weave their way across these ideas of the good doctor. In this chapter, I explore several pertinent examples of such recurring themes, to examine the relationship between the changing discourses of the good doctor and some other dominant discourses in medical education.
I first became aware of the frequency of recurrence of many issues, topics and themes in medical education as I made my way forward, decade by decade in *JAM* in my search for discursive shifts in the conception of the good doctor. Fairly quickly I came to see familiar subjects appear repeatedly in medical education articles. Topic by topic, I compiled quotes from across the decades. If I removed the dates, the only hint I had as to which decade the quote came from was in the liveliness and quality of the writing, both of which deteriorated as the decades progressed. I developed a strong sense that medical education was going around in circles, coming back with fresh and un‐remembering eyes to the same concerns. This feeling of ‘going round and round’ in medical education brought to mind the image of a carousel, and the Joni Mitchell song line, quoted at the start of this chapter, of being ‘captive’ on that carousel. These recurring issues in medical education, I realised, might be conceptualized as carousel ponies. Particular ponies come around on the carousel again and again. As they circle back, sometimes they are up, sometimes down, more or less prominent on different turns. Using this metaphor, medical educators are not usually on their way to slay some fearsome dragon just discovered to be the scourge of good medical education. Instead, they may be jumping on particular horses (one of explosion of medical knowledge, for example) on the carousel of medical education. Rather than a knight on a quest never before undertaken, they are instead going round on a painted pony, one perhaps going up rather than down, but circling around yet again on the curricular carousel in the continual rediscovery of discursive truths in medical education.
It is no surprise to find many discursive strands present simultaneously. Foucault comments that discourses do not “escape from history and float in the air like disembodied and solitary entities” (Foucault, 1999, p. 285). Instead, their development involves the “emergence of a whole group of highly complex, interwoven objects” (Foucault, 1972, p. 65). Hence the links between the dominant discourse of the *good doctor* and other prevailing discourses are complex, non-linear, and non-causal. Moreover, discursive domains may actually show lack of conformity with “their associated practical and institutional domains” and connect more instead with areas outside which these particular discourses are in play (Foucault, 1999, p. 285).

It is also clear that emerging and shifting discourses in one area (such as the *good doctor*) must be analysed in the context of other discursive statements prominent at the time. Furthermore, even when discursive shifts are identified, such shifts are not tidy, complete transformations. As described by Hodges:

> The historical beginnings and ends of discourses are not finite and their chronological limits cannot be fixed precisely. Neither can they be said to be linear in their appearance and disappearance. Further, when a particular discourse rises to prominence and another can be seen to fade, there is no certainty that they do so in lock step. Thus, several discourses can exist simultaneously (Hodges, 2009, p. 45).
This chapter examines some of the recurring ‘truths’ in medical education that are relevant to the discourses of the good doctor, and the implications of the intersection of these different discursive strands with the good doctor discourse. Some of the recurring discursive statements or objects are portrayed as novel each time they emerge. The effect of the discourse of novelty that accompanies these repeated emergences is discussed. Other discursive themes are acknowledged as ongoing issues in medical education. ‘Social responsibility’ is a particularly important discourse in this regard, with multi-layered and varied meanings. Each of these could be the subject of an entire research project, and I do not attempt to explore them fully in this chapter. Instead, they are used as examples of disparate statements of ‘truth’ that always co-exist in any field, and help to demonstrate the effects that differing discourses can have on one another. They also serve as grounds for speculation and reflection upon the current state of medical education and how it is that educators keep coming back to similar issues time and time again.

8.2 Carousel ponies

8.2.1 The discourse of science in medical education

Several notable discursive threads, linked to a discourse of scientific medicine, have remained current over the past one hundred years, and were discussed in the previous chapters. For example, as described in Chapter 4, discussions of the explosion of scientific knowledge recur repeatedly. Flexner recognised that it was important to address the place of science in medicine. He considered it obvious that there was too much to know, that curricular choices needed to be made, and that the
scientific approach should apply to all knowledge, not just natural science
knowledge. However, with the post-Flexnerian reforms, the discourse of science as
exploding and overwhelming knowledge contributed to a curriculum over-filled
with biomedical science content, which marginalized other knowledge domains.
Taken together, these form a discourse of scientific medicine that allows the
dominance of the biomedical sciences in the curriculum. While a parallel
discourse—that biomedical science is not sufficient—was ever-present, the social
sciences and humanities continued on the margins because of the ‘problem’ of too
much biomedical science. The visual image of the CanMEDS (2005) daisy, discussed
in Chapter 7, is a compelling re-enforcement of the discourses of the centrality of
biomedical science with its core, Medical Expert competency at the centre of the
competency framework. ‘Non medical-expert’ competencies (to use the current
parlance of many a medical educator and residency program director) related to
communication, collaboration, professionalism, advocacy, management and
scholarship are portrayed as peripheral daisy petals. Hence the visual image
highlights the marginalized nature of these other aspects of the physician in the
conception of physician competency.

