Alan Bleakley · John Bligh · Julie Browne

Medical Education for the Future

Identity, Power and Location

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Foreword

Medical education is at a crossroads. The health-care and education systems it intertwines are changing dramatically, the roles played by health-care professionals are shifting and the expectations of governments, institutions and the public have evolved. Some observers have looked out over this unstable terrain and declared, pessimistically, that disaster is at hand: they see a damaging confluence of lost professional status, eroding values, marginalization of patients and a rise of production-oriented health care and education.

Bleakley, Bligh and Browne envision a different landscape—one that is radically altered but decidedly hopeful. Medical education, in their eyes, must be reoriented toward a future that is both patient-focused in purpose and democratic in organization. In this vision, the staunchly individualist hero-doctor is no longer the ideal. Medical education instead aims to develop medical professionals who can participate in dispersed social networks that form and reform to accomplish clearly defined healthcare goals. The modernist, sterile 'white cube' that has come to represent both classroom and clinic, would be replaced by flexible, human-scale spaces embedded in the complex messiness of real-world health care. Crucially, the sharp separations of classroom and clinic, of simulated and real, and of theoretical and practical would dissolve completely in this future.

The current model of medical education is often attributed, perhaps in an exaggerated fashion, to Abraham Flexner's 1910 report on the state of medical education in Canada and the United States, and his subsequent analysis of European medical education. Flexner-era reforms were concerned with strengthening medicine's foundation in science. Bleakley, Bligh and Browne, by contrast, call for a reformation that would anchor medical education with an understanding of identity formation, foster deeper reflexivity about the nature and effects of professional power and reinvent the locations, both conceptual and physical, in which medical education takes place.

Many contemporary practices in medical education are the product of longstanding, historically constructed discourses about what is 'right' and 'true' about becoming a doctor. These discourses and practices have become normalized to such a degree that we can no longer see how strange they are. By contrast, when we look back on the practices of medicine from earlier eras (blood letting, urine sniffing)

and medical education (living in the house of the master as 'house officer,' endless sleepless nights on call, a pedagogy of humiliation), we smile at the outdated inappropriateness. In a similar way, this magnificent book helps the reader to problematize current practices and in doing so get free of simply replicating what is inherited from the past. As one reads the unfolding narrative, it becomes clear that today's practices and assumptions will, just a few years hence, seem as strange as those of the nineteenth and early twentieth centuries.

Whereas early twentieth century structural reforms, such as locating medical schools in universities and creating binary basic science-clinical science curricula, facilitated a science imperative, reorienting medical education around these sociocultural axes will require a paradigmatic shift. Central to this shift will be the development of a corps of medical educators and clinical teachers with a strong grasp of theory, sustained by well-honed pedagogical and research skills. *Medical Education for the Future* will serve as an essential text for these clinical teachers and medical educators because its focus is not simply to provide methods for teaching or research, but rather to transform thinking.

The book you hold in your hands was written for those who are deeply committed to the care of patients and the education of students, yet who have doubts about the current landscape of health professional education. For such individuals it is a beautifully rendered cartography of the terrain, a helpful guidebook to the pathways that lie ahead and a thoughtful and optimistic companion for the journey.

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Introduction

The purpose of medical education is to benefit patients by improving the work of doctors. Doctors cannot help patients if they do not listen to them closely and give them their rightful place—at the heart of medical practice. This book offers a theory-rich framework and a practical primer for a new literacy in patient-centered medical education.

Patient-centeredness is a concept that has been around for centuries. In the nineteenth century, the Canadian physician and medical educator William Osler stressed that doctors should learn from their patients. Patient-centeredness has subsequently been picked up and re-examined as a topic many times, especially since the 1980s. But we think there is still a long way to go within medical education. Making sure the patient is at the heart of medical education is a particular challenge during the undergraduate years.

Consider this scenario, repeated thousands of times in medical education across the world. A teacher and a student are sitting at the bedside of a patient. The teacher talks to the patient and then explains the key medical issues to the student. The student asks questions, to which the teacher responds using medical language that the patient may not understand. In this situation, there are only limited opportunities for the patient and the student to get to know each other and to talk in everyday language about the patient's needs. So what is the student learning? Possibly, a great deal about what doctors think and do, but almost nothing about the patient as an individual and a fellow human being. What is missing from this scenario is the opportunity for the student to learn *with, from* and *about* patients. The student will quickly feel that he or she is starting to belong to the medical community—but in the long run it will make it much harder for the student to develop as a caring, genuinely patient-centered practitioner.

What sort of response can medical educators make to this challenge? Attempts have been made to explore the difficulties we face in establishing a genuine patient-centeredness, but they have usually been explained in terms of psychology, sociology and anthropology. The social science disciplines are vital to our understanding of what goes on in the hospital, clinic and community and can offer invaluable tools for examining issues such as person-to-person communication, medical culture and identity construction or how people's daily experience becomes 'medicalized.'

In this book we want to look at the problem at a more 'grass roots' level, in terms of *identity, power* and *location*. The techniques we will use will draw on some unexpected frameworks that have previously never been applied to medical education although they are in common use in political, philosophical, cultural and literary studies.

Take, for example, the idea of colonialism, which may at first sight seem a surprising choice of framework but is in fact closely linked to the issue of power in medical and educational practice and has considerable potential to shed new light on how such power may be used and abused. Doctors are experts and professionals, and this makes them very powerful within the medical consultation. However, if they are not extremely careful, they can find their language, attitudes and behaviors dominating and overwhelming the patient—a kind of colonization of the patient's experience of illness. The patient has to learn the doctor's language, obey the doctor's lead, follow the doctor's advice and even work out how to negotiate his or her way around the doctor's world. As with colonized people throughout history, patients may rebel and resist, forcibly rejecting the notion that 'this is for their own good.' Medical students, learning their profession within this unbalanced power structure, can easily pick up similar colonizing habits and perpetuate the cycle.

The challenge for medical education, therefore, is to try to break this cycle so that patients, doctors and students work together rather than against each other to improve health care for individuals and populations. In other words, medical education needs to define and develop a more *democratic* way of working and learning in the clinical setting, where the power is more evenly shared between teachers, learners and patients. This is where political theory can also shed light on the challenge of putting the patient at the centre of medical education.

We have not developed these two major frameworks—colonialism and democracy applied to medical education—in a theoretical vacuum. We will show how they are derived from evidence gleaned from empirical studies, which will be of particular interest to practicing clinician-educators. Medical education for us is not only something you have to think about, but is something you *do*. It is about knowing why you are doing what you are doing, thinking about ways in which you can improve it—and then doing it again, only better.

Another rich source of ideas that can help us to think about medical education comes from literary theory. Certainly, the best doctors listen very closely and respond attentively to patients at a variety of levels, including the technical, ethical and human. Good doctors read and respond to patients using a practice known as *close reading of the patient*. Indeed, doctors often talk about 'reading' the symptoms, signs and indications that the patient communicates both consciously and unconsciously. We argue that this twin act of sensibility and sensitivity can be seen as a type of literary awareness.

Literature offers a wonderfully rich, culturally specific, way of engaging with the experiences of others—through story and character. Literature deliberately sets out to make us think in ways other than the merely obvious. Importantly, literature can help us to think the unthinkable and imagine the unimaginable. Experienced doctors know how important these ways of thinking really are in helping them to

deal with the uncertainty that is fundamental to medicine. Like poets and writers, they know that what you can see on the surface is only a part of the story and that what is not there—unseen, unsaid and unfelt—is also important. This seems contradictory—how can we know something if it is absent? By 'absence' we do not mean the things that can never be known, but rather those things that are just below the surface, just out of earshot. Patients do not always mean what they say and a consultation rarely gathers a whole story. There is often detective work to be done in reaching a diagnosis.

To restate the relation between absence and presence: the meaning of what a patient says when he or she responds to a set of diagnostic questions is not always present or immediately evident and so needs both close reading and interpretation. This is particularly obvious for children, the confused elderly and patients with learning needs or communication difficulties. But the things that a patient does *not* say or do can be the key to unlocking a diagnosis. It is sometimes absence—for example of social imagination, social interaction, key language or communication skills, or key developmental milestones—that enables a doctor to diagnose the presence of an underlying condition such as autism. In other cases, something may be present but hidden. To an expectant mother, the baby inside her is usually a very real presence; a pregnant woman may develop an inward focus as she communicates imaginatively with her baby or feels it move inside her. But to everyone else, the baby is 'absent' until it is revealed by medical imaging, or by the process of childbirth.

Using these new ways of thinking in order to put the patient at the heart of the matter is an exciting challenge for medical educators everywhere, both as individuals and as a profession. The traditional academic view of medical education as a translation of learning theory into clinical practice is no longer sufficient to help us face the culture of change and uncertainty in which doctors of the future will practice. To rise to the challenge facing medical education and practice for the future, medical educators need to develop a systematic and programmatic approach to research in the field and also to have a clear idea of what it is that they are researching, why they are researching it and what they hope to achieve. Medical educators—researchers, teachers and clinicians—need to look again at what they are doing, why they are doing it and how they can do it better. We argue in this book that all the answers to these questions can and should be found within the care of patients.

It is important to reiterate that while our focus is on moving medical education forward so that students, teachers and patients can learn more comfortably and effectively with, from and about each other, it is important to ensure that this process is conceptually and theoretically sound and grounded in solid empirical evidence. This requires high quality medical education research. Medical education research, by introducing a culture of evidence-based practice and open debate, has an important role to play in showing how the old traditions of 'medical training,' delivered in an idiosyncratic and intuitive way, led to and perpetuated the types of power imbalances that excluded and alienated patients. In short: medical education research makes medical education more democratic; and if medical education is more democratic, medical practice will also become more genuinely patient-centered and democratic.

This book is structured as three sections. In section one, we begin by looking at the contemporary field of medical education to ask how we got to where we are and why medical education today is often seen as being at a point of crisis. We look at the symptoms of this 'crisis' and trace its causes by taking a historical approach to diagnosis. We suggest methods of 'treatment' that might improve the overall health of the field of medical education and establish it as a mature discipline with a clear sense of identity. Within this section, Chap. 1 looks at contemporary conditions and suggests that medical education is undergoing a necessary transition towards greater democracy. Chapter 2 examines current arguments that view medical practice not as an analytical type of knowledge but as a *practical knowing*. Analytical knowledge is traditionally acquired in universities, since the belief is that theory must precede practice in order to develop clinical reasoning skills. Practical knowledge is best learned in clinical settings, in order to encourage early and sustained patient contact. But the challenge for educators who see medicine as a practical knowledge is how to design work-based learning so that students are challenged but not disheartened by their experiences. This does not mean returning to the old-style apprenticeship model, where learning is frequently unstructured and haphazard, but requires a new type of ethical, progressive and integrated education that allows students to make the transition from student to doctor by aligning medical science with patient care. Chapter 3 looks at work-based learning in more detail and at three models of social or collaborative learning that underpin work-based practices: activity theory, communities of practice and actor-network theory. In Chap. 4 we place learning theories in a historical context to show how political and ideological assumptions can privilege certain approaches to learning while others are less successful because they do not fit in with the prevailing culture of the time.

Chapters 5–12 form the second, central section of this book. In these chapters, we discuss issues of identity, power and location in medical education through a close analysis of how medical students and doctors learn in work-based settings. How professional identities are constructed through the educational process is a key issue and one that is governed by issues of power and location. Why is one way of educating the doctors of the future seen as acceptable where another way is viewed as unimportant or even dismissed out of hand? Does it matter where learning takes place? We look further at social learning theories and show how they offer a powerful explanation of how learning occurs and how it can be enhanced in modern clinical settings, particularly when it is based on the care of the patient.

It is well understood that doctors, clinical teachers and medical educators are made, not born. But how do they learn their professions—and how do they become professionals? How are their identities constructed? How can we clarify and conceptualize the role of the clinician, clinical teacher and medical educator, and what will be the future of medical education as a career now that it is becoming more formalized and professionalized?

In this central section, we look at how doctors tell the public about their work—and how such work and the identity of the doctor are represented—in a variety of media such as books, journalism and television. Chapter 8 shows how these writing practices have a powerful effect on how medical practice is viewed and offer an

opportunity for doctors and the public to wrestle with ethical issues and for doctors in particular to *account* for their practices in public settings. This new style of writing is a cultural development that alerts us to the fact that medical education is ideological and not neutral. It is, indeed, highly political and is laden with cultural assumptions and values that need to be questioned and investigated. Chapter 9 develops this topic to look closely at issues of power in medical education—how various forms of power can have an effect on how medical education is delivered and experienced. We discuss in particular 'capillary' power and—as an example—show how, in the guise of governance and professionalism, this form of power affects the learning and teaching experience for both students and teachers.

Chapters 10–12 discuss issues of location. Medical education takes place in a variety of situations: for example, classrooms, simulation suites, at the bedside, in hospital wards and in patients' homes. It may be solitary—at a desk, in a study or library or office—or take place within group settings, where it is done in pairs, in work teams or by whole cohorts of students. It may be in a range of institutional settings: such as a University lecture theater, a post-graduate centre, a teaching hospital or at an academic conference. And it takes place all over the world. What effect do such multiple locations have on how medical education happens? As a case study, we look in depth in Chap. 11 at the simulation suite and how this new and often necessary style of learning environment is affecting what and how students learn and how it may have an effect on their subsequent practice as doctors. In Chap. 12, we look up from the local, to the global stage on which medical education is also located. We ask whether Western medical education has been unintentionally guilty of pushing forward its own particular cultural assumptions at the expense of the learning traditions of developing countries, offering a new type of imperialism.

The third section looks at medical education research and offers some practical examples of how good conceptual modeling within research design can help us base our medical education practice more effectively on solid evidence. We argue in this section—particularly in Chaps. 13 and 14—that patient-centeredness is essential to good clinical care and should therefore be central to medical education: but before we can authentically centre our practice on the patient, we have to conceptualize clearly what it is we are saying when we use the term 'patient-centered'—and to demonstrate that it is a theoretically rigorous approach. We believe that medical education has become a little lazy about 'patient-centeredness' and that the meaning of this descriptor is not self-evident, deserving a second look. In this section, we also offer some practical ideas drawn from literary and cultural theory to help us think more critically about what medical educators are doing when they claim to be placing their focus on the patient. We show how medical students and doctors can engage with the patient as a source text in new ways that will improve their clinical insight. In Chaps. 15 and 16 we conclude our discussions by formally reviewing current issues in medical education research, backed by a historical account of how those key issues came to prominence. We suggest a five-point agenda for progressing medical education research through a programmatic and systematic approach and the building of a research culture—a community of practice—based on an identity construction of the medical education researcher. In the closing chapters of this

section, we argue for a broader, mixed-methods approach to research in the field that takes into account three key issues previously touched upon but sometimes underplayed—in our view to the detriment of both theoretical and practical developments in medical education. These issues are: cultures, context and concepts.

Research should be conceptually strong, sensitive to local context and reflexively aware of how it is embedded in a culture with a history. In generating productive conversations between cultures of research (what, for example, can feminist research contribute to medical education?), contexts for research (will a feminist approach illuminate a traditionally masculine culture such as surgery?) and concepts (is there a tender-minded surgical practice?), we can discuss the issue and search out the territory without making premature assumptions about the value of particular methodologies.

In Part IV of the book, we conclude by summarizing the main arguments (Chap. 17), and then in Chap. 18, we think hard about the future of medical education. Here, we move from our central concern with pedagogy to consider current issues of policy. We argue that pedagogy and policy can be brought into a critical and creative dialogue on the fertile middle ground of academies of medical education—organizations set up to promote medical education as a community of practice. We suggest that policy frameworks setting out to standardize medical education provision may inadvertently homogenize such provision, frustrating medical education's interest in 'difference'—the very thing that makes medicine such a challenging and humane practice, as doctors pledge to treat all patients equally and to respect their differences.

We are concerned that medical education and its related research culture keep the patient as the primary focus. Again, we fear that 'patient-centeredness' has for some become an empty mantra rather than a positive guiding value that can transform practice. 'Patient benefit' should not become empty rhetoric, but should be a roundly celebrated outcome, with the patient as the judge of the quality of patient-centered care. We hope that you enjoy reading *Medical Education for the Future: Identity, Power and Location* as much as we have enjoyed writing it. The formulation, discussion and processes resulting in this book have been deeply instructive to our working lives, embedded as they are in a forward-looking UK medical school. Writing (and re-writing!) the text has been interwoven with three years of friendly debate and discussions between the authors, who draw on a wide range of personal experience in the field and who maintain extensive contact with helpful colleagues nationally and internationally.

Part I
Medical Education—A Democratising Force for Medicine

Chapter 1
Medical Education as Patient

> *The way forward is paradoxically to look not ahead, but to look around.*
>
> John Seely Brown and Paul Duguid,
> *The Social Life of Information* 2000

Not Prophecy, but Spotting Trends

Predicting the future of medical education, suggests Eva (2008, p. 330) is a 'fool's task,' where 'the most likely outcome promises to be embarrassment for the prophet.' We tend to agree with Eva that we may all be better off in medical education for 'covering up the crystal ball.' However, in this book we make no claims for prophecy; rather, we are interested in Michel Foucault's idea of *a history of the present*. This approach maps out the *conditions of possibility* for the emergence of particular ideas and practices. As Foucault (2005, p. 9) puts it:

> It seems to me that the stake, the challenge for any history of thought, is precisely that of grasping when a cultural phenomenon of a determinate scale actually constitutes…a decisive moment.

In other words, what particular combination of *historical* trends might have reached a critical intensity to create 'a decisive moment' that is significant for the contemporary trajectory of medical education? Such an approach is necessary, where, as Gunderman (2006, p. 47) reminds us, 'Most of medicine is taught in a largely ahistorical manner.'