These persistent discourses, (of the scientific basis of medical education and the
insufficiency of science), highlight a fundamental issue that has not been
satisfactorily addressed in medical education. Is there a reasonable way to link
biomedical expertise and the other aspects deemed valuable for the proficient
practice of medicine? Everyone involved in medical education seems to agree that
the biomedical scientific aspects are extremely important; physicians frequently comment that biomedical expertise is what differentiates the medical profession from others, (social work seems the most frequently mentioned comparator in these conversations). Patients certainly suggest that they value technical expertise in their physicians, as evidenced by the frequent comment about choice of surgeons in particular (‘he has a terrible bedside manner but technically he is the best’). Interestingly, the literature also shows that patients are not well able to assess the technical competence of their physicians, and that most patient dissatisfaction, as expressed by lawsuits or complaints to governing Colleges, are related to communication or professionalism issues (“Committee on Quality of Health Care in America,” 2001). But when biomedical knowledge is particularly privileged, it is challenging to coherently integrate other forms of knowledge into the curriculum. Many structural and institutional factors, such as the dominance of biomedical research in medical faculties or the role of industry in promoting the technological and pharmacologic aspects of medical care obviously contribute to the problem. Language too reinforces this divide: there is medical expertise and then the ‘other’ stuff. The other is referred to as the ‘soft stuff,’ or the ‘art of medicine,’ or ‘non-medical expert roles.’ The nomenclature: ‘non-medical expert,’ for example, highlights the centrality of medical expert and defines expertise as biomedical knowledge. All the rest, (the ‘non’), is defined in contradistinction to the central core.
A parallel issue relates to the naming of professions in health care, and what exactly to call the ‘non’-doctors. This language difficulty highlights the centrality of biomedically focussed doctors in the health care system and the problem of naming the ‘non-central’ professionals in contrast to the central doctors. Biomedical expertise is the central knowledge of medicine; everything else is not. Physicians are the central health care professionals; all the others are not. With a current focus on interprofessional collaboration in health care, such nomenclature is causing concern. Of course there are the doctors and the nurses. But then, it is often convenient to talk about the large array of additional health professional without listing out all of them, (which is likely to lead to leaving one out and cause offense as the number of professions involved in health care is rapidly multiplying). ‘Allied health professional’ has fallen into disfavour as a term. ‘Health care professionals’ seems to be the current phraseology, but it then suggests that doctors and nurses are not health care professionals. ‘Non-physician’ health care professional is considered disparaging, again coming up against the issue of a negative definition as ‘not-doctor.’ ‘Non-nurse’ never enters the lexicon, even though nurses are often accorded enough prominence of place to be specially named. This name ‘problem’ parallels the issue of the biomedical sciences and the ‘not-biomedicine’ stuff in the medical curriculum. As long as something is described as ‘non’ it is by definition lesser.

Such language issues highlight the way that discourse allows and disallows certain ways of thinking. The productive nature of discourse becomes clear when the ‘non’
tries to claim its value and its place. By naming the dominant object (Medical
Expert, in the case of CanMEDS) as core or central, all other competencies are
relegated to the periphery. Looking for interprofessional language to name the ‘not
doctors’ confirms the centrality of physicians within the health care system.

8.2.2 Time in medical education

The ‘correct’ amount of time needed to train a physician is another recurrent issue
in the medical education literature. Flexner argues for a curriculum that allows
flexibility for students to spend additional time if they so desire. He praises the
European approach, where:

   The student enjoys a large measure of freedom and responsibility. He may
   within limits make his own combinations; he has every inducement to exceed
   the required minimum at any point at which his interest has been aroused;
   and the better do. Moreover, students do not usually construct for
   themselves identical curricula; they have not had precisely the same
   experience, nor do they know precisely the same things. Their ideas are
   bound to clash; they thus instruct and stimulate one another (Flexner, 1925,
   p. 129).

He acknowledges that this approach is somewhat more difficult for curriculum
designers, however:

   In any event, elasticity which at times deteriorates into chaos is on the whole
   preferable to a lock step which keeps able and unable, energetic and
industrious, clamped within the same form, practically without individual responsibility (p. 129).

Flexner makes clear that flexibility rather than uniformity is his prescription for the curriculum. He decries the North American tendency towards a rigid curriculum, as fundamentally flawed:

[I]t would be a mistake to try to apply a rigid and uniform formula to all who expect to study medicine; beyond obvious essentials, medicine can utilize various types of ability and training; it is therefore better that the student, if really competent, take hold where he is strong than that he spend his years ineffectually trying to bolster himself, where he is congenitally weak (p. 88).

Instead, flexibility breeds success:

With certain obvious exceptions, the particular facts learned, the particular skills acquired, are of less importance than the habit of inquiry, the ability to use the senses, the capacity for well-directed effort. These cannot be acquired in the same fashion by all students, any more than they can be acquired in the same time or to the same degree (p. 138).

Flexner’s call for a more flexible approach to time in medical training is revisited in various eras. For example, during World War II educators focused on training doctors more quickly in order to support the war effort. In the immediate post-war years, educators questioned whether such accelerated programs ought to continue. A survey of American medical school deans found that approximately two-thirds thought that “educational standards and research would suffer” if the accelerated
program were to continue (Carpenter, 1945, p. 74). Students were also surveyed and 35% reported that they were “excessively fatigued or that their health has been impaired” by the accelerated program (Carpenter, 1945, p. 77). Fewer than half the students said they would choose an accelerated program if offered both options (p. 77). The author of this report suggests allowing the option of acceleration for “the superior student” (p. 77). Another report, by the president of Stanford University warns that accelerated programs might inappropriately limit breadth of education and that:

Before...we can determine whether and accelerated program should be continued during the postwar period, we must answer the question of the minimum amount of general education that a student should have in order to become a well qualified doctor (Tresidder, 1945, p. 71).

More important than acceleration or deceleration, according to this report is “an analysis of degree of competence we want developed in the medical profession and the means by which it can be developed” (p. 69).

The question of how time factors in training is again a topic of great debate in the early twenty-first century. Outcomes-based education is portrayed as a novel approach to medical education in which the end product, rather than the time taken to get there, is key (Aggarwal & Darzi, 2006; Carraccio, et al., 2002; Harden, 1999). Outcomes-based education, by discussing end product definitions rather than the processes of achieving these standards, highlights efficiency in medical training, suggesting that for some students training times can be shortened (Hodges, 2010).
Shorter training times appeal to government funders of residency programmes, as they offer potential for great cost savings. If equally competent physicians can be produced in less time (finding efficiencies along the assembly line), there is little rationale for prolonging training programmes. The manufacturing model that arises from the production discourse that so frequently accompanies outcomes-based approaches de-emphasizes time and the developmental processes that students undergo in becoming physicians. There is no room in such a model for Flexner’s highly individualized exploration of aspects that pique the interest of a particular trainee. In the outcomes-based world, lengthening of programs is reserved for remedial time for trainees ‘in difficulty’ whose performance in medical school or residency training programs is found wanting.

While the outcomes-based models have downplayed time in favour of product, there is evidence that time may be returning to favour again. For example, both the Canadian FMEC (2010) and the American Educating Physicians (Irby, et al.) reports of 2010 make mention of a desire for individualized approaches to medical education. As described by Hodges, both reports show:

The prominence of a dual imperative for defined outcome standards together with a call for pedagogical models that are individualized and provide continuous learning, feedback, and assessment. It seems that medical educators feel unsure whether current medical students, residents, and practitioners are competent (because of insufficient outcomes measures) but also feel the need to develop education programs that are tailored to
individuals, rich in feedback, flexible in time, and targeted to deeper levels of
cognitive and personal development than are current approaches (Hodges,

Time for training, and the role of time in training, is likely to continue to be a part of
the curricular carousel as medical education circles into the future.