Let us put Foucault's formula of a history of the present another way. Certain factors may coalesce to produce a 'tipping point' (Gladwell 2002) in history where a significantly new way of thinking and acting emerges. A tipping point may only require a small nudge in circumstances to create a big difference, but there will usually have been a long, prior historical accumulation of circumstances. The change may be significant enough to be called a 'paradigm shift,' the term coined by the historian of science Kuhn (1970) to describe seismic shifts in the history of science (such as the Copernican and Darwinian revolutions). Central to Kuhn's description

of how a paradigm shift occurs is the notion of 'crisis.' This is both a technical crisis, where an established model no longer explains available data; but also a crisis of confidence, where a model is exposed as having limited exploratory power and another model evolves.

A paradigm, or large framework for thinking, can also be thought of as a *discourse*, or set of interconnecting discourses, underpinned by particular values. A discourse can be described as a set of practices and associated structures of knowledge that are considered at any one time in history to be legitimate, or claim 'truth' (Mills 1997). Once this discourse becomes dominant, other views are marginalized (an effect of power), and the dominant view is treated as if it were self-evident or transparent—again, a 'truth.'

In this chapter, we track *trends* in medical education (Regehr 2004) to expose a persistent anxiety—the often-repeated fear that medical education is in a state of crisis. This alerts us to the potential that a paradigm shift is underway within the field. However, medical education is embedded in a wider cultural context and a paradigm shift occurring in the wider culture may be radiating to medical education. As Negri (2008, p. 123) suggests: 'Our era is not "late modernity" but "postmodernity"; an epochal break has taken place.' An 'epochal break' suggests a major shift in cultural outlook. We are not concerned here with the label we place upon 'our era' and that of the near future and in fact there is little consensus on what term should be used: 'postmodernity,' 'altermodernity,' 'late modernity,' the 'risk society,' 'liquid society' and 'posthumanism' have all been used to describe the times in which we live. What concerns us is the nature of the conditions of change as we break away from modernity, since these are what orient us to the future.

One of these cultural changes is dramatic and obvious—the information revolution centered on the use of computers and the Internet. The second is less obvious, but intimately tied to the first—the shift from traditional vertical structures of communication, such as hierarchies of control, to horizontal structures such as 'negotiated knotworks' and networks, embodying coordination, cooperation and collaboration (Engeström 2008). This reflects a—sometimes radical—democratization of both knowledge and practices or activity (Keane 2009), that, in clinical settings has been shown to provide the conditions for more effective communication between practitioners and practitioners and patients, resulting in increased patient safety (Kohn et al. 1999; Berwick 2004).

Medical education is, of course, also embedded in the wider culture of the discipline of education, where, as Sullivan and Rosin (2008, p. 103) point out, 'educational agendas resonate with larger culture-shaping movements at work in the contemporary world.' These 'culture-shaping movements,' *as they impinge upon medical educational theory and practice*, are considered critically, and in depth, throughout this book. Such culture-shaping movements, and their resonant educational agendas, centre on identity, location and power—discussed in Chaps. 5–12 in particular.

We have previously claimed that there is a paradigm shift underway in medical education, but is this really what is happening and where is the evidence for this? The work of the philosopher MacIntyre (1977) sheds further light on the idea of

fundamental cultural shift, where he suggests that major changes in values, theory and practices within a culture are formulated as stories or narratives. The high-level meta-narrative can be thought of as the substance of the paradigm shift itself, but this is supported by a network, or platform, of lower level, justificatory narratives which explain (and explore) why the emergent paradigm is preferable to the one that it replaces. That is precisely what we do in this book. While we offer research evidence wherever possible for specific claims that we make, or we report research evidence backing claims that we discuss, we are, overall, providing a justificatory narrative that medical education is going through a deep *and necessary* transition. However, as readers will discover, we are also reminded that the more things change, the more they remain the same. We will tease out what we consider, first, to be surface elements of this transition that merely repeat a symptom of anxiety in the medical education culture that things *should* be in flux, otherwise nothing important is happening; and second, what we consider to be genuine trajectories of the new and vital.

Through our meta-narrative of significant change, we articulate main trends in medical education, where by 'trends' we do not mean 'fashions' in medical education (Campbell and Johnson 1999). Our approach is not simply descriptive, but prescriptive in the medical sense, where we take contemporary medical education as the 'patient,' describe symptoms, offer a diagnosis and suggest a course of treatment. We think that the symptoms are transparent, but the remedy is open to debate. Importantly, ours is neither a *correct* diagnosis nor treatment. It is a considered view, and we recognize that there will be other, competing views and narratives.

Is describing medical education as a 'patient' simply a glib metaphor? We do not think so—the analogy offers a serious perspective that draws on the disciplines of literary criticism and philosophy. Friedrich Nietzsche famously referred to philosophers, writers and artists as 'physicians of culture' (Smith 2005). All cultural phenomena can be read as symptoms reflecting cultural 'health.' For Nietzsche, individual philosophers, artists or writers themselves may be in—literally—poor health (as was Nietzsche himself), but what they do, in serving their vocation, is to increase the overall vitality, or health, of a culture, that Nietzsche called 'the great health' (Smith 2005, p. 192). What they also do—mirroring the work of doctors—is to 'read' the symptoms of an ailing culture and recommend how 'the great health' may be restored. In this book, often drawing on lessons from the humanities, particularly literature, philosophy and history, we act as 'physicians' of the culture of medical education in Nietzsche's sense. As stated earlier, we not only try to diagnose symptoms and suggest how we might address such symptoms, but, more importantly, we attempt to raise 'the great health' of medical education—its vitality and imagination; its powers of engagement, passions and creative potential.

Smith (2005) describes how the French philosopher Gilles Deleuze, in his last book before his death, *Critique et Clinique*, published in 1993, followed Nietzsche's model to suggest that artists and writers are clinicians of culture. Deleuze saw the clinical (in the medical sense) and the critical (in the literary) sense as in mutual dialogue, where artists and writers are 'symptomatologists,' or diagnosticians of the health of the culture.

While there are many doctors who have been writers, but do not necessarily write about medicine, a genre has recently developed in which doctors who are good writers act as symptomatologists or diagnosticians to reflect on the health of medicine and surgery, such as Gawande (2007, 2008) writing on the symptom of surgeons who are unable to admit uncertainty to patients or even to themselves in an uncertain occupation; or Verghese (1998, 2009) and Huyler (2010), writing about doctors facing ethical dilemmas within their work and attempting to maintain a balance between ordinary life and medical work; or Patterson (2007) writing about white Canadian doctors working in Inuit communities. We also think that perceptive medical educationists, even those from a non-clinical background, are in a good position to act as diagnosticians for the state of medicine, where such non-clinicians work closely with the clinical community in matters of medical *education* (Ludmerer 1999; Cooke et al. 2006; Riesenberg et al. 2009).

Medical Education in an Historical Key

In mapping a history of the present and spotting dominant trends, we make an argument that forms of *power* are at play that lead to the legitimization (and then adoption) of certain ways of doing things, while making other possible ways illegitimate, which are then excluded. Why we practice medical education one way and not another, can be examined historically, to make reasonable predictions about what the immediate future may hold for such practices. For example, in discussing learning theories in medical education in Chap. 3, we argue that a particular brand of theory—individualistic approaches to learning, often termed collectively 'adult learning theory' and characterized by emphasis upon the 'autonomous learner,' 'self-directed learning' and 'self-assessment'—is not a *natural* or *best* way to do learning, but is a product of ideology, itself a condition of power (Mills 1997; Hawkes 1996).

An ideology is a coherent and permeating system of ideas. Ideologies can become dominant, so that one system of ideas displaces or marginalizes another. This offers a power struggle. To return to 'adult learning theory,' in a capitalist culture in which individualism—indeed heroic individualism—is prized (Bellah et al. 2007), self-directed learning models will be privileged over other models of learning, such as collective, or social, models (Bleakley 2006a). Medicine, especially the North American version, has a history of valorizing self-help and the heroic individual and from this stems the powerful tradition of role modeling, within an apprenticeship, as an educational strategy (Ludmerer 1999). In a socialist system, 'self-direction' makes no sense ideologically and so it is not surprising to find that social, or collective, models of learning originated with Lev Vygotsky after the Russian Revolution in 1917 (Daniels et al. 2009).

These are not issues of deciding which is the 'best' model of learning—such as which has most explanatory power for a certain context—but what *forces of power* are at play that legitimate certain approaches to learning in certain contexts.

Learning is then fundamentally political. But learning and education are also intimately tied with two other issues besides power: *identity* and *location* (or place).

Identity

Medical education is not simply about learning and applying knowledge and skills, but also who we become as medical educators and clinical teachers. Where Montgomery (2006, p. 166) suggests that 'medical students have committed themselves to a self-altering course of study,' this recognizes that medicine is about identity construction. But beyond the identity of the doctor, the identity of the medical educator and the clinical teacher, as we discuss in Chaps. 5–8, are more complex, because medical educators also have backgrounds in academic disciplines outside medicine, may not have clinical experience, or may have clinical experience in subjects allied to medicine, such as paramedicine, operating department practice, nursing, physiotherapy, occupational therapy, laboratory biomedicine, dentistry, social work, pharmacy, clinical psychology, psychotherapy and so forth.

Becoming a doctor, or another health professional or associated discipline, is to take on an identity (or a compound of identities), associated with multiple roles, currently addressed through the contemporary literature on 'professionalism' (Stern 2006). The vicissitudes of a medical identity are intimately tied with power. Consider the legal and ethical restraints upon medical students, where they must learn certain invasive clinical skills *in vitro* rather than *in vivo*. A time comes when certain clinical procedures once carried out under supervision, such as prescribing controlled drugs, are now unsupervised, independent actions. At this point, the doctor accrues a certain kind of power as an identity is assumed.

Location

As far as location is concerned, let us take the example of learning by simulation. By definition, a simulated environment—such as medical students learning resuscitation on a 'high-tech' model or manikin, or learning clinical communication skills through videotaped simulation exercises using actor patients in a purpose built 'communication suite'—is not a 'real' clinical location, although it is a real location for learning. It is therefore important to consider the implications of the location of medical education: community, clinic, ward, operating theater, simulated and virtual environments, classrooms and so forth.

If medical education were to be reduced to a formula it might be: *medical education = identity + location + power*. However, because these areas are contested and fuzzy, medical education must be more complex than this, as: *medical education = identity × location × power × uncertainty*. This offers a basic framework for this book. Again, we will not uncover the crystal ball of medical education—not just

Fig. 1.1 Medical education
for the future

POWER

PATIENTS

IDENTITY ←——————————→ LOCATION
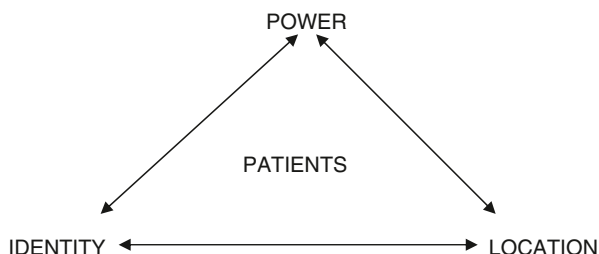
foolish, as Eva (2008, p. 330) suggests, but an act of *hubris*—but we will attempt to map a history of the present in which trends can be identified and discussed. Where the patient is at the heart of the enterprise, a medical education for the future can be modeled as in Fig. 1.1.

Crossroads and Crisis: How Is the Patient?

What is in the air for medical education as we look to the future? What are the key metaphors, the tone or tenor of key statements and the nature of the rhetoric? What are the *trends*? Towle (1998, p. 3), in *Medical Education in the Millennium* (Jolly and Rees 1998), asks: 'how can we prepare young doctors for the future in a world which is rapidly changing?' As Jolly and Rees (1998, p. 5) themselves suggest, it is important to articulate the trends of medicine and medical education. But such trends are only understandable in the wider cultural setting in which they appear. As long as medical education is discussed in a vacuum separated from that culture, it is hard to then understand its possible trajectory.

Towle (1998, p. 4) calls for 'the need to alter the character of medical education so that it fully meets the defined needs of the society in which it is situated.' First, it is interesting to think of medical education as having a 'character,' an identity that is shaped by historical and cultural forces and may be open to re-shaping. Second, what are the 'defined needs' of the society? Is this the accountability agenda for doctors, or, as we suggest here, is this more about collaborative practice between doctors and patients—an authentic patient-centeredness? We would also have to discuss quite who defines the 'needs of society,' which is an issue of power and highly contested. We certainly agree with Towle (1998, p. 3) that in medical education 'a new realization of the need for change has emerged.' This would suggest that medical education's main symptom is either apathy or conservatism. Either way, crystallization may have occurred in a kind of hardening of values that, simultaneously and paradoxically, produces an acute vulnerability to change.

Other commentators suggest that it is not that medical education has—historically—drifted into apathy. Rather, academic medicine as a whole has been at best hindered and at worse strangulated, through structural changes that simply do not allow, or support, doctors to teach; that privilege research activity over teaching

and the scholarship of teaching; and that restrict the development of an educational workforce by diverting funds into other areas of medicine. Academic medicine remains the poor cousin of other specialties, struggling for survival. This is the view of Ludmerer (1999) in his comprehensive account of the history of North American medical education, which describes the recent history of academic medicine as one of survival following an ongoing series of crises.

Reminding ourselves of the philosopher Alisdair MacIntyre's argument that top-level paradigm changes need to be supported by lower-level explanatory narratives, Ludmerer's *Time to Heal* (1999) unfolds a set of narratives of contemporary medical education that mirror the opening up of frontier America itself—a story of perpetual struggle and conflict, leading to a peak situation of crisis as we enter the new millennium. The text was written as a follow-up to *Learning to Heal: The Development of American Medical Education* (Ludmerer 1985), where the change of title reflects the perceived downturn in the status of medical education in the USA towards the end of the twentieth century. For Ludmerer, now is the time to heal or repair a pan-American medical education in disrepair; or, alternatively, medical education needs time to heal. Either way, medical education as patient displays symptoms and is in need of treatment and Ludmerer's double meaning in the title of his second book—*Time to Heal*—implies that recovery could take some time. In the era of 'managed care,' where the marketplace exerts undue pressure on the way that doctors learn and practice, Ludmerer points to an erosion of learning environments for medical students and junior doctors, due to a lack of clinical income that could support teaching and research into clinical education.

Gunderman (2006, pp. 1–6) echoes Ludmerer's pessimism (while providing an excellent summary of his argument), reinforcing the common sense view that withdrawing resources from education will do permanent damage to the future practice of medicine, heralding acceptance of a 'good enough' system, rather than developing a system of 'excellence.'

Describing academic medicine as in crisis is not limited to North American examples. In 2003, the International Campaign to Revitalize Academic Medicine (ICRAM) was launched as a partnership between the *British Medical Journal*, *Lancet* and 40 other bodies, to develop a new vision for academic medicine, described as 'in crisis around the world' (International Working Party to Promote and Revitalize Academic Medicine 2008). Academic medicine was seen as both failing 'to realize its potential' (apathy) and as failing its 'global social responsibility' (conservatism). The campaign's diagnosis was clear: academic medicine had gone stale (implying that it is out of touch with a changing world) and academic medicine was not responsive enough to patients, as potential partners in medical education.

The rhetorical language of 'crisis' to describe the state of academic medicine and medical education has been paralleled by the employment of more curative languages—particularly the rhetoric of both urgency and choice (through the metaphor of 'crossroads,' or 'crossroad'). A 2006 editorial in the *Lancet* (Davis and Ponnamperuma 2006) outlined a need for a new approach to medical education research, suggesting that such research is not simply in bad shape, but has never really got off the ground in comparison with clinical and health services research

(see Chaps. 15 and 16). In summarizing this editorial, the *British Medical Journal* suggested that, where 'Medical education research is at a crossroads' it is a small fish in a big pond, competing for resources and struggling for recognition amongst major players from clinical and health services research.

Medical education research is characteristically seen as lacking rigor, even at the most basic level of researchers failing to carry out good literature reviews. The metaphor of 'crossroad(s)' also appears in the introduction to Sir John Tooke's (2007) inquiry into *Modernizing Medical Careers*, concerning the future shape of postgraduate education in the UK, where 'postgraduate medical education and training in the UK' is 'at a crossroads.' This suggests that, despite a condition of crisis, we have choice in the matter. In their groundbreaking Carnegie report *Educating Physicians,* Molly Cooke, David Irby and Bridget O'Brien (Cooke et al. 2010, p. 1) say:

> medical education in the United States is at a crossroads: those who teach medical students and residents must choose whether to continue in the direction established over a hundred years ago or to take a fundamentally different course, guided by contemporary innovation and new understandings about how people learn.

The reference is considered so important that it is repeated by the publishers on the cover jacket. The 'direction established over a hundred years ago' refers to the landmark 1910 Flexner Report. In *Educating Physicians* Cooke et al. offer a radical departure from the Flexnerian tradition while paying homage to its historical worth (see also Irby et al. 2010). We see our text *Medical Education for the Future* and the Carnegie report as complementary, together offering an exciting new horizon for medical education.

Bligh and Brice (2008, p. 653) do not want to linger at the crossroad(s), but warn medical education researchers that, 'as a matter of *urgency,*' we must 'research, assess and demonstrate clearly how what we do is important for the improvement of patient care.' Fish and Coles (2005, p. 1) use the same language (and rhetoric) to address the state of postgraduate medical education in the UK, where 'the scheme *urgently* needs a more coherent, articulated curriculum framework' (our emphasis).

The Symptom May Be the 'Education' in Medical Education, While the Cure May Be a New Approach to Education

As we write this and as introduced above, modern medical education is about to celebrate its centenary within a postmodern world. Again, it was in 1910 that Abraham Flexner, the father of modern medical education, proposed the '2×2' structure of undergraduate education (the system of graduate entry programs for medicine and surgery, with two years in a University/classroom/laboratory setting learning basic science and two years gaining clinical experience and experiencing applied clinical science) (Flexner 1910). This preclinical *plus* clinical model is still the basic template worldwide. While the Flexnerian revolution led to a thorough structural

change in medical education, paradoxically Flexner's proposed *educational* revolution, influenced by the then progressive, learner-centered, democratic ideas and ideals of John Dewey, was never fully realized. Because of this, the identity of the medical *educator* is also unrealized. Coincidentally, Dewey's first collection of educational essays was published in 1910, the year of the Flexner report (Dewey 1910).

Cooke et al. (2006, p. 1339) point out that Flexner saw formal analytic reasoning, central to the natural sciences, as a vital platform for the 'intellectual training of physicians.' Current thinking about education in the professions in general (Sullivan and Rosin 2008) and medical education in particular (Fish and Coles 2005) is that this emphasis is misguided. The sharp distinction between a pre-clinical and clinical education demands an intellectual shift—from *critical, analytical* reasoning to *practical* reasoning. Practical reasoning capability is necessary for *application* of science to clinical settings, but if practical reasoning is ill formed, where analytic reasoning has been privileged, then such application is difficult or confounded.

Flexner (1925), however, in what can be seen as the first modern text on medical education, did absorb Dewey's ideas of learning by doing and thinking in action—a peculiarly North American mix of 'can do' pragmatism and cognitive adaptability—thinking on one's feet. This was filtered through the 'frontier' virtues of heroic individualism and self-help. In characteristically insistent style, Flexner (1925, p. 148) famously said that 'medicine can be learned, it cannot be taught.' Such paradoxical imperatives are characteristic of liberal education tracts stressing 'self-direction' in learning (which is both oxymoronic and conceptually unsound, as we are never isolated from social context, and have first to decide on what we mean by 'self'—indeed Dewey saw the self as social and practice as a collaborative, community endeavor).

In Chap. 12, we discuss North American-based clinical educators' critiques of the contemporary Japanese education system (for example, Rao and Rao 2007), calling for wider employment of contemporary learning methods such as problem-based learning. Such critiques develop a blueprint for a new approach to medical education in Japan, but we ask—in whose image? Such educational thinking can be seen to suffer from an unacknowledged neo-imperialism, where the authors suggest that the most important attributes of a physician to be addressed by medical education are independent thinking and self-directed learning, the very pillars of North American heroic individualism, expressed most powerfully in masculine surgical culture (Cassell 1991; Katz 1999) and characterized by intolerance of uncertainty (Paget 2004). It is not difficult to spot the continuing influence of Flexner in this nascent medical education imperialism, where heroic values are still evident.

Dewey still exerts a powerful influence upon American education, largely due to what is perceived as his practical approach, where ideas are realized in action. Despite the rhetorical use of 'new' in the title of the 2008 Carnegie Foundation's *A New Agenda for Higher Education* (Sullivan and Rosin 2008), promising a new wave of educational theory and theorists, Dewey is the most cited educationalist. In the UK, Dewey's heir Schön (1983, 1990) has, arguably, been the most influential educationalist in medical education and certainly in health-care education (Ghaye 2005), where his model of reflective practice for the professions has not only been

widely abused and misunderstood, but is neither critiqued well, nor been formally progressed (Bleakley 1999). As we discuss below, the Deweyean-Schön tradition continues to influence contemporary thinking in both medical education (Fish and Coles 2005) and surgical education (de Cossart and Fish 2005).

Paradoxically, it was Flexner himself who set up a structural barrier to fully implementing Dewey's ideas, in *separating* the classroom and laboratory preclinical experience from the clinical, work-based experience, instead of *integrating* them, thus restricting early experience with patients for medical students. While there is no reason why the academic, preclinical phase cannot include 'progressive' educational practices in Dewey's terms (such as independent learning, problem solving in small groups and knowledge production rather than reproduction), this was less likely to happen in environments that excluded hands-on experiences with patients and where learning was informed by analytic, rather than practical, reasoning.

Ludmerer (1999, p. 312) suggests that it is the science/practice split that has offered 'the primary obstacle to establishing a true student-centered curriculum' in medical education, where the preclinical medicine curriculum is fundamentally science-centered, rather than either student-centered or patient-centered. How can students gain a patient-centered way of thinking if they are shielded from contact with patients in the preclinical phase, or the only patients they gain intimacy with are the corpses that they dissect? Further, because of the formative influence of the preclinical years, students have tended to take a laboratory scientist mindset into their clinical medicine, rather than developing an early, formative identity as a clinician.

Again, if we treat medical education as patient, in these accounts the patient is unwell and in need of treatment. Our suggestion is that the symptoms of medical education's current malaise are as much a result of *educational theory* issues as they are of structural issues and therefore the remedy, as Flexner himself certainly thought for his own era, may rest with a new wave of educational thinking. Indeed, part of this new wave is a critical reconceptualization of the ideals of Abraham Flexner and of the identity he modeled as a medical educator (recalling that Flexner was not a clinician but an educationalist, although his brother was a physician).

Hodges (2005) suggests that in lionizing Flexner (again, the heroic individual as role model) we overlook the fact that his 'reforms,' perhaps inadvertently, closed the door for many years to the study of medicine for women and minority groups. This was because such groups were accepted only by the smaller, less prestigious institutions—who may also have held a radical view on equality of opportunity—and these were the medical schools that Flexner suggested should be scrapped for their low standards and poor resources. In Canada, women-only medical schools that particularly focused upon women's health were closed in the wake of the Flexner Report (1910)—which could then be read as an instrument of oppression rather than liberation. (Brian Hodges' account also points out that 'master narratives' of the history of medical education emerge as a result of power and legitimacy issues, where competing narratives are marginalized, echoing fundamental points made earlier in this chapter).

It is perhaps shocking to think that medical education may not have moved much beyond Flexner in a century. Indeed, one could argue that the Flexnerian revolution has never really happened, because Deweyean collaborative educational methods have never been fully introduced into either undergraduate or postgraduate education. Ludmerer (1999, p. 6) applauds late nineteenth-century medical schools, such as Johns Hopkins in Baltimore, for 'rejecting traditional notions that medical education should inculcate facts through rote memorization,' where 'the new objective of medical education was to produce problem-solvers and critical thinkers' who would reject didactic teaching methods for 'self-education and learning by doing.' In the new millennium, in the era of nonlinear complexity sciences, we may ask why a new wave of educational models has not been eagerly taken up by medical education beyond problem-based learning and why medical education is not once more at the cutting edge of educational practice, beginning with a critical interrogation of its previously uncritical acceptance of so-called 'adult learning' theories and practices (Norman 1999; Bleakley 2006a).

Leading edge models of education will be discussed in subsequent chapters and here we will simply list the more pressing aspects of a new wave of educational inquiry, as an introduction. Feminist education models respond to the gender shift in medicine, where there are significantly more female than male medical students (Nelson 1999; Letherby 2007). Models of effective team work address the stark finding from patient safety studies that the vast majority of medical errors are grounded in systems-based miscommunications, where the basic system is the clinical team (Kohn et al. 1999) and promote collaborative, or distributed cognition, models of clinical reasoning (Higgs et al. 2008) that challenge the currently dominant individual cognition models (Gruppen and Frohna 2002).

Such models insulate doctors' thinking from disciplines other than medicine and from the significant potential involvement of patients (Groopman 2007). Nonlinear, adaptive dynamic systems approaches to learning, such as activity theory (Daniels et al. 2009) and complexity theory (Pauli et al. 2000a, b; Sweeney 2006; Bleakley 2010a), bring to medical educational thinking what has already been brought to biomedicine—understanding of relationships between variables in intrinsically unstable systems operating far from equilibrium. Following the explosion of interest in learning through simulation in medical education there is a need to theorize this area more deeply, where cultural and literary studies have for many years developed sophisticated models of representation and simulation (Bradley 2006; Bligh and Bleakley 2006) (see Chap. 11).

Medical education research can be better understood and implemented through understanding new models in organizational theory such as 'creative knowledge environments' (Hemlin et al. 2004) (see Chaps. 15 and 16). We need to develop better models of patient-centeredness based on the latest research from studies of communication between doctors and patients (Roter and Hall 2006). Finally, medical education has hardly been touched by contemporary curriculum theory, whether thinking about the 'ecological' curriculum (academic study *plus* the student's lifeworld) as a 'climate' for learning (Genn 2001), or study of the curriculum as different kinds of 'text' (such as an instrumental, ethical, aesthetic, gendered or historical

text) as a basis to curriculum reconceptualization—reviewing precisely what it is that a curriculum does as process, rather than simply content or syllabus (Pinar and Reynolds 1992b; Bleakley et al. 2006b).

If medical education is to fundamentally reform its practices, it must be fundamentally informed by theory. It is puzzling that the curriculum reconceptualization movement, already in its 'second wave' (the first wave happened in the 1970s–1980s) has been entirely ignored by medical educators where it offers such a rich source of ideas (Bleakley 2010c). This may be because the movement is grounded in schools education rather than in higher education—but the principles, such as treating curriculum as varieties of text—are readily transferred from one context to the other.

As integrated curricula take hold in contemporary undergraduate medicine and surgery programs, breaking down the traditional preclinical/clinical divide, medical education will need to turn to the extensive literature and experience of the work-based learning community if it is to best structure learning and assessment in the workplace for medical students (Engeström 2008). There are good, ideological, reasons why this literature, first developed in Soviet Russia, was not disseminated until relatively recently in education studies beyond the old Iron Curtain. It was inconceivable that post-war American or European medical education (with its individualist tradition) should draw upon Soviet learning theory (with its ready-made models of how work-based learning in teams could best be achieved) while the Cold War was still in play. Again, ideas about learning are not free from ideological interests.

From this complex of factors, what then characterizes a widely acknowledged 'crisis' in contemporary medical education? We suggest a diagnosis that goes beyond the instrumental and structural factors highlighted by Ludmerer (1999) such as lack of educational resource. Such factors are very important, but we would place emphasis upon six other areas to delineate the nature of the crisis in medical education.

Designing Learning for Work

First, we agree with Cooke et al. (2010) that work-based experience, involving early and meaningful patient contact, must frame an undergraduate education and that practical reasoning gains ascendancy over analytical reasoning in such a new apprenticeship structure. We will explore in subsequent chapters how such clinical, patient-centered learning can best be configured, for example through a *designed* patient-student-clinical teacher triad.

Collaborative Learning at Work

Second, we challenge the emphasis upon the individual learner (that we see as cultural bias) to consider the value of new thinking about sociocultural and

collaborative learning and shared or distributed cognition. Such shared activity is not simply between doctors with varying expertise, or between doctors and other health-care professions, but centrally involves patients. Such new approaches to learning demand that medical educators look critically at the historical and cultural grounding for their practices, to guard against a new form of imperialism in global medical education (one size fits all, but the biggest player chooses the size) and be prepared to entertain new ideas in learning. 'Habits of the heart' (Bellah et al. 2007) describes commitment to a way of learning that many of the readers of this book will share, based on individualism and the Protestant work ethic, but this title also serves to soften and mask an ideological bias towards the individual and away from collaboration.

Communication at Work

Third, medical educators must acknowledge the rich evidence base demonstrating that, despite all the effort that has gone in to developing communication skills and teamwork in undergraduate and postgraduate medical education, something is still amiss. Patient safety research, as mentioned above, shows that patients are put at risk because of continuing poor intra- and inter-team communication in clinical practices (Gawande 2009; Pronovost and Vohr 2010). Cumulative research in family or general practice contexts (Roter and Hall 2006) demonstrates chronic patterns of resistance by doctors to listening closely to their patients. The bottom line symptom is to favor monologue over dialogue. These two areas of research show a fault-line running through medical education—doctors are not getting the message about collaboration and communication for patient benefit. Our suggestion, leading to our fourth point, is that long-standing structural, vertical hierarchies, based on technical expertise, are still dominating medical practice in a way that prevents the ready adoption of democratic, horizontal structures that honor 'non-technical' shared practices, such as communication. (We think that 'non-technical,' while an established term, is both ugly and inappropriate—communication may be a 'shared' capability but it has highly technical components in sophisticated use).

Democracy at Work

Our fourth point concerns the adoption of democratic structures for safe practice and effective communication, introduced earlier in this chapter. Our interest is in why civil society, citizenship and plain civility are denied clear expression in clinical settings where they are expected as the norm in our everyday lives. Democracy has three levels: assembly (participative), representative and monitory (Keane 2009). Increasingly, one is subject to a number of monitory democratic processes such as quality control assurance and patient safety practices. This presents a double-edged

sword—we welcome peer review and quality assurance, but we resent unnecessary bureaucratic surveillance. The shift from autonomy to public accountability of the medical profession has been one of the major outcomes of monitory democracy in recent times.

Doctors and other health-care practitioners are familiar with electing representatives to speak on their behalf, but have become increasingly suspicious of this process, where once-trusted fellow clinicians seem to be refracted negatively through a management spectrum that leads them, in the underground parlance, to the 'dark side.' Thus, a movement has developed to focus on the benefits of collaboration and open up the possibilities of assembly democracy at the level of the clinical team. Monitory democracy structures, such as formal briefings and debriefings, can facilitate such assembly, or direct participation, democracy, where those traditionally lower on the technical hierarchy are encouraged to speak up. But the success of such contexts depends, of course, upon developing an atmosphere in which participation is possible and dialogue replaces monologue.

Through this book, we argue that the democratization of medical practice that is necessary for effective patient care and safety may be achieved through developing good medical education. Medical education democratizes medicine by providing *meaningful contexts for participation* involving experts (experienced doctors), novices (medical students, junior doctors) and patients with varying degrees of expertise. This can be seen as a form of assembly democracy. In turn, medical education must be accountable. It cannot continue to be an intuitive practice or even a hobby, a status that once characterized, but now plagues, medical education. Medical education is accountable through its research arm, where, in principle, research evidence provides the rationale for practices. Medical education research thus democratizes medical education, as a form of monitory democracy—quality assurance through reliable and valid evidence and rigorous development of theory. This twin democratization is a big claim and we will justify this claim throughout our text.

The Work of Identity

Fifth, we agree with Montgomery (2006, p. 186) that a medical education is a 'self-altering course of study.' Medicine is a vocation and a form of identity construction. But our concern in this book is medical *education*. What are the forces that construct identities across the spectrum from jobbing clinical teachers to committed medical educators? In what sense is the identity construction of the doctor as medical educator different from that of a non-physician clinician (such as a nurse or a clinical psychologist) (Riesenberg et al. 2009)? And how do such clinically situated medical educators differ in identity from non-clinical medical educators such as anatomists, biomedical scientists, social scientists and other academics? We consider these issues in depth in Chaps. 5–8, where the patient and the 'other' health-care professional and academic are considered as mirrors, from which, in reflection of difference, the doctor comes to gain an identity as a professional and as an educator.

But if doctors are notoriously poor at maintaining effective communication with these 'others,' what will be the source of identity and how will learning occur?

Reflexivity at Work

Sixth and finally, the combination of forces of democratization within new collaborative work patterns and the emergence of new identities can be summarized as a cultural shift from reflective practice to *new forms of reflexivity*. Where reflective practice acts as a kind of feedback loop on keeping practice activity on course, reflexivity is a deeper process of inquiry into what values drive practices and activities in the first place and how activities are conceived, legitimated and executed through the interplay of identity, power and location. Reflexivity offers a kind of ongoing quality assurance for practice as a monitory process, asking critically interrogative questions such as: 'why do we do it this way and not another way?' And, 'who does this benefit?' These are value-laden ethical questions as much as interrogations of technique and attempts to understand complex activities within medical education.

Chapter 2
Beyond Practical Reasoning

From Critical Thinking to Practical Reasoning:
A Necessary but Not Sufficient Change in Medical Education

What is a 'medical education' and is this the best generic descriptor for the practices that support the learning of medicine? Ludmerer (1999, p. 311) points out that in 1988 the Association of American Medical Colleges (AAMC) 'abandoned its learner-centered outlook for a faculty-centered outlook,' and re-defined its mission—from 'the advance of medical education and the nation's health' to 'the advancement of academic medicine and the nation's health.' In 1989, the *Journal of Medical Education* was re-named *Academic Medicine*. Medical education had become subsumed in a wider interest, or, more specifically, the practice and scholarship of teaching was formally subordinated to academic research interests, albeit in educational issues. The clinic and its various practical pedagogies were subsumed in the university and its academic pedagogies.

In an attempt to restore both interest and credibility to the educational components of the professions, the American Carnegie Foundation has been carrying out a series of reviews within the subgroups *Preparation for the Professions Program* and *Advancement of Teaching*. This includes studies of professional education for the clergy, lawyers, engineers and nurses. The study of the professional education of doctors has been completed, its publication timed to celebrate the Flexner centennial (Cooke et al. 2010).

The Carnegie-funded studies have produced a generic model for education in the professions, set out in Sullivan and Rosin (2008) *A New Agenda for Higher Education: Shaping a Life of the Mind for Practice*. This work reviews the dominant 'critical thinking' agenda for higher education and suggests a fundamental review and overhaul of this model. This is especially pertinent for medicine, where there has always been a suspicion of over-intellectualizing what has been cherished as a hands-on apprenticeship.

Key representatives from a variety of disciplines and professions were invited to an expert seminar, not to discuss the structures of knowledge of their disciplines but the structures of knowledge and practices of how those disciplines *are taught*.

Participants were invited to inhabit the structures and practices of other, sometimes alien, discipline pedagogies. This interdisciplinary exchange was then distilled to core guiding principles. A review of the history of disciplines suggested that 'the twentieth century produced not merely the triumph of abstract theory and criticism over formation and action; it also produced a deep fragmentation of fields and specialties' (Sullivan and Rosin 2008, p. xix). The review suggested that higher education for the professions should reconsider the status of its currently dominant 'critical thinking' agenda—to be replaced by one of 'practical reason'—and should encourage interdisciplinarity. The Aristotelian notion of 'practical reason' was at the core of John Dewey's educational model and subsequently highly influential upon Flexner's educational vision. In fact, replacing the 'critical thinking' agenda of higher education with a 'practical reasoning' platform would bring the Flexnerian revolution full circle, a century later.

In Sullivan and Rosin's study of higher education, four main themes emerged as critical areas to address for what was described overall as 'shaping a life of the mind for practice': body of knowledge, identity, community and responsibility. Students in the professions should be learning *bodies of knowledge* that structure their practices. This learning shapes *identities* that are *realized responsibly* in *communities of practice*. The traditional higher education goal of developing critical thinkers taught to deal with abstract knowledge is somewhat at odds with this interest in practical knowledge, identity, community and responsibility through context-driven ethics (rather than an ethics based on transcendental principles). This latter approach resonates with Aristotle's notion of 'practical reasoning,' 'practical wisdom,' or *phronesis* and with casuistry, the tradition of case-based ethical reasoning (Arras 1999).