8.2.3 Generalism vs specialization

Another recurring issue over the past century in medical education relates to the
issue of generalism versus specialization. What exactly is the desired ‘product’ of
medical school, an undifferentiated doctor or a student well on her path towards a
chosen slice of medical practice? Is early specialization problematic? Are specialists
and generalists two different breeds or part of the same doctor pie? This theme
connects to that of knowledge explosion, particularly drawing on ideas of the
increasing complexity of medical knowledge. Complexity is linked to the rise of
chronic diseases and the need to pay attention to preventive health measures.

Flexner, as noted in Chapter 5, asserts in 1910, “the physician’s function is fast
becoming social and preventive, rather than individual and curative” (Flexner, 1910,
p. 26).

Flexner, of course, has an opinion on the topic of generalism and specialization. He
thinks the medical curriculum has been broken into too many pieces:

Medical curricula the world over contain too many subjects as well as too
much material. The burden would be heavy enough, if it were confined to the
larger, original units; but within the last fifty years one specialty after another has been split off, erected into a professorship, made a subject of special teaching, and finally won a place on the examination list (Flexner, 1925, p. 148).

For Flexner, all physicians must adopt the same inquiring approach to medical practice:

The professional competency of the physician is in proportion to his ability to heed the response which nature thus makes to his ministrations. The progress of science and the scientific or intelligent practice of medicine employ, therefore, exactly the same technique. To use it, whether in investigation or in practice, the student must be trained to the positive exercise of his faculties...A professional habit definitely formed upon scientific method will convert every detail of his practising experience into an additional factor is his effective education (1910, p. 55).

All physicians must adopt the same approach to patient care:

It is equally important and equally possible for physicians of all types to be humane, and at the same time to employ the severest intellectual effort that they are severally capable of putting forth (1925, p. 12).

Flexner criticizes those who set up a dual standard for generalists as opposed to specialists, and suggests that all can and should be scientist physicians:
In the effort to teach the modicum of chemistry or physiology or pathology that ‘the family doctor needs to know,’ they neglected to teach anything of permanent scientific value at all.... The sciences were badly taught...because the teachers lacked abundant scientific knowledge and spirit (1910, p. 59).

Following Flexner, issues of generalism and specialization continue to be debated, and as with previously described discourses, are portrayed as a new issue for each generation discussing the problem. For example, in 1950 a medical educator comments:

A definite trend in medicine during the past fifty years has been that of specialization. This is the natural outgrowth of the tremendous expansion in medical science. No one man can possibly master the whole field of medicine.... However, as in the case with many good things, I fear the pendulum of specialization has swung too far (Casberg, 1950, p. 505).

Casberg comments that, in spite of growing medical knowledge, the vast majority of medical problems are very ably managed by general practitioners. Unfortunately, students are disproportionately interested in entering into specialty training. This trend means that:

The general practitioner who is still the backbone of medicine, has been forced dangerously near the periphery. The public, as well as the governing medical and hospital organizations, have contributed to the low ebb in the prestige of the general practitioner (p. 506).
Portraying over-specialization as something that ‘older’ physicians disparage highlights the author’s conviction that the need to combat specialization is a newly emerging phenomenon:

Many thoughtful older physicians have become convinced that departmentalization and specialization in our medical schools and hospitals have proceeded at the expense of a more integrated consideration of patients. The general public has become uneasy about overly “scientific” medicine which seems to have displaced the trusted family physician (Fox, 1951, p. 421).

In a 1952 article entitled *The Doctor for Tomorrow’s Needs*, R.C. Page highlights health maintenance and preventive health as something that will be of greater relevance for the future than it is in his time. This futuristic construction also adds to the novel sense of this issue. Page states:

The attitude of the doctor of tomorrow will be allied to the spirit of the beloved family doctor. He will be a practitioner of ‘constructive medicine,’ a scientist trained in considering man as a whole human being (Page, 1952, p. 91).

Another medical educator in 1955 again characterizes the recognition of the importance of generalism as a recent shift in thinking:

[Medical practice is rapidly shifting from the ‘patient as a disease’ to the ‘patient as a human being.’ This does not mean that we are becoming less scientific, but that holding fast to the constantly advancing natural sciences, we are more

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and more incorporating into our thinking, research, practice and teaching the contributions that the behavioral sciences have to make (Funkenstein, 1955, p. 81)

In 1958, the ‘current state’ of medical education is found lacking in that:

[T]here has been increasing concern over the fragmentation that crept into medical education as well as into the field of medical practice as specialization continued its advance (Turner, 1958, p. 261).

Too great a focus is placed on “diseases and on parts of people” (p. 262).

A solution is to “introduce the concept of the human being in his total setting as early in the medical educational program as possible” (p. 262). To this end the “undifferentiated physician” is the goal (p. 260).

These discussions continue in the medical education literature in the 1960’s. For example, a professor of pediatrics comments negatively on the present trend that “physicians are becoming increasingly specialized,” and argues that medical schools must train students to develop a “full appreciation of the breadth of their professional responsibilities” so they learn that “[t]o know what kind of a person has a disease is as essential as to know what kind of a disease a person has” (Smyth, 1962, p. 497).

An article in 1970 again positions the need to reinvigorated generalism in medical education as a new imperative:
The education of today’s health professional must be much broader than it ever was in the past. There are two primary reasons for this. First, practitioners in the health sciences are now obligated to master a larger and more complicated body of technical information in order to prevent and cure illness. But, they must also understand and appreciate how this information interacts with the physical and social factors that affect man’s total well-being (Fleming & Prestwood, 1970, p. 182).

Jumping forward to 2010, discourses of generalism continue. For example, the seventh of the ten FMEC recommendations is to “[v]alue generalism:”

There is a well-recognized trend in medicine towards specialization and subspecialization. This has resulted from, among other things, an explosion in scientific knowledge and understanding of complex human physiological processes. While there is no question that specialization has led to improved care for specific conditions, it can be argued that this progress comes at the expense of a more holistic perspective and appreciation of the role of generalism and family practice (FMEC, 2010, p. 26).

Drawing upon the work of Starfield (Starfield, Shi, & Macinko, 2005), the FMEC report goes on to demonstrate the scientific evidence for strong primary care models and the rationale for a ‘new’ focus on generalism in medical schools:

There is mounting evidence that a strong primary health care system leads to better population health status, and the MD education system must align with this reality. Central to the practice of medicine is an understanding of patients’ needs, contexts, and environments. Integrating family physicians and generalists
as an important component of medical education, even in specialized areas, will ensure that students continue to develop clinical reasoning skills in a generalist context with undifferentiated patients (p. 26).

New once more, generalism is yet again recognized as an important and under-emphasized aspect of medical education.

8.2.4 Discourses of novelty

One of the most striking discursive threads across medical education documents analysed for this research is the sense of novelty that accompanies the discussion of various aspects of student selection, curricular content and curriculum design. The effect of the discourse of novelty was discussed in Chapter 5 in terms of exploding knowledge. Each generation of medical educators has the sense that rapidly expanding medical knowledge is a brand-new problem. This discourse of novelty creates the impression that current medical education issues are new, different and much bigger than those ever faced before. If such problems are deemed insurmountable, then medical educators need not be faulted, for example, for focussing on incorporating biomedical science, rather than having to examine the appropriate relationship between biomedical science and other potentially useful medical knowledge.

As described with reference to themes such as generalism, the over-crowded curriculum and the insufficiency of science in medical education, the discourse of
novelty and discovery also pervades multiple other issues related to medical education. This is particularly noteworthy when juxtaposed with the also-accepted truth that Flexner is the beginning of modern medical education. The medical education literature credits Flexner with embedding natural science in the curriculum and ensconcing medical education in universities. However, various other themes and issues which appear repeatedly as ‘new’ issues over the following decades were also discussed in detail by Flexner in his reports of 1910 and 1925. These recurrent themes are not seen as part of the heritage of Flexner. Nor are they portrayed as ongoing issues with which successive generations of medical educators grapple repeatedly.

On one level, it might be argued that the regular recurrence of the same issues over and over in medical education is not noteworthy. If medical education has certain fundamental elements that are hard to implement, they may need to be re-visited in different eras to make them relevant to that social and historical context. However, the discourses of novelty and discovery that accompany medical educators’ discussion of specific issues, such as medical student selection or the overcrowded curriculum, may instead be a part of the circling carousel of medical education, where educators return over and over to similar themes with little historical sense of their persistence as ongoing issues. As discussed in Chapter 5, this lack of attention to history allows curriculum designers to focus on solutions that tinker with curricular detail, rather than tackle bigger problems, such as how to thoughtfully limit the barrage of biomedical detail in medical school classes, address
the dominance of biomedical knowledge, and make room for other relevant academic disciplines in medical training.

This discourse of novelty that pervades medical education discussions is clearly evident in the language used in medical education reports. Over the past century, medical educators have produced a multitude of reports and articles, each rediscovering themes in medical education. The logo on the *Future of Medical Education in Canada* report of 2010 has at the centre, “Educating tomorrow’s doctors to meet the needs of Canadians” (FMEC, 2010). The Educating Future Physicians of Ontario (EFPO) project of the early 1990’s was designed to find answers for transforming training for ‘future’ doctors. The 1980’s GPEP report is entitled “Physicians for the Twenty-first Century” (1984). These reports and articles collectively contribute to a futuristic discourse in medical education, one that sees the future as requiring different preparation than occurs in the present. Not only is the future divorced from the present, but such language also avoids any acknowledgement of links with the past. Documents from the EFPO project note that a “major goal of EFPO is to avoid massive studies every 20 years and to have an ongoing mechanism which incorporates societal expectations into medical curricula” (“Draft of Summary Comments,” 1991). The *FMEC 2010* report appeared almost exactly twenty years after the EFPO project.

**8.3 The carousel and the *good doctor***
What is the relevance of the carousel of medical education topics to the changing discourses of the good doctor? To explore this, I will begin with a brief re-cap of the discursive changes in the notion of good doctor in medical education over the past century.

8.3.1 The good doctor: discursive changes

Flexner’s scientist physician was erudite and an incisive thinker. A true gentleman, he embarked on a journey to become a heroic healer. Flexner’s scientist physician was, with occasional exception, a socially well-placed white man, as the closure of proprietary medical schools, while shutting down some dubious commercial enterprises, also left black and women students with little access to medical training. Flexner’s scientist physician ideal was never realised in the major transformation to medical schools that followed. Instead, science was embedded as curricular content, and the discourse of the good doctor became that of a man of character who was also able to master the scientific content of the curriculum.

Discourses of characteristics emerged in the late 1950’s, with psychologists and psychometrics entering the medical education field. Characteristics discourse dissected the medical student. Technologies of science were applied to the medical student, and the student was classified and categorized in ways that allowed him to be an object of scientific study. The student went from a scientist to a user of science to an object of scientific study. This objectification of the student made him into a product that could be expected to perform in certain ways. Further discursive
change occurred from the 1970’s to the end of the twentieth century, with the rise of performance and then production discourse, both linked to discourses of the good doctor as a competent practitioner described through roles. Production discourse combined with competency language to create a manufacturing model of medical training. Competency frameworks, such as CanMEDS (2005), emphasized the outcomes of training, with concomitant de-emphasis on time, person and the personal journey to become a physician.

8.3.2 Connecting the good doctor and the carousel

The repeated recurrence of various issues and themes in medical education, metaphorically depicted as a carousel, are clearly of relevance in terms of the time, energy and resources that medical educators put into curriculum re-design. The sense of novelty and rediscovery that is so apparent in medical education articles legitimizes the need for another report, project or course. Novel curricular ‘advances’ also further the academic careers of medical educators, leading to publication, presentations and promotions. In addition, it is easier to access resources for something that is seen as innovative. It is hard to know whether the Association of Faculties of Medicine in Canada would have been quite so eager to commission the 2010 FMEC report (2010) if it had been positioned as yet another in a long line of reports revisiting recurring themes of a hundred years. Of the ten major recommendations proposed by the FMEC Report, only number five, to “[a]ddress the hidden curriculum,” (p. 1) is not traceable back to Flexner.