Analytic thinking is necessary, but not sufficient, in medicine and medical education. Doctors also engage in a more holistic and synthetic narrative thinking. Making sense of patients is not an abstract reading but a practical engagement with another's 'lifeworld' (Mishler 1985; Barry et al. 2001). Moreover, caring for the patient is a context-driven ethical act of engagement and always a social act, including engagement with family members and with other members of clinical teams who are working around that patient. Being with patients demands what Schön (1990) calls 'reflection in action'—concrete acts of ethical engagement that are holistic— at once doing, thinking, feeling and intuiting.

Sullivan and Rosin (2008, pp. 107–109) take medicine as the most complex and developed example of education of practical reason. It is here that analytic and narrative approaches most obviously blend in concrete, ethically charged encounters, or 'cases' (with an associated casuistry, or case-based ethics), which regularly defy generalization and are often laced with uncertainty and ambiguity. It is because of the difficulty in tolerating uncertainty that medical students and junior doctors in particular wish to retreat to what Schön (1990) calls the 'high ground' of technical–rational certainty. As narrative acumen develops and formal scientific knowledge is cumulatively embedded as tacit knowing that now unconsciously structures clinical judgment (Boshuizen and Schmidt 2008), so experts seem more able to tolerate ambiguity. This is the terrain of everyday uncertainty in expert practice termed the 'swampy lowland' by Schön (1990). In the use of case reasoning as an

educational instrument (the core of problem-based learning approaches), 'The chief accomplishment of medical education lies in its fostering of an ongoing, back-and-forth conversation between the narrative and the analytic' (Sullivan and Rosin 2008, p. 108).

Nobody has analyzed this conversation more elegantly than the ethicist Montgomery (2006, p. 52), who suggests that 'Clinical education is finely calibrated to instill and reward the development of clinical judgment in the face of uncertainty.' What Montgomery (2006) describes as the education of practical wisdom or *phronesis* equates to the development of what the Carnegie Foundation calls 'habits of mind and heart,' or *the development of expertise* in the professions such as medicine. Montgomery (2006, p. 209) says that *phronesis* has been translated as 'intelligence' and 'prudence,' rejecting the latter as 'tight-lipped (and tight-fisted)' and thus to be avoided. However, she notes that some medical ethicists have attempted to restore 'prudence' as a key virtue for doctors, seeing it as a 'sickly concept' in need of restoration. Actually, the dictionary definition (*Shorter Oxford English*) of prudence surely restores its credibility, as 'discretion,' 'wisdom' and 'sound judgment in practical affairs.' The prudent person is also 'worldly-wise,' perhaps beyond his or her years.

Practical wisdom is at the heart of clinical reasoning, or 'how doctors think.' Medicine is neither an art nor a science, but a multidisciplinary 'practice': 'the rational, clinically experienced, and scientifically informed care of sick people' (Montgomery 2006, p. 33). Surely nobody could argue with this? Well, its premises are already questioned in the World Health Organization's (WHO) changing definition of 'health' from negative to positive features—no longer the 'absence' of sickness, but the 'presence' of physical, mental, socioeconomic and spiritual well-being. Surely then, medicine should be grounded in the prudent *prevention of illness*? Montgomery (2006, p. 33) goes on to describe medicine's 'essential virtue' as: 'clinical judgment, the practical reasoning or phronesis that enables physicians to fit their knowledge and experience to the circumstances of each patient.'

Again, surely it would be hard to argue with this pragmatic view? Well, medicine has another, parallel discourse overshadowing that of person-to-person, doctor-to-patient, encounter—that of epidemiology, or the statistical overview of populations (Millenson 1999). This is one of the great paradoxes of medicine: the axiom 'treat the patient, not the numbers' is countered by what Millenson (1999, p. 327) calls 'power to the population'—the power of statistics that characterizes evidence-based medicine. Here, the individual case is subsumed in the population study. For Montgomery (2006, p. 193), treating the individual through evidence from population studies does not necessarily iron out uncertainty, where 'for prognosis, the numbers are at best a quantified uncertainty.'

However, Millenson (1999, p. 30) argues that evidence from population studies is generally and paradoxically 'what doctors don't know' and hence these doctors are withholding best treatment from patients. He sees this as a long-standing tradition of self-imposed ignorance, quoting from the Flexner Report (1910) 'that very seldom…does a patient receive the best aid which (sic) it is possible to give him in the present state of medicine.' Millenson's emphasis upon the accountability of

doctors for treatment choices in an age of evidence-based medicine offers a stark contrast to the case-based approach described by Montgomery. Indeed, it turns Montgomery's argument on its head, because doctors in Millenson's account are not defending against uncertainty, but inviting and tolerating the uncertainty of the individual case in resisting the power of numbers (the promise that the logic deployed in the use of algorithms such as Bayes' theorem will radically reduce uncertainty). Yet, again paradoxically, the same doctors may claim that they work analytically rather than with narrative. We can readily translate Millenson's support of an evidence-based approach to medical education. How can one effectively practice a medical education without working knowledge of its evidence base? Perhaps more importantly, in light of our general argument in this book, how will medical education be quality assured, or democratized through a peer monitoring process, without a rigorous medical education research arm? These are issues that we discuss at length in Chaps. 15 and 16.

Montgomery (2006, p. 41) argues that medicine is *mis*-described as a scientific pursuit. Rather, it is a *science-using practical activity*, shot through with ethical dilemmas. *Phronesis* requires not only 'a good physician,' but also a 'reliable moral agent.' Thus, Montgomery makes the radical claim that 'medical education is necessarily a moral education.' As a 'phronesiology,' it is a science of individuals—an oxymoron—yet such a 'case based' approach is, as we mentioned above, now dominant in medical ethics, described as 'the revival of casuistry in bioethics' (Arras 1999). Drawing on the method of casuistry from the early Middle Ages, philosophers such as Stephen Toulmin (Jonsen and Toulmin 1990) have emphasized the value of individual, situated, contextually complicated ethical decisions that cut through the traditional approaches of ethics proceeding by principles assumed to be universal or transcendental. This follows Aristotle's view that inquiries into ethics and health are particular, circumstantial and uncertain.

Fish and Coles (2005), focusing upon postgraduate medical education in the UK, also choose practical wisdom, or *phronesis*, as the core principle of both a medical education (Fish and Coles 2005) and surgical training (de Cossart and Fish 2005). In this work, the influence of Dewey, via Schön's model of reflective practice, is paramount. Fish and Coles (2005, p. 111) describe medical education as the progressive accumulation of 'professional judgment within the broader processes of clinical thinking.' In formulating a diagnosis and then a treatment plan, 'Practical wisdom…then helps the practitioner to focus on and understand the particular ethical dimensions and moral situation *of this individual patient*' (our emphasis).

Ethically sensitive clinical practice, following Aristotle, can be called *praxis*, a theory-in-practice (paralleling Schön's reflection-*in*-action). Echoing the work of Sullivan and Rosin (2008) on articulating the principles that offer a platform for effective professionalism, Fish and Coles describe being a professional as a forming of identity within a community of practice. In the context of surgical education, de Cossart (a surgeon and educator) and Fish (an educationalist) quote the American surgeon-educator and medical writer and journalist Atul Gawande to argue, as does Kathryn Montgomery, that practical wisdom is an ethical practice embodying a high degree of tolerance of ambiguity: 'Professionals are routinely faced with having

to decide which diagnosis or whose version or account of the (patient's) trouble they find most convincing and/or morally robust,' so that 'There is science in what we do, yes, but also habit, intuition, and sometimes plain old guessing. The gap between what we know and what we aim for persists. And this gap complicates everything we do' (de Cossart and Fish 2005, p. 136).

This 'gap' is supposedly filled by evidence-based medicine and surgery, but, of course, the individual case persists in disrupting this evidence. It is one thing for doctors to persist with habitual, intuitive practices in ignorance of an evidence base (Millenson 1999, pp. 125–136), it is quite another to be familiar with the evidence base and then see that the patient in front of you simply does not fit the population profile, in what Groopman (2007, p. 27) calls 'flesh-and-blood decision making'—by nature an indeterminate practice.

Groopman (2007, pp. 16–17)—a widely recognized expert diagnostician—himself writes about 'how doctors think' as the movement back and forth between the evidence base and the particular case, but now placing emphasis upon the evidence base gained from studies of communication—the 'non-technical' aspects of a doctor's practice—rather than technical, clinical science issues. For example, he cites a perplexing and initially mis-diagnosed case of celiac disease—an allergy to gluten and an autoimmune disorder—that had been wrongly diagnosed as a psychological 'eating disorder.' The correct diagnosis could have been made initially if doctors had asked open-ended questions of the patient (an approach of dialogue), instead of characteristically shutting down the patient's story with closed questions and statements that Roter and Hall (2006) see as the bane of the contemporary medical consultation (an approach of monologue).

To return to Montgomery's (2006, p. 171) own version of 'how doctors think,' she warns that to characterize a medical education as a scientific education is misguided. Indeed, to call medicine a science is a form of rhetoric: 'medicine thrives by advancing its moral and intellectual goals as "science" while covertly accomplishing them through interpretive, narrative, discursive means.' Thus, medical education would benefit by 'Giving up the science claim' (Montgomery 2006, p. 175), which is seen as a badge of legitimacy—an issue of power—rather than an accurate description of what doctors do. For Montgomery (2006, p. 186), two issues arise from the claim that medicine is a scientific apprenticeship. First, doctors are socialized to disguise the permeating uncertainty of their work, as if this would lose the trust of their patients. Second, to invite doctors into the identity construction of 'scientist' is misleading. Where 'medical students have committed themselves to a self-altering course of study,' the identity that emerges is that of friend, counselor and advocate, as much as that of 'scientist,' stereotypically cold and distant.

Bligh and Brice (2008), however, remind us of the reality of publishing medical education research—that medical education is more representative of science than social science. The main medical education journals are listed in Science listings (Thomson ISI Citation Index), rather than Social Science listings. For these authors, 'Our primary concern must be to demonstrate the value of medical education research to those who commission and use our work, in ways that they can understand' (Bligh and Brice 2008, p. 653). The concern here is not so much with the

argument of how we shall characterize medical education as a discipline (science, art, social science, science-using, ethical practice and so forth), but how we *apply* what we know for patient benefit.

This shifts the ground of justification for a dedicated (inter)discipline of 'medical education' even from Aristotle's notion of 'practical wisdom,' for now we ask of that 'practice'—how do we know that it is of *use* to patients? Medical education research is just beginning to address this tough question (see Chaps. 15 and 16) and to be persuasive in addressing a tough-minded science and health services research audience will need to go beyond patient satisfaction (perception) surveys (Fitzpatrick and White 2001) to consider measurable health outcomes in relation to complex educational interventions.

Bligh and Brice (2008, p. 653) continue, with the rhetoric of response to crisis or neglect that we noted in Chap. 1, that 'we must as a matter of *urgency*, research, assess and demonstrate clearly how what we do is important for the improvement of patient care.' Without this evidence, we are working in a vacuum. In summary, evidence is currently paltry and this is the great challenge facing medical education in the new millennium. As Norman (2008) points out, in fairly well-researched areas such as clinical reasoning we have failed to operationalize notions such as 'problem solving' in a medical context. Such accounting for what is actually *done* in the name of a vague and broad descriptor is even worse for areas such as 'communication skills.'

Articulating what is meant, for example, by 'clinical communication skills' may be a more pressing issue than agreeing that medicine proceeds by way of 'practical wisdom.' We need illustrative examples of practical wisdom in action—rich, situated accounts of complex medical settings to articulate what characterizes practical wisdom from its 'impractical' or 'unwise' alternatives. Besides 'clinical communication skills,' other descriptors that need to be more intensively articulated and researched in medical education are: 'professionalism,' 'reflective practice' and 'identity.' The medical education literature is peppered with terms that have not been well conceptualized before they are used as explanatory notions. Empirical studies can be set up to investigate, for example, 'clinical communication skills,' but, unless this is preceded or paralleled by intensive conceptual clarification, such studies remain invalid by definition.

Let us give two examples to illustrate this point. First, there is a current drive in health care to develop 'teamwork.' A team has been defined as consisting of two or more individuals who have specific roles, perform interdependent tasks, are adaptable and share a common goal (Xyrichis and Ream 2008), but such a definition conceals as much as it reveals. Actually, what various practitioners do is to communicate—however well or poorly—and to at least cooperate and coordinate to offer patient care and safety. Moving to a deeper level of collaboration, between professions and across boundaries, is a tough call, but evidence suggests that where collaboration is poor, patient care is compromised (Borrill et al. 2000). The engagement of health professionals in various ways may be described as activity systems working around agreed, common objects (patients, equipment, shifts), but 'teams' does not capture the dynamic of such activity, which may be better described through

an image- and metaphor-rich vocabulary, as 'teeming,' 'streaming,' 'networking,' 'meshworking,' 'negotiated knotworking,' 'swarming,' 'clustering,' 'intentional collaboration' and so forth (for example, Bleakley 2006a; Engeström 2008).

Where areas other than learning in 'team' contexts are also undergoing radical reconceptualization, for example, as mentioned earlier, our understanding of what 'curriculum' itself may mean—as varieties of text (such as a gendered, ethical, political or institutional text) (Pinar et al. 1995)—we can confidently talk of a sea change that in turn calls for a new literacy in medical education. Our aim in this book is to provide the foundation for such literacy.

Our second example refers to the dangers of medical education operating as a colonizing, or imperial, force. Naranchimeg (2008) reports on introducing 'professionalism' to Mongolian medical education. Professionalism is defined as 'communication skills, the doctor–patient relationship, teamwork and procedural skills.' This may look fine on first glance, but let us consider what is happening here—a wholly Westernized version of what an ethical doctor should be is introduced to another cultural context without any explanation of the difficulties of cross-cultural translation (for a fictional exposition of this conundrum, see Patterson's (2007) novel *Consumption*). We expand on this issue in Chap. 12, where we consider the phenomenon of globalization and the exportation of Western medical education as a potential neo-imperialism. *Phronesis*, first delineated by Aristotle and then developed within a Western metaphysical system, is culture-specific.

Ludmerer (1999, p. 378) agrees with Montgomery (2006) that 'the greatest deficiency of medical education throughout the twentieth century…was the failure to train learners properly for clinical uncertainty.' Education for uncertainty, or tolerance of ambiguity, is seen as an opposite trajectory to science's drive to rational certainty. But both Ludmerer and Montgomery are talking about 'positivist science' (Montgomery 2006, p. 174), or rather positivism as a framework for medical practice. Positivism describes an approach to knowing that is based in empirical observation and experiment. The simplified, reductionist and linear cause-and-effect model proposed by positivism has long been supplemented in science by multifactorial models of causation (Cornwell 2004). The emergent era of science in the twenty-first century is not about linearity but about the science(s) of nonlinear complexity, which explore, rather than attempt to control, uncertainty and ambiguity (Sweeney 2006; Bleakley 2010a).

It is inappropriate to badge the new medicine as 'positivist' and, as we argue in Chap. 15, medical education research can be 'scientific' without being positivist, because positivism in the twenty-first century has been supplemented by the new science(s) of complexity, such as systems approaches (Jencks 2007). Through a series of articles in the *British Medical Journal* (for example, Plsek and Greenhalgh 2001, p. 625), Trish Greenhalgh and her colleagues have described this approach to medicine as one of 'complexity science.' In such nonlinear, non-mechanical and holistic science, that challenges the stereotype of 'positivist' medical science in the new millennium, 'unpredictability and paradox are ever present.' As long as we stereotype 'science' as of one kind (positivist, mechanical, linear and non-imaginative), we may be overlooking the fact that science is also 'a discipline of the imagination'

(Pinar 2004, p. 193) and a contested 'universe of discourse' (Oakeshott 1959, p. 27), demanding narrative explanations, tolerating competing forms of evidence, using metaphors and engaging in a variety of 'styles of explanation' (Cornwell 2004).

We will use a variety of styles of explanation throughout this book, as we also draw on interdisciplinary models in a deliberate attack on stereotypical views of theory. Theory does not need to be marginalized where practical reasoning comes to displace the current dominant model of critical thinking in higher education for the professions. In medical education, practice (as work) can now be theorized eloquently through the new work-based learning theories that we draw on throughout this book, such as activity theory (Engeström 2008). Theory building in medical education in itself can become practical, engaged work, far removed from the languorous drifting of 'the curtains in the house of the metaphysician' in Wallace Stevens' 1923 poem of that title:

> It comes about that the drifting of these curtains
> Is full of long motions; as the ponderous
> Deflations of distance; or as clouds
> Inseparable from their afternoons;
> Or the changing of light, the dropping
> Of the silence, wide sleep and solitude
> Of night, in which all motion
> Is beyond us, as the firmament,
> Up-rising and down-falling, bares
> The last largeness, bold to see.
>   (Stevens 1954, p. 62)

Beautiful and tantalizing as it may be, 'The last largeness'—as grand theory, or ultimate metaphysical explanation—is not the concern of this book. Our concern is 'hands-on' theory—the understanding of work activity as patient–doctor and patient–clinical team interactions in the clinic and at the bedside.

The 'new model of undergraduate teaching' (Sullivan and Rosin 2008, dust jacket) claimed by the Carnegie report can be added to our list of emerging trends in medical education discussed in the previous chapter. First on this list was the view that medical education is in crisis, and that we must move on from the crossroads of stasis through urgent, decisive action. The Carnegie report's response to the crisis in the professions is to reformulate the nature of *learning for the professions*. In summary, as we have already stated, this is described as a shift from a critical, analytic discourse, in danger of becoming the abstract, distancing 'metaphysician's curtains' in Wallace Stevens' poem above, to a more ethically engaged practical reason, a collaboration with patients, that in turn forms the character of the medical or clinical educator. Let us now flesh out this process.

A New Wave of Medical Education Thinking

Cooke et al. (2010) translate the Carnegie Study on higher education—*Shaping a Life of the Mind for Practice*—specifically for medical education. The Carnegie Foundation's study of education for the professions offers a cross-comparison of

professional education for clergy, lawyers, engineers, nurses and doctors. The physician study has included 14 site visits, 184 interviews, 104 focus groups and more than 100 observations, plus immersion of the study team in the 'learning sciences' literature to draw out best evidence and principles. There is a focus on clinical learning. The mission of the study is to prepare knowledgeable, skilful and compassionate physicians committed to advancing the field.

The Carnegie study suggests that in many respects, North American medical education still follows the Flexner Report of 1910, but has made progress in many medical schools in establishing a knowledge-generating culture of inquiry and discovery, including active learning methods. Since Flexner, however, there has been (1) an explosion of biomedical knowledge leading to expansion in core curriculum knowledge, (2) a rise of interdisciplinary/integrative curriculum and research agendas, (3) transformation of teaching hospitals where education has been largely sidelined and (4) the introduction of national licensing examinations.

The Carnegie New Agenda for Higher Education, as outlined above, offers a basic framework for medical education—a shift from critical thinking to practical reasoning (developing clinical reasoning) as creating 'habits of the mind.' This is based on a formative model, a shaping of professional identity as compassionate, respectful and responsible practitioners, or creating 'habits of the heart' (Bellah et al. 2007). The New Agenda is realized in medical education through four big ideas: (1) integrating formal knowledge and experience (integration), (2) standardizing on outcomes (and competencies) while individualizing learning process (individualization), (3) developing habits of inquiry and excellence (insistence upon excellence) and (4) focusing upon the forming of a professional identity as a doctor (identity formation) (Irby et al. 2010).

Integration involves connecting multiple forms of knowledge, learning and roles in service to patients. In practice, as an educational program, this will involve three elements: first, connecting formal knowledge with practical, contextual, experiential knowledge in the development of clinical reasoning expertise; second, engaging in multiple forms of knowledge-in-action: analytical and practical reasoning, automatic pattern recognition and creative, imaginative and adaptive forms of thinking and reasoning and third, the integration of multiple physician roles.

This formulation has important implications for the undergraduate curriculum. First, clinical (applied) and formal knowledge must be integrated across the undergraduate years, formally abandoning the Flexnerian legacy of strong division between the preclinical and clinical phases. Second, integrated, patient-centered, longitudinal clerkships should be established, where students follow a *panel of patients, not rotations or team attachments*. And third, assessment should focus upon *integrative* reasoning and action, rather than isolated pieces of knowledge and skills. Formal knowledge will then be embedded in clinical expertise. Clinical expertise is further embedded in a culture of inquiry, discovery and innovation. This culture is realized through the longitudinal activity of authentic patient contact— following a panel of real patients in real life and clinical settings, not paper or standardized patients.

Individualization involves developing focused expertise around individual differences in physicians and in specialties. This will include focus on individual

differences; honoring multiple paths to learning and reasoning; and noting, but also celebrating, the fact that achievement of mastery occurs in different ways at different speeds in differing contexts (differing forms of engagement in communities of practice). The latter should offer a resource and opportunity, rather than a hindrance to learning. This focused expertise will be achieved through promoting workplace learning, or learning through participation. In this process, learning must be carefully structured, including selection of tasks and activities, responsibilities, sequencing, continuity of learning and recording what has been learned. Further, the academic community must build relationships with the practice community, including schemes of supported participation and mentorship. Finally, work practices themselves must adapt to the presence of learners, looking carefully at issues such as time pressures and organization of work.

The implications for the curriculum of individualization are dramatic. This will require a fundamental change in mindset, moving away from specialty-based, compartmentalized thinking to integration. The core curriculum will need to be reduced to accommodate the new emphasis upon work-based experience with the added factor of continuity with a panel of patients. Individual learning plans, with clear longitudinal sequencing of activities around patients, will need to be devised. Assessment must focus upon mastery (performance) through practical reason. Electives can be used to focus upon specialized areas meeting individual needs.

Individualization of the learning process is, however, nested in standardization achieved through stated learning outcomes. Standardization through achievement of stated competencies assessed in multiple domains means that, in principle, a scenario can emerge where students and doctors progress at their own pace across the entire trajectory of a medical education. Education and training can be shortened where stated competencies are the goal. Those who achieve mastery in core medicine requirements can be encouraged to widen their education through an extended curriculum where the prior experiences, needs and talents of the individual learner are recognized and addressed. Irby et al. (2010, p. 224) then offer a radical challenge to curriculum planners: to 'Individualize learning within and across levels, allowing flexibility in approaches to learning and the opportunity to progress as students achieve competency milestones' and to generate 'elective programs…in such areas as public health and advocacy, global health, medical education, clinical and translational research, and molecular medicine.'

Insistence upon excellence refers to the development of habits of inquiry to promote excellence and adaptive expertise. This involves pursuit of lifelong learning and advancement of the field, promoting the capability to continuously learn new knowledge, setting out to generate adaptive, as well as routine, expertise through deliberate practice and progressively advance expertise and working within a community of practice not simply as a passive student, but with a view to advance a field of expertise. Here, senior medical educators must reframe the doctor's identity, moving beyond mere clinical competence to include 'innovator,' 'pathfinder' and so forth. Learners will need to be engaged in challenging and contested areas of knowledge, skill and values and be involved in discovery. 'Excellence,' perhaps the most overused (and often abused) word in the medical education vocabulary, can be

added to our list of emerging trends in medical education. 'Excellence,' however, has a major redeeming feature, as we explore below—it offers a counter to the other most used and abused word in the medical education vocabulary—'competence.'

Finally, *identity formation* involves cultures shaping the professional identity of the physician. This includes moral commitment to highest levels of patient care, commitment to high standards within a community of practice and role modeling. Issues of implementation in work placement include quality of clinical team interactions, quality of teaching, coaching and assessment of learning and an understanding of how the hidden curriculum shapes professionalism and identity. The implications for the curriculum in the area of identity formation include formal instruction, for example in ethics, informal socialization through storytelling and symbols, such as pledges and white coat ceremonies, modeling by faculty (the enacted values of the practice community), clear methods of both assessing professionalism of students and evaluating professionalism of teachers (to include a central place for formative feedback). These activities can be carried out in the context of longitudinal mentoring.

The purpose of introducing the ambitious Carnegie Foundation approach at this point is to continue to identify and explore trends in medical education and to see if the cumulative effect of change is indeed paradigmatic, as we suggest. The Carnegie program for medical education promises a radical but considered and refreshing overhaul in approach. It reinforces the now common rhetoric of 'excellence,' such as Tooke (2007) *Aspiring to Excellence* (in the context of addressing a crisis in postgraduate education in the UK, where a system had indeed gone so far from equilibrium that it became chaotic and sterile rather than transformative and fertile); and Gunderman's (2006) *Achieving Excellence in Medical Education* in the context of North American undergraduate and continuing medical education. Normally, one is cautious about the use of such words as they can quickly become hackneyed. The concept of 'excellence' in medical education, as noted above, has come to serve another, vital, function. It is frequently used to critically counter the 'competence' movement, to which we now turn. 'Excellence' acts as a rhetorical device by which we can resist, counter and overcome the dominance (hegemony) of the term 'competence.'

'Good Enough' is Not Good Enough

Some 20 years ago, higher education in North America and Europe was gripped by the 'learning objectives' movement, itself a hangover from the dominance in the era after the Second World War of behaviorism in psychology, where learning outcomes had been described since the 1950s and articulated in taxonomies (describing hierarchies from the simple to the complex) covering the cognitive (thinking), psychomotor (doing) and affective (valuing) domains. Such outcomes were powerful tools, as they clearly set out what was expected of students and could double as assessment criteria. A set of learning outcomes can be attained through a variety of

methods and so standardization of outcomes does not translate into standardization of pedagogy. In fact, the opposite is the case—learning can be individualized.

Outcomes also served, in the language of behaviorism, as reinforcement of desired behaviors. Educational liberals and innovators, however, were always critical of the perceived reductionist nature of learning outcomes, because they were prescriptive, paradoxically curtailing the creative possibilities for learners and teachers to create new knowledge. The desired behaviors were desired by the educators and not necessarily by the learners. In other words, learning would be forever reproductive rather than productive. In fact, a distinction was even drawn between 'objectives' (what teachers wanted students to learn) and 'outcomes' (what students needed to learn to pass the course). As the latter took hold, tightening the grip on learners and their motivations for learning, learners recognized that they needed to 'learn' only what would be assessed, hence the drift to assessment-driven learning. This outcome for education is some way from the visionary agenda of educationalists such as Bereiter and Scardamalia (1993), who describe the gaining of expertise in the professions as 'surpassing ourselves'—again, capability and excellence rather than competence.

Higher education started to borrow from the rhetoric of further education where the concern is with skills learning for trades rather than professions, focusing upon atomized skills and performance and reducing the wider discourse of 'education' to the narrow discourse of 'training.' While this reductive movement was being criticized and reformed in higher education by the 1980s, medical education eagerly adopted the new training mentality, where outcomes became listed as 'competences'—discrete learning that could be observed. This was understandable because of medicine's tradition of practice-based apprenticeship, but also because the itemizing and clarifying of what is expected of a graduate from a medical school had not been clearly set out and such outcome profiles promised parity between medical schools. However, as the competency movement has taken a firm grip on both undergraduate and postgraduate medical education, so it has produced an internal process of resistance—a call for focus on prospective 'capability' (which has now mutated to 'excellence'), rather than retrospective 'competence.'

'Training' derives from the Latin *trahere*, which literally means to 'trail behind' (as in the train of a dress). Despite the ease with which 'training' trips off the tongue in medical education contexts (again, a legacy of the skills-based apprenticeship tradition), no medical *education* should encourage 'trailing behind,' but should take up the challenge issued above by the Carnegie Foundation initiative for example, of trailblazing, producing knowledge, innovating, leading. Further, competence literally means 'good enough' and this has worried medical educators in practice. Students and junior doctors who demonstrate a 'good enough' approach are usually tolerated but thought to be potentially mediocre practitioners—hence the call for something more challenging than baseline 'competence' to aim for. Finally and importantly competence offers a retrospective account, tallying what you have accrued or what has sedimented as knowledge and skills capital, to reach a good enough level of expertise. In contrast, capability invites a prospective view, tracking—and then predicting—*potential* in a learner. This is a view of what Aristotle termed 'human

flourishing,' where acknowledging potential indicates to teachers how further learning, or realization of potential, can best be supported.

How, then might we inform practices of medical education and clinical teaching? First, we must have theoretically coherent and testable models of 'learning' itself. Without a clear grounding in contemporary approaches to learning, the rest of this book and its central argument about patients leading learning will be less clear. The following chapter offers a primer in learning theory.

Chapter 3
Learning from Learning Theory

The world is presence, not force.

Wallace Stevens
(from the poem 'Saint John
and the back-ache';
Stevens 1954, p. 436)

To the Things Themselves

If you watch a skilled artisan at work, such as a master butcher, there is an obvious internal coherence to the execution of the skill. It is economical, fluid, elegant and—above all—paradoxically restrained. There is no need for flamboyance. The knife-edge seems to 'fall' into the meat. The best artisans are at one with both their tools and the objects of their endeavors. They do not force. Indeed, there is a sense of minimal interference from the hands, a kind of 'lifting off,' where the specific qualities of the tool do the work, such as the weight and sharpness of a heavy cleaver blade. Paradoxically, while 'grip' may seem key to controlling tools, it is 'release' that distinguishes the expert from the novice. The novice's grip is too tight—taut and fearful rather than relaxed and confident. As Sennett (2008, p. 152) points out, 'grip' and 'release' are also powerful metaphors for ethical relationships. Good teachers never control with a tight grip, but offer guidance and encourage learner autonomy. They are confident that 'release,' or 'lifting off' from something rather than pressing, will create positive space for safe practice and innovation. Above all, they do not oppress, offering supportive 'presence,' not force.

The third- to fourth-century BCE Chinese philosopher Zhuanghi said: 'A good butcher changes his knife once a year, because he slices flesh. A mediocre butcher changes his knife once a month, because he hacks at bone' (quoted in Jullien 2007, p. 88). François Jullien goes on to say that the better butcher puts together three objects in a dynamic context, linking them as a whole, a complete activity. First, the butcher 'sees into' the animal's body. There is nothing mystical about this. Expert butchers get to know animal anatomy in the same way that surgeons learn their trade—through repeated practice of looking into the body and learning its

architecture; its tissue layers; articulations of the bones that make up the skeleton and insertions of muscle; the pattern of blood vessels and map of nerves. Of course, the surgeon may learn on a cadaver but operates on a living person.

In *The Birth of the Clinic*, Foucault (1989) famously described the 'gaze' learned in medical education as a diagnostic 'scanning' of a patient's body that operates metaphorically, as a 'seeing' into the interior body (for a critique of Foucault's argument, see Bleakley and Bligh 2009). This is literally augmented by what Verghese (1992, 2007) calls 'soundings'—auscultation, palpation and percussion—and then by a variety of sophisticated imaging devices beginning with the X-ray. The medical student learns a variety of mental maps from anatomy classes, including dissection and/or surface and living anatomy augmented by representations, including anatomy texts. These are reinforced in clinical skills learning and patient encounters in clinical settings. These mental maps, a combination of imagery and metaphor, come to prepare the senses, which are literally 'sensualized,' sharpened, focused. The 'gaze' is then an awkward term, describing not just the visual, but the wider dynamic collaboration of the bodily senses and the mind in concert with the object of interest.

To return to the butcher at work, the other two objects in the activity are the butcher's body—particularly the stance, arms, hands and shoulders—and the tool, the cleaver in our example. These are brought together in both space and time. Importantly, the skill of the master butcher is about anticipation. The artisan has learned to apprehend the task *dynamically*, or to work in time as well as space. For an apprentice to learn with the butcher, abstracting out the elements of the task, as we have done here, would not be a good way to learn. The apprentice learns *on the job*—again, dynamically—bringing together body, tool and carcass in cycles of practice. The butcher who attains the highest levels of skill shows a paradoxical 'ease and relaxation' in the heat of work (Jullien 2007, p. 89). It is this level of expertise to which every novice aspires, in any trade or profession. We are not directly comparing the butcher and the doctor, rather, we are using the trade of the master butcher to make a point—processes of learning in medicine, while varied, are possibly best understood through a mindset of 'activity.' A medical education is a high-level apprenticeship, distinguished by the peculiarly intense manner in which ideas must be embodied in practices, described by Sullivan and Rosin (2008), as we saw in the last chapter, as 'practical reasoning' that, these authors suggest, must now displace 'critical thinking' as the highest aim of a higher education. Our point is that medical 'practical reasoning' must become artistry. There is a difference between the merely competent and the exquisite practitioner and medical education should concentrate on articulating this difference in order to focus on prospective capability and realization of potential of the learner, rather than retrospective competence.

However, as we warned in Chap. 1, individualism, traditionally central to medical education, can be a disadvantage in an era of health collaboration (including, importantly, collaboration with patients). In any case, in every skill domain, to isolate the learner as an individual and describe how he or she learns psychologically, is to miss half the story of learning. The kind of learning we have so far described is, importantly, *mediated* by tools. These tools have a history, or are cultural artifacts,

themselves embedded in communities of practice (Lave and Wenger 1991; Wenger 1998). Importantly, such cultural (and historical) communities have long-standing sets of conventions, habits or rules—learned on and through the job. As one enters the community of practice (or several communities), a learner also acquires a role or a set of roles, and from this, an identity or set of identities (Wenger 1998; Bleakley 2001a, 2001b, 2002), as we discuss in depth in Chaps. 5, 6 and 7.

Learning is then intimately connected with social context (studied primarily by sociologists) and culture (studied primarily by anthropologists), both of which have a history (studied primarily by social historians). To divorce learning from these contexts is to both reduce and misunderstand the complexity of the learning experience. Neither can a 'work' community (such as a hospital ward) be divorced from a 'learning' community (Bleakley 2002). This is a false distinction that has dogged professional education. In an era of 'lifelong learning,' such a distinction can be dissolved.

Mediation of learning by tools, instruments, codes and languages, is complex. Personal cognition can be seen as *situated in* this extended cultural complex, rather than the complex itself being seen as an *extension* to personal cognition. Indeed, an individual's cognition is only one part of a 'distributed cognition' that includes not only the minds of others (say, colleagues in a clinical team working around and with a patient) and a shared language and store of symbols, but also a variety of literal artifacts (for example, the patient's paper or electronic records; a clinical case convened online, drawing on the expertise of several doctors at once; a grand round in which a computer prescribing package for, say, hematology and oncology is consulted). Such is the power of contemporary mediating tools, particularly the computer, that to isolate learning from its association with an extension of cognition is, again, to miss half the story. Indeed, a whole field of anthropological and sociological study—Actor-Network Theory (ANT), discussed in the following chapter—treats material or 'object' artifacts, such as computers and other key instruments, as co-actors in the drama of work relations (Latour 2007).

Within the tradition of shared, distributed, elaborated or extended cognition that has evolved primarily from Lev Vygotsky's work (Daniels 2005), there is a weak and a strong version. The weak version starts with individual cognition and works out from the individual brain to suggest that cognition is both embodied (in matter—for example, the 'mind' is not just the central nervous system, but also the emotional mind or autonomic nervous system) and embedded (in culture and artifacts). Clark (2008) calls this 'supersizing the mind' or 'cognitive extension.' The strong view, illustrated by ANT (Law and Hassard 1999; Latour 2007) works from the environment in to individual cognition, suggesting that individuals are wholly embedded in natural, social and cultural networks of languages, symbols, information and artifacts, through which cognition is shaped. This strong, 'externalist' view has become increasingly significant as we become further embedded in and dependent upon networks of computers and the World Wide Web.