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3 These ten recommendations are: 1. Address Individual and Community Needs 2.
This is not to say that medical educators should not revisit the curriculum and the approach to medical training. Unquestioningly continue to do what we do without regard to social context, changing social norms and changing expectations of the health care system would be foolish. But this analysis does raise the issue of whether the best questions are being asked. If they are, then it is curious that they come up so very often as new. If they are not, energy, time and money could likely be better spent elsewhere.

Perhaps the changing discourses of the good doctor contribute to the sense of novelty of the medical education enterprise. As a new discursive formulation of the good doctor becomes prominent it may fuel the desire for curricular tweaking. And if attention is focussed on curricular revision, we may not notice the unintended consequences of the new discursive frame. The notion of the good doctor as a scientist physician is quite different from that of a man of character who is strong enough to cope with the ever-growing flood of scientific information. The engagement of each with scientific knowledge is fundamentally different. The dissection of the doctor with characteristics discourse further removes the ‘person’ from the knowledge, with the medical student himself becoming an object of scientific study rather than the subject engaged in the process. Roles-competence


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embeds performance and a manufacturing model in the mix, so that the student is not only an object of scientific study but also a producible and re-producible object to be assessed according to performance specifications.

What are the important questions in medical education? If we work only within the dominant discourse of the good doctor, we may fail to raise critical issues. For example, do outcomes models actually enhance training or ensure competence? The CanMEDS Framework (2005), as described in Chapter 7, lists ‘key’ and ‘enabling’ competencies that must be taught and assessed in residency training programmes in order for the programmes to meet accreditation standards. Residency programme directors feel obliged to create formal ‘advocacy’ or ‘manager’ academic sessions for their trainees in order to fulfil accreditation requirements. Whether either residents or their teachers find these helpful for trainee development as competent practitioners, as opposed to accreditation checklist ‘make-work’ projects, is not clear. Does the ‘daisy production manual’ for doctors actually lead to better doctors? If so, how will we really know? And what are the downsides of a model that de-emphasizes the trainee as a person on a developmental journey? The intersection of the carousel with good doctor discourse reminds us not to ignore the unintended yet significant effects of such discursive changes while we remain wrapped up in re-inventing curricular content.

Another possible unintended effect of the good doctor discourse as it intersects with the carousel is its tendency to focus on the individual trainee. Be it the scientist,
character, characteristics, or roles-competence, the individual trainee is the object of inquiry. The place of the doctor in society is not central to the discussion. As noted in Chapter 6, competency models in general, and roles-based models in particular, fail to capture important aspects of collective competence (Lingard, 2009). They also portray competence as static rather than acknowledging the place of roles-type definitions in power negotiations between doctors, other health professionals and the state (Martimianakis, et al., 2009). How the good doctor discourse connects to notions of the social responsibility of the doctor and the medical profession is therefore another important aspect of this discourse.

8.4 The good doctor and discourses of social responsibility

The discourse of the good doctor focuses on individual trainees. Yet, a core concept in medical education is that of the social responsibility of medicine. Social responsibility is a discourse that is frequently linked back to Flexner (unlike other discourses portrayed as novel) when it is revisited in different eras. Interestingly, while social responsibility discourse is portrayed as persistent and fundamental, there is more change in the discursive rationale and depictions of social responsibility than many of the curricular issues regularly re-emerging as ‘new.’ Interesting but perhaps not surprising, as the issue of the relationship of the privileged profession of medicine to the society which it is supposed to serve is likely to accommodate the different concepts of ‘service’ and ‘social accountability’ in different eras.
Foucault highlights the importance of the relationship of physicians to society in terms of physician status and power. He notes the particular place of the medical profession in society:

This status of the doctor is generally a rather special one in all forms of society and civilization: he is hardly ever an undifferentiated or interchangeable person. Medical statements cannot come from anybody; their value, efficacy, even their therapeutic powers, and, generally speaking, their existence as medical statements cannot be dissociated from the statutorily defined person who has the right to make them, and to claim for them the power to overcome suffering and death (1972, p. 51).

The status of the doctor is linked not only to “criteria of competence and knowledge” (1972, p. 50), but as well to a variety of legal and institutional factors. Very important is the determination of how the doctor and medical profession are considered to function “in relation to society as a whole” (1972, p. 51).

For Flexner, the profession of medicine is socially responsible if it creates excellent scientific physicians. As described in Chapter 4, Flexner positions science and social responsibility as congruent with each other.

[The fundamental sciences] furnish, indeed, the essential instrumental basis of medical education. But the instrumental minimum can hardly serve as the permanent professional minimum. It is even instrumentally inadequate. The practitioner deals with facts of two categories. Chemistry, physics, biology
enable him to apprehend one set; he needs a different apperceptive and
appreciative apparatus to deal with the other, more subtle elements. Specific
preparation is in this direction much more difficult; one must rely for the
requisite insight and sympathy on a varied and enlarging cultural experience.
Such enlargement of the physician's horizon is otherwise important, for
scientific progress has greatly modified his ethical responsibility (1910, p.
26).

In the introduction to the 1910 Flexner report, Pritchett uses the discourse of social
responsibility to advocate for the closing of the commercial schools:

> Perhaps in no other of the great professions does one find greater
discrepancies between the ideals of those who represent it. No members of
the social order are more self-sacrificing than the true physicians and
surgeons.... On the other hand, the profession has been diluted by the
presence of a great number of men who have come from weak schools with
low ideals both of education and of professional honor. If the medical
education of our country is in the immediate future to go upon a plane of
efficiency and of credit, those who represent the higher ideals of the medical
profession must make a stand for that form of medical education which is
calculated to advance the true interests of the whole people and to better the
ideals of medicine itself (1910, p. xiv).

That the practice of medicine must relate to a broader social good is undisputed,
however determining what this social good entails is another matter. That the
medical profession’s current sense of social responsibility is insufficient, and that it needs to be improved is a recurring refrain. Decade after decade, this message is the same, with frequent exhortations to ensure that students are better prepared in this regard:

[M]any of our graduates do not possess an adequate understanding of the social problems of our complex modern society and fail to realize the extent of their own social responsibility (Tresidder, 1948, p. 11).