As we build a picture of learning, grounded in skill, in this opening section to the chapter, we do not intend to discuss studies of cognition carried out in experimental psychology laboratories and other types of research that are not centered

on the exploration of actual practice. Our benchmark is what doctors *do* and how they think *in vivo*, both as clinicians and educators—or *activities* in complex, social learning situations, such as junior doctors (interns) getting to know the ropes of hospital ward-based care and then teaching and mentoring final year medical students. Here, learning is a messy, yet subtle, association of factors where, again, activities of people (patients, ward staff) are mediated (and then influenced) by tools such as paper records, charts, hand-held and desk computers, schedules, syringes, tablets, stethoscopes, central lines, formularies, telephones and so forth. Hence, we need a theory of learning that captures this dynamism (learning through time as well as in space), interaction and relation of elements (complexity), collectivity, uncertainty and *systemic connection* between personal agency, social context, artifacts mediating learning, rules of practice and the development of roles and identities. Cultural-Historical Activity Theory (CHAT) (Engeström 1987; Engeström 2008) provides such a theory and we will discuss this approach in detail in the following chapter and in further chapters in relation to identity construction.

Learning in dynamic, complex contexts cannot be reduced to the psychology of the individual, but is best understood in the double-meaning of Helmreich and Merritt's (1998) book comparing safety practices of the aviation industry with those of the operating theater: 'Culture at Work.' There is, in work-based learning especially, a cultural component and it is learning that creates such a culture. As human culture can be distinguished from the cultures of other animals by its increasingly sophisticated use of tools as an extension of body and mind, so appreciation of learning in medicine can be grounded in the relationship of the learner's body with a tool. Again, our beginning is in *skill*. To return to butchers and surgeons learning to both do and think their respective crafts at differing levels of risk and expertise, this can now be appreciated as a *cultural and historical* issue of the learning of expertise, intimately tied to the relationship between a learner and the mediation of learning through use of tools.

As Sennett (2008, p. 197) points out, evolving complex skills such as surgery are intimately linked with cultural development of instruments, where once 'Medieval doctors used cooking knives for dissection.' Surgery was once a form of butchery, due not only to the limitations of the dull iron instruments used, but also to the means of sharpening those instruments—on leather straps rather than the varieties of composite stone (often combined with lubrication such as oil) used later. In tracing the history of the scalpel, Sennett (2008) notes how, in seventeenth century Europe, it took three generations, moving into the eighteenth century, to embed mastery of the effective use of scalpels for dissection and surgery. Metallurgy techniques and composite stone sharpening instruments came to radically improve and maintain the sharpness of blades. Importantly, a *variety* of scalpels were developed for particular purposes, such as sharp at the tip for slicing through delicate membranes, or hooked and dulled to lift tissue. In that set of scalpels is a concrete example of distributed cognition at work—communities of practitioners experimenting, sharing knowledge, deepening expertise and widening the range of application.

Inevitably, the conservative, core aspect of apprenticeship—passing down values, knowledge and skills through transmission and reception—is reformulated,

as apprenticeships become more complex in the professions, involving high-level cognitive work. In this reformulation, knowledge *production* is possible alongside information reproduction, as communities of practice become 'reflexive,' investigating and reflexively accounting for their own purposes, histories, traditions and futures (Engeström 2008). Where members of such communities become reflective about their own work (How well do I do my job?) and reflexive about what gives meaning to work (Should I take more risk?; What are colleagues doing?), they begin to produce a more intense social life. Practitioners are not just thrown together and have to get on with their technical tasks. Working well together, communicating and collaborating, has now been shown to be central to providing a 'safety climate' where potential medical error is reduced because of a healthy, participative working climate (Borrill et al. 2000).

As scalpels became progressively lighter and sharper, so they became more difficult to master. The challenge was first to *unlearn* over-learned, habitual techniques acquired for cruder, heavier instruments, which required arm and shoulder co-ordination. Focus now shifted to fine hand control—first finger and thumb coordination and fingertip control in particular—as the new, lighter scalpels amplified clumsy or gross movements. For example, in using a flat surface of the scalpel to lift tissue, the fourth and fifth finger muscles have to be contracted to offer counterpoise to the movement of thumb, forefinger and second finger. Also, the scalpel needs to be 'lifted off'—an application of *restraint*, of minimum force. For the expert, the scalpel, or any tool or instrument, teaches the hand how to best use it. Skill is *designed*, as a conversation between the user and the instrument (Wenger 1998). Importantly, learning is always 'relational' (Sennett 2008, p. 51), whether it is forming a relationship with tools, instruments, languages and codes; or with persons.

Where's the Sense in Medical Education?—Re-Visiting Practical Knowing

The point about our description, above, of the often undervalued world of skill acquisition, is to ground the application of learning theory to medical education in practice, activity or work that is simultaneously value, knowledge, willing and feeling in application. Many contemporary medical educators have tried to distance themselves from seeing medicine as an apprenticeship, where they associate the term with the bad old days of 'see one, do one, teach one.' They say we have transcended such hit-and-miss method through structured approaches: systematically building an evidence base for good clinical educational practice, often through painstakingly designed, laboratory-based human experiments; teaching principles in classrooms that can be applied clinically; and learning in safe environments such as through simulation settings and activities in clinical skills centers. Here, the process is to discover the rule, principle or method in controlled settings and *apply* it to real, messy settings.

There is an alternative—to go straight to often messy work settings and study *in vivo* what expert practitioners do, articulate this, interrogate it critically, unpick it and from this, to *design* 'scaffolded' work-based learning experiences with the possibility for feedback, reflection and integration (Bereiter and Scardamalia 1993). 'Apprenticeship' itself has transformed as an area of study and we now have coherent frameworks for understanding and transforming work-based learning, collectively known as 'social learning theories.' The 'new apprenticeship' movement (Ainley and Rainbird 1999) is not restricted to skills learning, but includes systematic study of the 'thinking' or cognitive apprenticeships common to all higher education, that include learning metacognition (Quirk 2006) or 'thinking how to think.' Medical education conflates high levels of problem-based thinking and doing with complex ethics and aesthetics, developing a particular cognitive architecture—the ability to reason 'clinically.' Cognitive apprenticeship (Guile and Young 2001) describes how learners acquire applied reasoning skills, in a transition from novice to expert thinker in the world of activity (such as clinical reasoning or judgment). Clinical reasoning moves beyond mere skill acquisition and individual metacognition (Eraut 2009), to learning cultural practices such as pattern recognition within a specialty (Bleakley et al. 2003a, 2003b). Clinical reasoning is not an individual cognitive event but a social activity grounded in cultural and historical ways of seeing (Daston and Galison 2007) that constructs a practice identity.

Medical educators interested in this line of thinking about learning and reasoning will see medicine as a complex professional practice in which the separation of cognition (thinking), conation (will), affect (feeling) and skill (doing) is impossible and unnecessary and in which individual cognition is secondary to social effects such as distributed cognition. The individual is an effect of a medical education in the sense that such an education necessarily develops a sense of professional identity. Lave and Wenger's (1991) ground-breaking anthropological study of apprenticeships of midwives, tailors, quartermasters, butchers and recovering alcoholics—across cultures—shifts the focus of learning from individuals accruing knowledge and skills to how novices gain legitimate entry into a community of practice as a means of identity formation. This stresses the importance of *context* in learning. Indeed, for these authors, learning is always 'situated' in a particular context and principles are difficult to abstract from such context, which is why this approach often claims (perhaps rhetorically) to study 'authentic' learning. Rather, this approach might be said to encourage the study of *in vivo* learning authentically. It is sometimes referred to as an 'ecological' approach to learning (Bleakley 2006a), where 'situated' learning describes a local ecology and research study of such habitats claim 'ecological validity.'

In Lave and Wenger's (1991) model of situated learning, agency, activity and culture are mutually constitutive. One element (such as individual cognition) cannot be understood without relating to the other elements. This challenges classroom-based models of learning that focus on transferable content and principles to be applied to activity. Rather, knowledge is embedded in the *activity* of increasingly central participation in a community of practice that holds such knowledge. The acquisition of 'knowing' cannot be separated from the acquisition of 'know how'

or the means by which one is accepted into a community of practice as a legitimate member. Mind, as Rogoff (1990) suggests, is 'in' culture.

Apprenticeship into medicine is entering a new era, its traditional apprenticeship now fraught with problems. Medicine once offered learning by humiliation; entry into communities of practice through black humor and gendered harassment; hanging around observing, rather than gaining hands-on experience; sleep deprivation as a form of toughening up; never getting feedback; and being given trivial jobs as a lackey rather than responsible engagement. Ironically, Lave and Wenger's (1991) study of apprenticeship in butchery shows how far a 'modern' apprenticeship can stray from traditional 'workshop' learning. Where the trade has become industrialized, modern butchers mainly work at meat counters in supermarkets and are engaged in trivial tasks such as wrapping meat where the more complex tasks are social, such as advising customers.

These modern butchers learn in college, divorced from the workplace, where, for example, they learn cuts that are never used in the supermarket setting. On placements, gaining work experience, apprentices offer a cheap source of labor and are typically exploited; 'teaching' is didactic and formal, simply 'showing,' rather than 'scaffolding,' where the learner is given progressively more difficult tasks, but the teacher supports in such a way that the 'gap' can be bridged rather than leaving the learner stranded and frustrated with a task that is either too simple or too complex. Once in work, the apprentice finds that his or her development in learning to cut meat is curtailed as he or she is employed mainly to wrap meat, run errands or clean up. The master butcher is too busy on the production line to teach. Some of these issues are familiar to medical educators, where students return from clinical placements complaining of the lack of engagement and the absence of responsibility and hands-on experience as hospitals and community practices are 'modernized'—engineered along factory lines for purposes of economic efficiency (the mass production model).

Our examples have been centered on the skill of using the meat cleaver and scalpel. Relatively few medical students will become surgeons, but our point again is that medicine *as a culture* is a profession that attracts bright but *practical* individuals. It is vital that medical educators from outside the profession do not ignore the importance of traditions of practical knowing in medicine. In Chap. 2, we described how, in seeking to find a succinct way of describing contemporary medicine's educational challenges, many medical educators have returned to the Aristotelian notion of *phronesis*—'practical wisdom' or 'practical reasoning'—to describe how medical students and junior doctors learn. A succinct way of capturing this would be to say that medicine is best learned as a 'hands-on' activity. This extends to more abstract learning, such as basic science, which is best appreciated where it can be experienced in application.

The practical–intellectual mindset that characterizes modern medical education, such as Sullivan and Rosin's (2008) description of 'practical reasoning' that we discussed in the previous chapter, can be traced, as we suggested, to Abraham Flexner's interest as an educationalist in the pragmatism of John Dewey. To return to the union between scalpel and surgeon, the expert use of a scalpel demands

working with resistance, not against it. The latter would be using the scalpel with force rather than presence. John Dewey's educational philosophy was based on presence rather than force, on paradoxically *utilizing* any resistance to learning and not challenging resistance (a technique familiar to psychoanalysts). In other words, if a child showed resistance to learning, this was to be *understood* and *employed as a resource*, not seen as a hurdle.

Dewey's educational philosophy was based on learning through experience, or hands-on application. In 1896, he opened what he called his 'laboratory school' in Chicago, where pupils were educated in methods that would characterize the progressive medical school curriculum. Dewey turned his back on lectures, passive learning, the transmission–reception approach leading to rote learning (a 'sedimentation' of information) and the separation of knowledge, skills and values, as divorced from the reality of work and life that pupils would contribute to as adults. He experimented with small, interactive classes based on practical experiences, followed by discussion and reflection, or integration. This allowed pupils to learn social skills and democratic habits as they learned academic content. Learning was personalized rather than impersonal, but social rather than individual. Dewey took on the role of facilitator and role model, rather than authoritarian teacher.

As pupils were given hands-on experience wherever possible, this became known as learning by doing, enactive learning or experiential learning. Actually, Dewey was working on three levels of experience at once—helping children to learn *through* experience (learning by activity), *from* experience (reflection on activity) and *to* experience (opening up creative aesthetic and ethical possibilities in learning, or educating the moral imagination). Importantly, Dewey took as education's bottom line the preparation of children for active participation in democratic process, by encouraging discussion and reflection on learning tasks; by encouraging a 'seeing otherwise' or tolerance for other points of view that are worth inhabiting; and by focusing upon learning as a social process of negotiation of knowledge through talk and argument (presence) rather than force. Small group discussion methods were introduced to democratize conventional transmission forms of education. School was seen as co-existent with life, not as a separate, 'total' institution (Goffman 1991). The curriculum was then 'symbiotic,' where life experiences were not separated from, but fed, pedagogy.

Importantly, then, Dewey claimed that his method was not just about transmission of knowledge, skills and values, but education into methods of inquiry and reflection, offering the possibility for generating new knowledge as children learned how to inquire into their learning, a meta-learning or 'reflexivity,' an idea most famously progressed by Schön (1983, 1990), whose PhD thesis was a critical evaluation of Dewey's model of educational inquiry as a practical knowing, later progressed to a model of 'reflective practice,' where, as an expert, the expression of learning becomes an 'artistry.' This would suggest an aesthetic dimension to reflective practice that Schön did not attempt to progress (Bleakley 1999). Simplified versions of his complex ideas have regularly been classified as a member of the 'adult learning theory' species, considered critically at various points throughout this book, considerably devaluing Schön's currency as a philosopher as well as educationist.

Flexner started his own school four years before Dewey's, in 1892. It was rather an unusual institution, perhaps comparable with Dartington School in the UK, as it attracted difficult pupils from wealthy families, who had been expelled from other schools, were social misfits or psychologically unstable. Using exactly the same approach as Dewey—intensive personal contact, small classes involving social skills, hands-on learning through activity and room for ongoing reflection on how learning could be improved—Flexner, who started with a handful of pupils, had built up a cohort of 100 pupils by 1905, when he closed the experimental, private school. However, there was one essential difference between Dewey and Flexner. Where Dewey encouraged freedom and choice, Flexner offered his more troubled students greater structure. He was not authoritarian, but believed in the development of strength of character through clear structure. His methods outwardly mirrored those of Dewey, but were used for different ends (Wheatley 1989; McClellan and Zelenka 2008).

Where Dewey encouraged innovation, Flexner was charged by fee-paying parents to 'normalize' difficult pupils. He did this through care and attention, but his approach can nevertheless be seen to fit neatly into the discourse that Foucault describes as characteristically 'modern.' His view was that corrective and rehabilitation institutions such as prisons, psychiatric hospitals and special schools, do not work through regimes of punishment. What works best are regimes of education and therapy, designed to bring those who have strayed back into the fold of normality. Discipline is thus not exercised as overt punishment but it is still present in covert regimes of order and control, with the aim being to create self-discipline. Strays are not only given special attention, but they are *studied* scientifically to determine the cause of their errant behaviors and catalogued as interesting cases. Education becomes a form of 'governmentality.'

Oddly, Flexner does not mention Dewey in his autobiography (Flexner 1940), but was impressed with Dewey's work and visited him in Chicago in 1902. There is a clear line of influence, in North American medical education in particular, that can be drawn from Dewey, via Flexner, to influential individuals such as George Miller—who set up the first medical education center in Buffalo, New York and can be regarded as the father of medical education research—through to Cooke, Irby and O'Brien's current work with the Carnegie Foundation in mapping a medical education for the twenty-first century (Cooke et al. 2006; Cooke et al. 2010; Irby et al. 2010) at the Flexner centenary.

To return to Donald Schön's work—this has been influential particularly in health care practice in the UK (Fish and Coles 1998; Ghaye 2005), but also in medical education (Fish and Coles 2005; de Cossart and Fish 2005), where, as we noted in the previous chapter, his work has been seen as an exemplar of the 'practical wisdom' school, framing practice as a theory in action. The same line of inquiry, grounded in American pragmatism, has influenced narrative bioethicists and proponents of narrative-based medicine, whose key figure is Kathryn Montgomery (Hunter 1991; Montgomery 2006). As we have already described, for Montgomery medicine is a 'science-using' practical activity, where medical students learn to become expert 'phronesiologists'—wise practitioners. All this, again, adds up to the conclusion

that medicine is first and foremost a practice—a 'mindset of the hands.' It is, as we investigate in Chaps. 5 and 6, a practice of the symptomatologist or diagnostician, whose work is both 'hands on' and 'senses alert.' This complex of sense-informed practice returns us to the importance of skill and will lead us to ask why, in addressing how to best educate practically oriented diagnosticians, certain learning theories have been privileged in medical education and others have been marginalized. This will lead us to address issues of power and legitimacy.

Chapter 4
Socio-Cultural Learning Theories

Learning from History

L. P. Hartley's novel *The Go-Between* has a stunning opening line: 'The past is a foreign country.' This suggests at least three readings: first, do not bother with history as it is already alien territory; second, if you visit history you can always reclaim it as your own, as one country might colonize another, imposing the victor's version of events; and third, we must engage with history as if we were entering a foreign country—as aware and sensitive guests. By now, readers will be aware that we think it is a good idea to engage with history, to invite history in as a welcome guest and to get to know this guest through offering unconditional hospitality (the original meaning of the 'hospital'). To move forward, medical education must be aware of where it has come from. As we suggested at the beginning of Chap. 1, it is important to articulate how dominant approaches to medical education came into being and what happened to legitimate challenges to such dominant views. This allows us to track influences of power.

In applying learning theory to medical education, strong value-laden choices have always been made. As we have outlined in our opening chapters, the empiricist tradition, within which John Dewey is a leading figure, has dominated debate about how medical students should learn, particularly in North America. We suggest that this is not a bad thing, as it leads one to focus upon what students will *do* as doctors—their work or activity—and helps us to reformulate the tradition of apprenticeship for a future medical education. Second, we note that individualism, a dominant value again in Protestant-Capitalist societies, is pervasive in medicine, often described as a culture of 'autonomy' and reflected in 'individualized' learning. This leads to a paradox—how can medical students learn to work effectively in the new era of collaborative (interprofessional) clinical team practices? The study of the individual's cognitive process—largely grounded in experimental psychology and focusing upon delineating abstract principles for learning that may be transferable—has dominated medical education for 30 years: but it now needs to be challenged.

These two streams—pragmatism and individualism—meet in a characteristic and vital, yet paradoxical, approach to learning in medicine that by-passes evidence

gained from studies of learning in the laboratory, moving straight to 'distinguished teachers' (Irby 1994; Pinsky et al. 1998) to determine from them how they do the job. Students and peers consistently judge such teachers as excellent. This approach is paradoxical in an evidence-based era because it bypasses evidence-based approaches to privilege expert opinion. However, evidence gained from controlled studies set up by psychologists with an interest in principles of learning may be of less pragmatic interest to aspiring medical educators than extended 'tips' distilled from what good clinical teachers actually know and do. This latter approach attempts to make explicit what is normally tacit. Further, the evidence gained from experimental psychology approaches focusing upon the individual may be based upon good experimental design, but may bear little relevance for medicine as a collaborative practice (both of doing and thinking) and medical education as a social process of learning.

Paradoxically, many experts in medical education have actually gained their expertise through an old-fashioned apprenticeship of 'see one, do one, teach one.' Later, when we discuss identity construction of the 'doctor' and of both the 'medical educator' and the 'clinical teacher,' we advise caution about gaining educational credibility through an old-fashioned apprenticeship into clinical teaching. We are now in an era of legitimizing educational practice through following evidence-based practice, gaining educational qualifications, seeking peer review and gaining membership of recognized academies, rather than simply through student satisfaction based on response to charisma rather than educational acumen and proven outcomes of teaching through assessment of learning. While work on what makes an excellent clinical teacher that brackets out institutional legitimizing through qualifications, has had distinct impact on how we frame learning in medical education, it tends to reinforce the cult of the individual, again the charismatic figure or conventional leader, or what Calman (2006) calls, collectively, 'magnets.' Focus on personality characteristics and teaching styles may, however, be followed at the expense of principles and methods of learning. For example, just because certain charismatic individuals give brilliant lectures that mesmerize their students, this does not mean that the lecture mode is a mesmerizing way to educate.

Three Approaches to Learning

Distilling ideas from experts, as a pragmatic approach to learning, then has its limitations as well as strengths. We still need to think from the other end of the spectrum—how might learning theories help us to educate medical students? Not what *use* are learning theories, which is another utility question, but of what *value* are learning theories? This is an axiological question (axiology is the study of values, as distinct from epistemology or study of knowledge and ontology or study of existence). For those who do think first about the application or use of a theory, if we frame approaches to learning as tools, carefully developed for the job, then popular models, such as 'adult learning theory,' as we discuss below, are shoddy

in conception, cumbersome in the hand and blunt in application. To return to the master butcher and history of the scalpel analogies from the previous chapter, such learning theories would correspond to the butcher who, inadvertently, kept hitting bone rather than slicing flesh; and to the barber's razor rather than the modern scalpel.

'Learning' is, naturally, medical education's central interest. Throughout this book, we are concerned with issues of learning as this relates to power (what is legitimate content and process in learning?), identity (how does learning lead to a sense of self?) and location (where shall various aspects of learning medicine be sited?). Commentaries on learning in medical education tend to review the major learning theories historically (for example—behaviorism, cognitivism, constructivism and social learning theory or constructionism) and then discuss the relative merits of each theory in relation to application (Regehr and Rajaratanam 2000; Custers and Boshuizen 2002; Gunderman 2006). We note in the literature some rhetorical purposes to which learning theories are put, that leads us to a classification of three major groupings of interest:

1. Those who are interested in demonstrating (a) the value of individual cognition as a basis to learning and (b) learning abstract, transferable principles as a basis to understanding the development of medical expertise (for example, Custers and Boshuizen 2002; Norman 2002, 2008).
2. Those who are interested less in *how* individuals learn but more in *what* is learned, with a focus upon the importance of meta-cognition or *frameworks for thinking* as a basis to learning expertise (for example, Brookfield 1986; Eraut 2000; Quirk 2006). A paradigmatic approach in this category is the classic work by Bereiter and Scardamalia (1993) *Surpassing Ourselves*, on designing learning for the gaining of expertise.
3. Those who are interested less in the experimental study (classroom- or laboratory-based) of how individuals learn, where principles may then be applied to work contexts and more in what actually happens in authentic work settings. This approach considers context to be all-important and describes learning and cognition as 'situated' and social and cultural in character, or 'distributed' (for example, Rogoff 1990; Lave and Wenger 1991; Guile and Young 2001; Engeström and Middleton 1998; Wenger 1998; Brown and Duguid 2000; Lea and Nicoll 2002).

The first two positions are specifically about the *persons* who learn, where the second position describes *rules for understanding* as a basis to learning. The first two positions are also often in conflict, while the first position—cumulative experimental studies of individual learners to describe learning principles that are transferable—has assumed the dominant position on learning informing the field of medical education. Custers and Boshuizen (2002, p. 196), proponents of this position, employ a typical rhetorical strategy in academic writing, where they 'recommend' that 'attempts to improve teaching should at least be consistent with known learning principles.' What they mean is 'consistent with learning principles as we define them.' The weasel word is 'principles' and this is the focus of their

approach—culling principles from series of carefully controlled psychology experiments that may then be transferred to medical education practice. The limitations of this approach are that real contexts for learning are by-passed and learning is again focused on individual—rather than social and cultural—cognition (an approach that also ignores the historical influences upon how people learn within communities of practice), even where principles are derived from aggregates of individuals. Transferability of principles is often assumed rather than proven. As the authors themselves note (Custers and Boshuizen 2002, p. 196): 'Learning principles derived from psychological learning theories are not always easy to apply directly to teaching in a domain as complex as medical education.'

The assumption of transferability rests with Custers and Boshuizen's (2002, p. 189) faith in problem-based learning (PBL) as the method *par excellence* for bridging abstract science and its application in clinical contexts, where 'Basic science is a domain with many examples of abstractions, whereas clinical medicine is much more concrete.' PBL demands mastery of general principles or concepts that can be transferred to similar problems, first through elaboration of strategies and then through presenting basic science knowledge in context of clinical problems. This is an example of route 1 ('high road') transfer of learning.

The authors are critical of situated or 'authentic' learning approaches, where they warn that in such approaches, learning may be too tightly contextualized, restricting the possibility of transfer of principles. They make a single concession to social learning, where they suggest that the 'Student should be a member of a community of practice' and 'should be assigned roles and responsibilities' (Custers and Boshuizen 2002, p. 193). However, they are skeptical of the claim made by 'Some advocates of the situated cognition approach…that it has recently restructured or even replaced the cognitive revolution in psychology' (Custers and Boshuizen 2002, p. 180).

When the American psychologist Michael Cole was awarded a Ford Foundation Scholarship to study with Alexander Luria in Moscow in 1962–1963, he underwent a transformation (or as Cole describes it, a revelation) in his view towards learning. Luria's mentor and colleague was Lev Vygotsky. Cole brought ideas of what was later called 'activity theory' back to American educational circles. As we have already suggested, learning theories have histories and are culturally grounded. A Soviet learning theory developed after the Communist Revolution in 1917 by Vygotsky (although Vygotsky personally distanced himself from Communist ideology) is bound to be socially oriented. The idea that learning is something that an individual can acquire, retain and exploit for personal gain is almost unthinkable from a collectivist perspective. By the same token, American psychologists working within the Protestant-Capitalist-plus-Pragmatism values complex would see shared learning as errant, where the game is about competition and self-help and the goal is to perform better than the next person, accruing knowledge as personal capital to be cashed in for gain on the career ladder. Mike Cole saw the value of socio-cultural learning theory for any cultural context, but it would be many years before the seeds of his experience bore fruit, as he could find little early interest in Vygotsky's work in American educational and psychological circles.

This rebuff is explicable in hindsight, as an issue of political values rather than the intrinsic worth or explanatory power of a theoretical model. However, medical education does seem ready-made for the application of socio-cultural learning theories, with its interest in work-based apprenticeship, participation at various stages (and in varying degrees) of novice-to-expertise transition in communities of practice and formation of identity as a doctor and as a medical educator or clinical teacher. In sharp contrast to the 'individual cognition' and transfer of 'learning principles' view of Custers and Boshuizen above, who are representative of a dominant culture in medical education, is Lave and Wenger's (1991, p. 95) view that learning is not so much a mental process as 'a relational matter, generated in social living, historically, in social formations whose participants engage with each other as a condition and precondition for existence.' Learning is then about a mutually transformative relationship between work and identity and is primarily ontological—focused on issues of existence and relationships such as 'being' and 'becoming' (Bleakley 2010b).

The second position above—those interested in the epistemologies, or theories of knowledge, of learning—may seem to align naturally with the first position, where the interest is the learning and subsequent application of principles. However, meta-cognition, or learning to learn, which includes processes such as reflection, is culturally constituted. For example, we are seeing a shift in *cultural* interests in higher education learning where, as we have seen, Sullivan and Rosin (2008) argue for displacing traditions of 'critical thinking' with 'practical reasoning' in the professions. It is not that 'practical reasoning' has been experimentally proven to be better than 'critical thinking,' but that practical reasoning better captures the cultural concerns of pragmatism, where critical thinking is seen as an abstraction too far.

Miller Lite?

We refer to Miller's (1999/1956) article, 'Adventure in Pedagogy,' on several occasions throughout this book. It marks an iconic moment in the history of medical education. Indeed, Miller, at the time, referred to medical education as having come full circle, meaning that a climate had emerged in which modern medical education was looking to its roots in the Flexner revolution and taking stock of what had been achieved. In retrospect, Miller's group at Buffalo, New York, had made a radical break with orthodoxy in learning theory. Post–World War II American psychology was dominated by the psychology of learning and that field, in turn, was dominated by the behaviorism of B. F. Skinner.

Given our remarks above about American and Soviet learning theories, it is at first sight paradoxical that, at the height of the Cold War, American psychology should have been so gripped by an approach grounded in the Russian experimental psychology tradition inaugurated by Pavlov. Behaviorism put observable behavior before the 'black box' of cognition. A person's behavior was described as shaped by reinforcement, or reward, offered by the environment, so learning was not

associated with non-observable cognition such as 'meaning' or 'insight.' For Skinner, what mattered was what could be seen—outward behavior (hence 'behaviorism'). While this is firmly in the tradition of the Western philosophical tradition that privileges 'presence' over 'absence'—or the metaphysics of presence—Skinner's view certainly does not place emphasis upon the Western tradition of individual liberty that so characterizes the American psyche. Indeed, 'freedom' of choice would be anathema to behaviorism, as 'choice' is a fiction, a product of the history of environmental reinforcement. However, given that this psyche is also characterized particularly by the Protestant-Capitalist work ethic, where individual striving will be rewarded materially, perhaps Skinnerian ideas do not look so out of place.

Behaviorism was replaced by cognitivism as the dominant way of understanding learning during the late 1960s and early 1970s. Cognitivism was closer to a common sense view of how people learned, attempting to map individual thinking processes and to address difficult issues that behaviorism could not tackle, such as how can thought be original or innovative? In medical education, cognitivism's influence is clear in dominant models of clinical reasoning. However, behaviorism has not gone away. Indeed, it can be seen to be flourishing with the competency and learning outcomes movement, which focuses exclusively on observable behavior.

Miller's article does not describe a learning culture in which behavior is shaped by the environment. Indeed, the main conclusion of this expert group of a dozen male medical faculty members is that *teachers may constitute the major obstacle to learning*. Rather than actively shaping behavior, Miller's study describes an approach to learning that, from the point of view of the faculty members, is similar to the paradoxical account of skill acquisition with which we opened the previous chapter—helping individuals to learn is about 'release,' taking one's foot off the pedal, challenging the compulsion to interfere, so that a person is gently guided or supported in discovering his or her own resources. Actually, what Miller's group describes as an ideal approach to learning in medical education now seems to describe the archetypal American cultural approach: true learning requires freedom (note Carl Rogers' influential text *Freedom to Learn for the '80s*, first published in 1981); people learn what they want to learn (self-direction); and teachers can be obstacles to that learning. Miller's group added a fourth condition—anathema to the behaviorist tradition—that learning is largely an emotional experience. 'Individualized' learning fits comfortably within this tradition, sheltering under the umbrella of equity offered by the process of all learners on a program of study ultimately meeting common learning outcomes that are, in turn, often set as criteria for assessment.

Miller (1990, p. 340) admitted, with refreshing honesty, that in medical education teachers generally do what they do without reference to an explicit guiding learning theory and without a formal entry into the discipline of education, so that 'the time has come to face up to the fact that many of us do not know what we are doing as teachers' and 'that those of us who do learned it accidentally and cannot readily communicate it to others.'

In a later article, Miller (1970) wrote: 'It may require…a century of educational research to produce any significant response in an educational system as vast and ponderous as that which serves medicine.' Almost a third of that century has passed,

marked by a themed issue of *Academic Medicine* (2004, p. 79) surveying the state of medical education research, allowing for a considered review of Miller's pessimism. But are we any closer to understanding how learning theories may best be applied to medical education?

Again, the most commonly applied learning theories in medical education continue to be those that focus upon an isolated individual rather than the socio-cultural context for learning. The former include varieties of adult learning theory (Knowles 1978; Brookfield 1986; Boud 1987), experiential learning (Kolb 1984) and reflective practice (Schön 1990). Individualistic learning models have also been critically reviewed in the wider education literature for their epistemological claims, such as their status as 'theories' (Davenport 1993; Bleakley 1999; Rowland 1999; Thorpe 2002). The validity of the descriptor 'adult learning theory' was challenged nearly 20 years ago in an influential article by Davenport, who concluded that the distinction between 'andragogy' (adult learning) and 'pedagogy' (child learning) was unfounded, lacking both a conceptual basis and empirical evidence. Davenport (1993) concluded that 'andragogy' was neither a theory nor a proven method, but rather a simplistic descriptor that falsely separated 'child' from 'adult' learning, leading many educationalists to simply drop the word.

Within medical education, Norman (1999) described adult learning theory as a flimsy association of educational strategies that fails to gain the status of a theory open to empirical investigation. Another 'mantra' (Ecclestone 1996) of learning (readily invoked but rarely considered critically or empirically) is 'reflective practice.' As we suggested earlier, Schön's account of reflective learning is often diluted or misrepresented, forgetting that it specifically addresses learning in contexts of uncertainty, uniqueness and value context. However, it does so again only from the individual's perspective and not from the perspective of systems dynamic.

To look at learning in this way is to miss critical elements, including the flow of information between members of a team mediated by artifacts in daily use by that team (such as patients' drug charts). It has been argued that 'reflective practice' is a descriptor that could be refined within education (Bleakley 1999), where the term has been used loosely and uncritically to describe a variety of practices based on contrasting epistemologies (Ecclestone 1996; Bleakley 2000a, b; Bradley and Postlethwaite 2003). Schön's original model also fails to be reflexive about the values that inform it or offers an incomplete axiology (Bleakley 1999). In the medical education literature in particular there is a lack of close and critical reading of such primary texts and it is only recently that reflective practice has, for example, been systematically analyzed for its component parts (Mamede and Schmidt 2004). Why do we say that reflective practice has been simplified, indeed abused? In short and paradoxically the school of 'adult learning theory' tends to employ 'reflective practice' unreflectively.

'Experiential learning' is another notion that appears to by-pass critical attention. Kolb's (1984) model of a reflective cycle of experiential learning has been criticized as a commonsense descriptor rather than a testable theory and is again weakened in its range of explanatory power by its grounding only in the individual learner and not the team or system. Rowland (1999) notes that terms such as 'reflection' in

learning are used not only unreflectively or uncritically, but also transparently, as if they were terms that failed to derive their meaning from social relations of power. For example, Kolb's experiential learning cycle is a descriptive model of learning from experience that paradoxically neglects the social context in which that experience occurs and which serves to shape and give meaning to the 'experience.'

Despite an emphasis in healthcare upon the benefits of interprofessional teamwork (Cook et al. 2001; Molyneaux 2001), systems-based patient safety (Millenson 1999; Pauli et al. 2000a, b; Genn 2001; Plsek and Greenhalgh 2001; Berwick 2004; Dickey et al. 2004) and organizational learning (Millenson 1999; Genn 2001; Plsek and Greenhalgh 2001; Berwick 2004; Dickey et al. 2004), again individualistic models of learning continue to be privileged within medical education (Martenson 2001; Pololi et al. 2001; Rolfe and Sanson-Fisher 2002). For example, Rolfe and Sanson-Fisher (2002, p. 346) describe how 'a search of the medical education and relevant behavioral science literature' provided 'the foundations' to develop a structured learning tool for clinical skills. The literature indicated that 'an individual focus to learning is appropriate…consistent with the idea of adult learning.' However, such a search is not a transparent revelation of 'best evidence' but may serve to reinforce existing bias in the literature, reproducing itself through citation. Where clinical skills are collaborative, such as resuscitation team activity, we need learning theories with explanatory and predictive power for such contexts. This is vital for good health care, where the majority of medical errors are systems based (Kohn et al. 1999) and quality of teamwork is linked with improving patient outcomes (West and Borrill 2002). Again, learning in nonlinear, complex, adaptive systems such as clinical teams and organizations cannot be fully explained by varieties of adult learning theory, but may be better understood socio-culturally, as legitimate entry into collaborative work practices and as dynamic activity systems—operating far from equilibrium—seeking temporary stabilization (Bleakley 2010b).

Contrasting Metaphors for Learning

Creating an opposition between individualistic and socio-cultural learning theories is unhelpful, because it produces a frame of mind in which we begin to privilege one set of theories over another. Rather than attempting to decide which is the single best theory, medical educationalists can consider theories as 'fit for purpose' through their explanatory and predictive power. One can also draw out shared principles across families of theory, such as the value of reflection and of tolerance of ambiguity and understanding of how tacit knowledge is organized individually and collectively. Differing approaches within learning theory can, however, be seen to be in productive tension. Sfard (1998) outlines two helpful metaphors for learning: 'acquisition' and 'participation.' 'Acquisition' broadly describes knowledge reproduction, where learning is seen as information seeking and sedimentation of knowledge in individuals. Here, knowledge may be treated as private capital. 'Participation' describes collaborative knowledge production, not as an act of accumulation

of knowledge or skills, but as an act of legitimate and productive engagement in a community of practice, resulting in an identity construction. This approach characterizes communities of practice approaches to learning (Wenger 1998). Sfard is careful to warn that one approach should not be privileged over the other as each approach can be fit for purpose.