Social responsibility is characterized as second only to basic competence:

[T]he first aim of medical education, aside from the development of professional competence, should be to give the student a clear understanding that from first to last he will have a great concern with social problems. He will be called on again and again to subordinate his own private interests to the public interest. The doctor, of all people, will require social skills and insight into social problems of the highest order. The acquisition of these skills cannot be left to chance…. [We must] produce competent doctors who are above all else responsible citizens (Tresidder, 1948, p. 17).

And while second to basic competence, it is an indispensable part of medical education:

We, as medical educators, are just as duty bound to develop in the student a sense of social responsibility to his future patient as we are to teach him the symptomatology of acute appendicitis (Casberg, 1950, p. 505).
But what exactly is meant by ‘social responsibility’? A look at the ways it is used quickly shows that the term is what Lingard, from Burke, has described as a “god term” (Lingard, 2009). Lingard uses the idea of a “god term” to discuss competence. She defines a god term as “a rhetorical trump card, regularly played as the last word in debates about how health professions education should function” (Lingard, 2009, p. 625). And as Hodges (2010) has pointed out, (also referring to competence), any such term “is so widely employed, with so many different meanings, that it risks meaning nothing at all” (p. S35).

‘Social responsibility’ has certainly been employed in aid of many different arguments and interests. In 1950, V.M. Hancher, in an article entitled The Social Responsibilities of Medicine, suggests that an important responsibility of the medical profession is to stem “the rising tide of criticism against the medical profession” (p. 89), and lead the battle against “socialized medicine” (p. 89). Page, in articulating the social responsibilities of medicine in 1957, includes in his list the need to assist the military and industry to have healthy soldiers and workforces (Page, 1952).

As discussed in Chapter 7 the EFPO project set out to make “medical education more relevant to the needs of society” (Seidelman, 1992). The midpoint external review of EFPO lauds the project for its “recognition and acceptance of the social responsibility of medical schools and the medical profession” ("External Review of the EFPO Project at Midpoint," 1992, p. 12). The opening statement for the CanMEDS
Framework is that “the Royal College is committed to meeting societal needs” (2005).

Current medical education reform documents also place social responsibility and commitment to the needs of society at the centre. The FMEC report states:

Social responsibility and accountability are core values underpinning the roles of Canadian physicians and Faculties of Medicine. This commitment means that, both individually and collectively, physicians and faculties must respond to the diverse needs of individuals and communities throughout Canada, as well as meet international responsibilities to the global community (p. 5).

The FMEC report goes on to highlight the fact that this social responsibility is a longstanding expectation of the medical profession:

The link to social accountability is not only longstanding but foundational to medical practice and education. It is embedded in the Hippocratic Oath taken by physicians and was identified by Flexner 100 years ago when he undertook a review of medical education in Canada and the United States. Not surprisingly, the importance of social accountability emerged as a crosscutting theme in this project. Universally seen as fundamental, social accountability connects medical education to the diverse needs of society and requires vigilance to ensure that high quality health care is available for all Canadians (p. 16).
The way that ‘social accountability’ continues to appear in these documents is more than a mere rhetorical device. The aftermath of the 1986 Ontario doctor strike showed that the members of the medical profession must appear to be acting out of concern for patients as well as for their own financial and social well being. The institutional practices of medicine do obviously, however, link to industry, technology, and professional privilege. As I have argued elsewhere, there is a tension between professional authority and calls for social change:

If physicians address the social determinants of health, for example, they tackle issues with thorny political, social and economic consequences. Confronting social inequities also involves confronting social privilege (such as that which physicians as a group enjoy). Advocating for better physician understanding of health policy puts physicians in the uncomfortable position of examining tensions between what might be good for health systems versus what benefits physician pocketbooks (Whitehead, 2010).

Is it reasonable to expect a profession to engage in the sort of advocacy and attention to ‘societal need’ that truly examines social inequities and health system structures that will likely challenge professional privilege? Or is it better to accept that a profession will mostly look for symptomatic solutions to such issues? Martimianakis considers the possibilities and limitations of activism within elite institutions and professions. She argues, “the capacity to collectively challenge institutional practices is mitigated when equity and diversity issues are too closely aligned with accountability practices” (Martimianakis, 2011, p. 299). The social
responsibility of an individual physician and the political and economic forces that drive medical professional organizations cannot be separated. The language and practices of power of physicians must necessarily limit and constrain physicians’ possible approaches to social responsibility (Whitehead, 2010). Do repeated calls for greater focus in medical training on social responsibility, social accountability and attention to societal needs further these causes? Or instead, does the discourse of social responsibility in medical education allow student physicians and their teachers to feel that they are addressing such concerns when only marginally questioning some superficial aspects of the inequities and issues of marginalization in health care systems? While nobody would suggest that medical students be encouraged to be socially irresponsible, it is important to examine just how far the sense of ‘social responsibility’ really extends, and to what extent its discursive use allows the profession to rationalise and justify its position of privilege.

As cogently outlined by Martimianakis, there can be significant implications to the partial uptake of discourses, particularly of discourses that may be seen as resistive to dominant ones. Martimianakis describes this as a technology of governance that controls and reproduces dominant hierarchies of knowledge by partially adopting and subverting discourses of resistance. She uses the example of interprofessional collaboration, noting that it is:

[E]ncouraging collaboration without purposeful consideration of relationships of power. As a result, professionals can be seen as asserting entrenched professional positions, thwarting in the process the collegial
interaction interprofessional collaboration is supposed to encourage.

(Martimianakis, 2011, p. 307)

In her field of interdisciplinarity, Matimianakis further explores issues of equity and social justice, and how they are portrayed through critical approaches that may lead to questioning of dominant neo-liberal paradigms. She describes how partial promotion of a resistive viewpoint can subvert and limit its scope (Martimianakis, 2011, p. 307). If elite institutions such as medicine develop a degree of familiarity with and acceptance of alternate perspectives, and partially incorporate them, critique may be significantly diluted. The use of critical perspectives by those in positions of privilege may therefore lead to what Frank has described as “diffusing by appropriation.”

Applying this analysis to the good doctor discourse, we must consider how to interpret statements such as the following from the *Future of Medical Education in Canada* document, which exhorts:

> What is to emerge is a culture of ‘civic professionalism’ in which physicians feel not only an individual obligation to their patients but also a collective obligation to local and global communities (FMEC, 2010, p. 17).

If collectively embraced, does anyone really expect that this ‘collective obligation’ will engage physicians in critical consideration of issues of globalization, social

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4 I am indebted to Dr Arthur Frank who has graciously allowed me to use his articulate phrasing to describe this.
justice and equity? Is this what our privileged Canadian society wants of its medical practitioners? We poach internationally trained doctors from developing countries, provide sub-standard care to aboriginal and homeless populations, and have limited refugee health resources. There is good evidence that poverty is itself a significant health risk (Emerson, 2009; Fryers, Melzer, & Jenkins, 2003; Warnakulasuriya, 2009). As a society will we accept longer wait-times for screening colonoscopies and knee replacements in order to re-direct resources to the areas of greatest need? Or is this part of the “epistemological colonialism” (Martimianakis, 2011) by practitioners in an elite profession to subvert discourses of resistance through engaging with them in a partial and non-threatening way?

8.5 The good doctor, science and society

Identity, knowledge and social relations are all intertwined in conceptions of the good doctor. Discourses of social responsibility show the complex relationship of doctors to society. Physicians serve particular social functions, which incorporate multiple political, economic and social factors. What a good doctor should know has been framed predominantly in terms of the prevailing discourses of scientific medicine. Discursive statements of truth related to the centrality of biomedical science have dominated understanding of what is important medical knowledge. While discourses of medical knowledge have been fairly static, there has been significant change in discourses of the medical trainee from a person to an object. Shifts from the good doctor as a man of character to conceptions of the medical student as an object to be studied scientifically and then to be manufactured have
turned the trainee from a person on a developmental journey to an object to be examined and moulded by medical educators. As a society and as medical educators, we need to take heed of the consequences of such discourses. Will these discursive formulations promote the qualities we most value in our healers? Discourses cannot be changed at will. However, understanding the potential negative consequences of current dominant discourses of the *good doctor* might help medical educators think about what is desirable as they embark on the inevitable next round of curricular change and educational re-design.
Chapter 9

Reflections

“There are no whole truths: all truths are half-truths. It is trying to treat them as whole truths that plays the devil.”
(Alfred North Whitehead)

I did not realise, when I embarked upon the adventure of this thesis that I would be taking on both ‘the good’ and ‘the true’ in medical education. I am very grateful that I did not realise just how far I would venture, for my days of Aladdin’s cave discoveries with the EFPO archives would have been anxiety-fraught rather than wonder-filled had I thought I was seeking to comment on such grandiose themes.

However, be it as Jane Austen’s truths universally acknowledged, Alfred North Whitehead’s half-truths, or Foucault’s regimes of truth, it is clear that assumptions with profound implications underlie some of the most basic tenets of medical education. By tracing the changing discourse of the good doctor from Abraham Flexner’s 1910 Report to the present, I have tried to cast some light on these truths and assumptions.

By focusing on discursive shifts in ideas of the good doctor over the past century, I have attempted to focus attention on the unintended consequences of different discourses. Clearly, in any construct of the good doctor there is complex interplay between identity, knowledge and social relations. Discourse analysis is one way to
explore the connections between ways of thinking, ways of being and social
interaction. Any discursive formulation privileges certain ways of thinking and
being, and makes others less possible. I have tried throughout this analysis to point
out some of the ways that our conceptions are framed and limited by particular
constructs. For example, the discourse of scientific medicine creates science as an
object in the curriculum, at the same time making science into an insurmountable
‘problem’ to be ever at the fore in the minds of medical educators because of the
ever-increasing scientific knowledge explosion. This limits attention to the ongoing
marginalization of the ‘non-science’ in the curriculum. Discourses of novelty that
pervade the medical education literature similarly limit understanding of the
historically constructed and socially negotiated nature of the medical curriculum.
Discourses of social responsibility allow partial uptake of socially complex issues
that could trouble the comfortable place of doctors in society.

In tracing the changing discourses of the good doctor, I have tried to highlight the
consequences that result from each of the dominant discursive framings. Many of
these consequences were unintended. But whether intended or not, they had
significant effect. Flexner’s scientist physician was a man of privilege, whose solid
philosophical and cultural grounding also rooted him in the ways and views of the
social establishment. Flexner’s approach limited access of women and minorities to
medical training. Character as a discourse drew upon early twentieth century
notions of who was considered a man of good breeding. The rise of characteristics
discourse turned the medical student from a user of science to an object of scientific
Every discourse will shape conceptions, sometimes in ways that may not be anticipated. Close examination of the unanticipated consequences of dominant discourses allows consideration of whether we are pleased or troubled by the results, and allows medical educators to consider whether all the messages and assumptions embedded in the prevailing discourse are desired aspects of medical training.

I have particularly highlighted what I see as one very significant unintended consequence of the current dominant discourse of the good doctor. This *roles-competent* discourse makes the trainee an object rather than a person on a journey, and de-emphasises time by over-emphasising the end product. I remain convinced, both as someone who has gone through the process of medical training, and from my years as a medical educator, that the developmental process of becoming a physician matters. I have personal doubts, too, that we shall ever be able to find sufficiently complex and sophisticated means to define *competence* in a meaningful way. This does not mean that I think *competence* an undesirable construct. Nor indeed do I advocate a purely time-based approach to medical education. If I ever need a knee replacement I hope that my surgeon is highly technically competent. I actually would not likely care, for such a straightforward procedure, if her communication skills with me were less developed than her technical skills in the operating room. I would hope, however, that she communicated ably with the nurses and an anaesthetist during the procedure. However, when I assist aging relatives with their stays in acute care hospitals, I do care that the doctors are both
kind and communicative. I was not pleased to overhear a surgical resident respond to a request from a nurse that she talk to me (as a family member) with “well, I'll only do it if she is not one of those annoying family members who asks too many questions.” While I did not lodge a complaint about the resident’s ‘professionalism lapse’ or ‘failure of communicator competencies’ with her programme director, her offhand remark has stuck with me.

In addition to issues of time and the person in medical training, another area in which I hope that this research will make a contribution is that of the nature and structure of the medical curriculum. Specifically, I am not aware of previous work looking at the relationship of science and ‘non-science’ in the curriculum from a discourse analysis perspective. The dominance of biomedicine is well understood. However, perhaps the discursive understanding of the post-Flexnerian curricular transformation of science into a discursive object embedded in the curriculum, (one that is ever-expanding, overwhelming and an unmanageable ‘problem’ for medical educators), will help to look for new ways to re-consider the relationship between biomedicine, social science and the humanities in medical education.

I also hope this work can make a contribution in its highlighting of the socially constructed nature of the EFPO and CanMEDS (2005) roles. We conceive of too many things in medical education as static ‘truths’ rather than as products of specific historical contexts and particular power relations and negotiations. Many current ‘truths,’ including the quality movement, the patient safety movement,
evidence-based medicine, interprofessional education, and the focus on guidelines and knowledge translation might benefit from closer scrutiny in terms of the power relations that form them. By contributing in a small way to one aspect of such discussions, I hope to add to the growing body of work that demonstrates the importance of critical social science approaches in exploring aspects of medical education.

While my work has focused on medical education, I believe that it has relevance for health professions education more generally. Many of the issues I have raised are also important in other professions. In pharmacy, for example, the Association of Faculties of Pharmacy of Canada explicitly cites CanMEDS as the foundation for pharmacy education in its educational outcomes document (AFPC, 2010).

Moreover, three of the ten pharmacy schools in Canada use the *Multiple Mini Interview* (which was described in Chapter 8) as an admissions tool. Clearly, discursive framings of the ‘good pharmacist’ are now incorporating *characteristics* and *roles-competence* discourses. As was discussed in Chapter 7, the CanMEDS Framework (2005) has been adopted for use in many countries around the world. An interesting question is how well such tools and approaches can be adapted to different professions or cultures. And what happens to the discourses from which these objects arise as the objects are taken up in different settings? Given the historical, cultural and profession-specific nature of the negotiated roles development, what happens when such frameworks spread to different countries or
professions? Foucault notes the frequent uptake of a discursive statement in alternate settings, as it:

[C]irculates, is used, disappears, allows or prevents the realization of a desire, serves or resists various interests, participates in challenge and struggle, and becomes a theme of appropriation or rivalry. (1972, p. 105)

How exactly such statements are transformed or altered as they are taken up could be the subject of interesting further research.

I have used metaphors extensively throughout this thesis. I drew explicitly on Northrup Frye’s writings on the metaphor of the transformative hero’s journey (Frye 1990) in Chapters 5 when describing Flexner’s depictions of the man of character. I knew that I was best able to articulate the changing discourses of the good doctor through the use of metaphor. However, while obviously influenced by Frye’s descriptions of the complex influence and power of metaphor, I did not recognize the extent to which metaphor was critical to my explanations (rather than just the easiest way for this particular doctoral student to attempt to get her ideas across to others) until the very end of my work. I owe a debt of gratitude to Professor Fred Hafferty, who discussed the importance of metaphor in medical education in his inspirational keynote at a conference on the Hidden Curriculum. Dr Hafferty’s comments made me realise that, not only did concern about a metaphor (the daisy of CanMEDS) start me on my doctoral journey, but also that incorporating metaphors into my descriptions and understandings of the good doctor was an important way to frame these concepts.
The idea that becoming a doctor is a transformative journey made much more sense to me than the doctor as a collection of bit parts, be these portrayed as characteristics or ‘competencies’ assembled along a factory production line. My use of metaphor, however, extended beyond that of Frye’s hero’s journey. For example, my use of the ‘carousel’ as a metaphor for the recurrent rediscovery of themes in medical education was carefully chosen. I wanted to highlight that what was portrayed as novel was not. Moreover, there is a tendency to describe the work of physicians in heroic terms, hence I deliberately contrasted a noble knightly quest and a circling round and round and up and down on a carousel.

In a similar way, I described the ‘dissection’ of the doctor with the emergence of characteristics discourse. ‘Dissection’ for most medical students immediately brings to mind cadavers and anatomy class, which for most is their first experience with the human body after death. Cadaver dissection is well recognized as an important rite of passage in the medical school experience; a journey to Hades and one of the Herculean labours required in the process of becoming a doctor. Choosing to describe characteristics discourse as ‘dissection’ was a deliberate attempt to suggest that the teasing apart of a medical student by educators was akin to an anatomy class. Dissecting cadavers teaches anatomy but not dynamic physiological processes, let alone the care of patients whose health issues can only be understood in the context of their individual values and beliefs, and their connections to their families, communities, and the broader social environment. Through my use of the
language of dissection, I tried to highlight the inadequacy of any such fragmenting framework for understanding the whole.

The medical profession, like our society in general, considers numeric measures the most rigorous and reliable way to demonstrate importance and transparency. Medical educators prefer to believe that rigid definitions and measurable outcomes are both possible and necessary. Governments ask for numeric proof of accountability. I know that my use of metaphor through this examination of discourses of the *good doctor* will not change our societal and professional preferences that the things that ‘count’ must be counted. I do try to show, however, some limitations to the ideas of measurement when applied to the *good doctor*. In so doing, I attempt to make a small contribution to the very important work that is being done to focus attention on the importance of narrative in medicine. Perhaps narrative and metaphor may eventually gain greater acceptance as ways for medical educators to grapple with the complexities of the *good doctor* in medical education.

On a more personal level, the explorations of my PhD research have changed my understanding of the system and structure of medical education. I apply a different lens to discussions about curriculum changes at both the undergraduate and postgraduate programme levels. At times, this helps me have greater patience as various battles are fought. When frustrated I can sit back and engage in discursive analysis. At other times, I fight harder for changes that I now see as having greater
importance. I am trying to make colleagues more aware of the complexities and hidden assumptions underlying how we think and act as medical professionals.

I realise that I have in many ways just begun on my journey as a critical scholar of my own profession. There are obvious limitations to any attempt to be engaged in critical scholarship of one's own privileged profession. It is perhaps presumptuous for me to assume that as a professional insider I can have insight into issues that relate to the power and privilege I possess. Martimianakis’ important observation of the potential for dilution when elite professions engage in the partial uptake of discourses that challenge and resist dominant ways of knowing (2011, p. 307) provides pause. However, I cannot but believe that there are likely some ways for me to continue to look for interesting ways to ponder and question various aspects of my medical education work, ones that will allow for ongoing probing and exposing of the half-truths and truths universally acknowledged that fundamentally shape the fabric of the medical education system.
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