Learning theories are not value-free. In a learning economy subject to what Max Weber described as a Protestant-Capitalist complex, knowledge is treated as commodity and private property and learning is an individual enterprise linked to the Protestant work ethic. 'Autonomy,' 'self-directed learning' and 'self-assessment' are then legitimate currency in such an economy. Indeed, these approaches become so widely accepted that they are naturalized (taken to be self-evidently 'good' and therefore 'true'). The effect is to produce a climate where practice based on value preference takes precedence over practice based on research evidence. For example, 'self-direction' is consistently applauded in a medical education culture that prides itself on a growing emphasis upon professionalism and ethical practice and yet poorly performing doctors can clearly be self-directed in undesirable ways. Autonomy in learning must be accompanied by a social conscience and self-assessment must be tempered by peer feedback. It has become an axiom of medical education research that self ratings in studies are invalid, such that journals will refuse to publish articles with self rating methodologies as a matter of principle. This, despite medical education's tenacious valorizing of individualism in learning.

Where the need for teamwork learning is recognized, paradoxically this may still occur within a climate whose main tacit theoretical reference is individual, rather than distributed, cognition. Guile and Young (2001) argue that where medicine is an apprenticeship involving work-based learning, individualist assumptions cannot account for the relationships between socialization, identity construction and learning of expertise that occur in the social contexts of team-based activity. In contrast to learning theories drawing on 'acquisition' metaphors, collectivist-learning economies have naturalized the metaphor of 'participation,' where collaborative learning is privileged.

Unsurprisingly, as we have already pointed out, capitalist psychology privileges individual constructivist models such as those of Piaget and Kohlberg, where collectivist Russian (Soviet) psychology privileges social constructivist models such as those of Vygotsky and Leontiev. As noted earlier, in answering the question: 'where is mind?,' socio-cultural models of learning assume that 'mind' is not just in the person, but distributed across persons and artifacts. For example, memory is not simply located in individuals but in computers and in collectively held practices and rituals into which new members of teams are socialized.

In a study of consultant (attending physician) and preregistration house officer (intern prior to residency) interactions on wards (Bleakley 2001b, 2002a) a consultant (attending) reported in interview that he knew of teams where a 'little book' was kept by junior doctors and passed on from one rotation to the next. This book contained descriptions of the idiosyncratic foibles of consultants who had led the team. The interviewee suggested that the purpose of the book was to help the junior doctor to adjust to the particular climate set by the historical procession of

consultants. In a study of team talk on a pediatric ward (Middleton 1998, p. 233), 'common knowledge' is permanently negotiated by members of the team through rhetorical strategies that persuade newcomers into adopting habitual team practices. Here, 'common knowledge is more than the sum of any recollections individual team members might bring to the work situation. It is a property of the team's conversational rememberings.' In turn, 'remembering' is 'a jointly realized activity,' thus conceived as distributed rather than individual cognition. A novice in the team must quickly gain 'flexible expertise,' including attention to the historical aspect of the team's character, which is transmitted as anecdote. In this situation, learning is not simply passive accumulation of skill and knowledge, but an activity of social participation in which knowledge is reconceptualized and an identity is gained *in relation to the historical stream of the particular community of practice*.

Activity Theory

Individualistic learning theory places the learner at the center of the activity, putting emphasis upon agency. This model is grounded in traditional psychologies of personality and then aligns with models of invariant learning styles (Briggs and Myers 1995). Such models also tend to view learning developmentally so that certain approaches to learning may be appropriate for a developmental stage. For example, in the transition from novice to expert, analytic principles-based 'building block' learning may be encouraged where there is a lack of tacit knowledge upon which to engage with synthetic or holistic learning through pattern recognition. Sociocultural approaches see the learner as one aspect of a more complex activity system and then reconfigure learning as sensitivity to context where gaining access to an overall picture of activity such as a team dynamic is crucial. Here, as in problembased learning, the developmental stage of the learner is considered secondary to a wider principle—that of gaining legitimate access to knowledge that is distributed across persons and artifacts. This is an adaptive social process as much as a cognitive assimilation event and draws on generic communication capabilities. 'Knowing' is reconfigured as participation, such as engagement with the collaborative data gathering of a bedside ward team to update patient records. Further, the individual is seen as a product of social activity and accounted for in terms of fluid and multiple identities rather than fixed types (Wenger 1998).

The most significant development in expanding learning theory from 'acquisition' to 'participation,' accounting for learning in dynamic social contexts, is activity theory (Engeström 1987, 2004, 2008). A prominent version of activity theory, a group of models often referred to as Cultural-Historical Activity Theory (CHAT) (Chaiklin et al. 2003), takes a discrete work-based social context (an 'activity system') as the basic unit of analysis and considers learning historically with an emphasis upon potential future transformations of a system. The components of an activity system are shown in Fig. 4.1. Yrjö Engeström, the central theorist in the field, has introduced the notion of 'learning by expanding' to account for knowledge
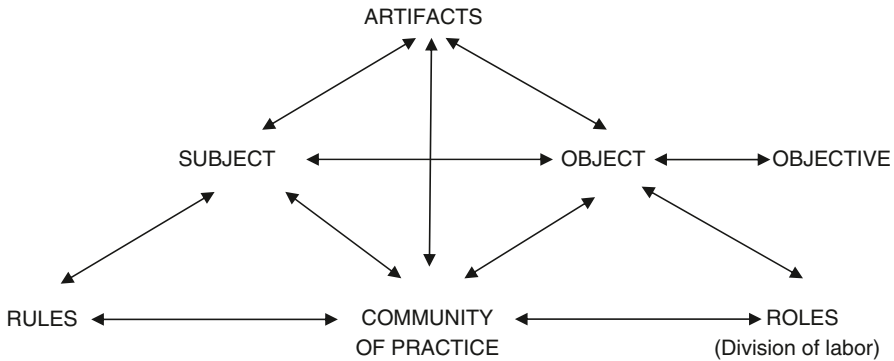
Fig. 4.1 Basic activity theory model

production rather than reproduction through the progressive horizontal associations of differing activity systems (for example: community *to* ward *to* anesthetic room *and/or* operating theater *to* recovery *to* ward *to* community *to* physiotherapy *to* outpatients clinic).

The learner is not simply socialized into the knowledge held by a community or activity system in a passive manner. Rather, participation necessarily acts as a disturbance to an already unstable system that offers productive possibilities through change over time. High tolerance of ambiguity is demanded for practitioners to work creatively within such dynamic contexts and such tolerance is held both individually and collectively. Thus, Middleton (1998, p. 252) notes that what on the surface appears to be 'argumentative' talk in a clinical team can be reformulated as negotiation of a 'collective intelligence.' In this sense such 'dilemmatic' talk becomes a resource rather than a problem to be solved, where 'uncertainty is far from being the enemy of innovation.'

Engeström focuses upon collaborative potential in work-based learning, within specific activity systems such as differing health and social care teams working around a shared patient (Kerosuo and Engeström 2003; Engeström et al. 2003; Engeström 2004, 2008). Every activity system has an 'object' (the focus of interest—in clinical teams this is usually the patient, or 'illness,' or 'health,' although other objects will be operating, such as 'what time I finish work' and 'what tasks do I have to complete?') and objectives (meeting the needs of the patient). Differing members of the activity system may hold differing, even competing objects, making for instability of the system. Objects may be shared with other teams and activity theory is particularly interested in how learning occurs across teams sharing a 'boundary object' (common interest) and involving 'boundary crossing' (can teams understand each other's activities, although they may share a common concern such as patient care?) (Kerosuo and Engeström 2003). A typical boundary object is a shared piece of equipment, a protocol, or a practitioner with roles across teams (such as a 'runner' in the operating theater).

'Object' is a deliberately vague and complex term in CHAT, where it can be separated from a common 'objective' or outcome through division of labor. For

example, an anesthetist's job is to prevent a patient from feeling pain during an operation, to stabilize that patient's bodily functions and to check that the patient recovers and has appropriate medication post-recovery. A surgeon's job is to carry out an effective operation assuming that pain control has been taken care of. A scrub nurse's job is to make sure that the surgeon has his or her equipment available, that the equipment has been sterilized and that appropriate instruments will be handed to the surgeon when requested. These are separate objects of a shared activity system. However, the overall objective or outcome is optimal patient care and safety.

Further, as Engeström (2008) notes, objects in an increasingly complex world of medicine and healthcare, can be 'runaway.' They are like monsters—no longer under the control of those involved in the activity and understood differently by members of an activity system. 'Health' is a runaway object in a medical culture that produces illness iatrogenically (hospital-acquired infections, avoidable medical errors). 'Team' work is a runaway object in groups of practitioners who are constituted from a pool on an ad hoc basis and do not see themselves as 'teams.' 'Targets' may be set by politicians for healthcare that are simply not achievable, where those same politicians refuse the resources that would make such targets achievable, creating another complex, runaway object.

Regardless of these complexities, social learning models can be readily applied and tested in the field, especially in interprofessional care (Bleakley et al. 2004). Indeed, conceptual notions in this field are derived from empirical study as a matter of course. 'Teams' may not, for example, be fully aware of each other's activities despite their common concerns (objects) and this is readily observed in healthcare. For example, a ward and operating theater team, or teams from different agencies such as health and social services, may fail to communicate fully about their shared patients and proceed to both duplicate and sequester information. Engeström's (2008) version of activity theory is a species of collaborative inquiry, tested and refined through cycles of action and reflection, that has been adopted by the health service in Helsinki as a 'fit for purpose' model for informing inter-agency collaborative team care of chronic, multiple illness patients.

Learning has obvious use value (skills) and exchange value (expertise), but also has symbolic value (status), offering cultural capital through professional identity constructions. Activity theory considers how identities are constructed through work-based practices and how management of identity relates to historically determined roles and rules. Identity formation is not an aspect of simply 'doing' the job, or even 'thinking' the job, but also of 'recounting' or story, where the job is narrated to oneself and to others within a set of stories already circulating within the practice community (Alderson and Bateman 2002). In multiprofessional teams, particularly where interprofessional collaboration has not been achieved, practitioners use rhetorical strategies to confirm role and identity not only for oneself but also for others, often serving to stereotype the role of the 'other' in the team (Lingard et al. 2002). This learning extends to a 'shaping' of identity as professional and ethical practice (Bleakley 2004), where such models of ethical 'self-forming' offer supplementary approaches to conventions of 'reflective practice,' extending to a critical reflexivity—again, an accounting for why one practices in the way one does and what values inform, drive and shape practice.

Activity theory offers a testable model of how learning occurs not only in space (identifiable social contexts), but also through time (dynamic systems). The particular power of the model rests with its ability to predict how differing activity systems may interact where they share an object, such as a patient. While activity theory deals well with the outcomes of practice, it does not, however, adequately explain how practitioners first gain legitimate entry into activity systems (socialization) and how identities are stabilized within practice communities. The latter is better explored through communities of practice models (Wenger 1998).

Cognitive Apprenticeship and Distributed Cognition

Our wider understanding of apprenticeship has recently undergone a revolution (Guile and Young 2001). Old apprenticeship models stressed 'immersion'—learning by experience simply through exposure. New apprenticeship, or 'cognitive apprenticeship' (Lave and Wenger 1991) models stress that novices do not simply learn how to 'do' the job as they gain expertise—they also learn how to 'think' and to 'recount' the job. As noted earlier, doing, thinking and recounting are intimately linked as ground for multiple identity formation.

In a medicine apprenticeship, all early work-based learning is necessarily short-lived in terms of membership of a clinical team. At first sight, the medical student and junior doctor (intern and early resident) would seem to have little impact upon the dynamic of an expert team. However, activity theory predicts that temporary members of teams can bring a fresh eye to habitual practices, initiating expansion of the activity system and this has been empirically confirmed through videotape analysis of ward rounds (Bleakley 2001b, 2002a). Ward-based learning has been summarized as a progressive acquisition of knowledge, skill and understanding, where the learner is seen as a competent practitioner when a given level of knowledge, skill and understanding has been achieved (Hargreaves et al. 1997). This is typical of conventional transmission–reception ('acquisition') views of learning, where an empty vessel is filled. Such a view can now be seen as naïve, where it describes learners as passive recipients rather than active participants. More importantly, such a view bypasses the importance to learning of identity construction achieved through joining a community of practice. This limited view of learning must now be expanded to include socio-cultural elements, where learning is framed as an activity involving increased access to participating roles in expert performance.

Dynamicist Learning and Complexity

There is a further element to unfold in this chapter, which is the contribution to understanding of learning made by complexity science. As Bleakley (2010b) argues, complexity theory shifts attention away from the thing itself (such as individual

learners or content of learning) to relations between things (process). The greater the number of related factors considered, the greater the complexity and the more unpredictable the system, especially its emergent properties, or what may come out of the system's changes through time. Systems of varying complexity are nested—local systems (a clinical team) nested within and emerging from larger systems (a very complex, unwieldy healthcare system such as the UK National Health Service). It is important within a complexity view to articulate the unit of analysis for learning. This may be at the level of the individual, an activity, a social group, or an organization. However, these can all demonstrate complexity—the workings of both a single cell and an entire ecosystem, such as global weather, can be described in terms of complexity theory.

Understanding the contribution of complexity science to learning theory requires assimilation of a set of metaphors from disciplines such as information theory. While the metaphors of 'acquisition' and 'participation' serve a use, they are rather limited and clumsy and a finer set of metaphors is needed to differentiate between kinds of participative learning. Such metaphors describe a holistic 'dynamicist' model (Clark 2002, 2008) to inform medical education, supplementing current interest in the application of complexity theory to management of healthcare systems (Plsek and Greenhalgh 2001).

Dynamicist models describe learning as a naturalistic, systems-based activity occurring in time. Learning is again assumed to be 'situated' or specific to context and is therefore studied where it actually occurs. The preferred, or privileged, unit of analysis is a functional team or group (collective, collaborative) operating through time. Dynamicist thinking can be contrasted with connectionist thinking, where the latter, paradoxically, tends to be the current dominant mode for making meaning of team activity. Again, the descriptor 'team' is often used uncritically, to describe a set of dynamic mixing of persons through time, focusing upon differing objects of work but perhaps sharing a common proposed outcome, that may better be described as operating through 'meshworking' or 'networking' (where semi-permanent connections are laid down), or more often through 'negotiated knotworking,' where temporary connections are made and there is no center in these connections that holds them together, such as a stable team leader (Engeström 2008). Where larger, impermanent groups of people concentrate around work tasks and then disperse; this may be better described as 'swarming' or 'teeming.' These are process-based neologisms, helping us to appreciate that learning is dynamic, or activity based (from 'team' to 'teaming,' or 'teeming').

Connectionism works from the parts to the whole and abstracts from time. This is mirrored in curriculum thinking where discrete modules make up courses and learning is atomized in terms of finer and finer outcomes. These outcomes define what can legitimately be learned (reproduction) rather than encouraging learning that may redefine such goals (production). In contrast, dynamicism attempts to grasp the system as a whole, concentrating particularly upon the emergent properties of the system, or what the occasion 'affords' (its potential). Outcomes are then less easily prescribed and, again, must embody process learning as well as content.

Systems Thinking and Learning

Where Custers and Boshuizen (2002, p. 196) suggest that 'attempts to improve teaching should at least be consistent with known learning principles,' we have seen that such 'principles' thinking is countered by those in the 'situated learning' camp, who see context, rather than principles, as the key factor in learning. Indeed, both of these approaches (principles, contexts) are challenged by dynamicist learning models, which introduce uncertainty into learning and then come to question our current reliance on the use of learning outcomes (what the student shall be able to do after a period of study) or objectives (what teachers expect of students after a period of study).

Curry (2002, p. 272) suggests that 'We have learned from (the) basic educational sciences to begin by articulating clear learning objectives.' The problem with this approach is that it is the teachers, not the learners, who set the objectives. This corrupts the central message of those in the John Dewey, Abraham Flexner, George Miller and Donald Schön tradition, who see learner autonomy as central to motivation and success in learning. The current curriculum planning response to this dilemma is, first, to set out a circumscribed body of knowledge and skills as core and to offer a substantial 'options' curriculum; and second, to introduce learner flexibility within the core by focus upon method (such as varieties of problem-based learning).

Fundamentally, the restriction of dictated outcome still applies—it does not matter how you reach the goal set, as long as you satisfy that set goal. Learning theorists of all persuasions recognize that learning outcomes offer two important gains: learners are offered guidance on what is currently legitimate content in the curriculum; and outcomes generate criteria for assessment. Dynamicist learning models do not reject outcomes. Indeed, they are central to an activity as a main 'attractor,' shaping the trajectory of learning. What dynamicist models suggest is that thinking about outcomes can be developed along two lines: first, outcomes can be grounded in (1) *time* and (2) *process*.

Time-based outcomes assess longitudinal or *prospective* learning (where outcome-based assessment currently is retrospective) and then have the added possibility of prediction of achievement, or overall grasp of potential. (In dynamic systems thinking, the potential of a system is considered to be as important as its state-specific realization at any one point in time).

Second, process-based outcomes assess not just knowledge, but meta-knowledge—how thinking is done, thinking about thinking, reflection and reflexivity. This is a central element in a doctor's appraisal process and should be learned early in a medical student's career. This addresses issues such as 'why did I make this choice, and not another?' 'What values informed that decision?' 'What effect might this action have on other people?' These learning activities can be grounded in practical knowing, but introduce 'deliberation' and 'reflection' as key elements, deepening to reflexivity or an explicit accounting for activity and the values that drive and inform that activity.
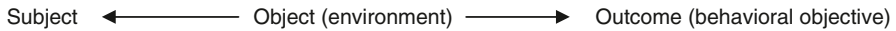
Subject ◄──────────── Object (environment) ────────► Outcome (behavioral objective)

Fig. 4.2 Behaviorism

Subject ────────► Object ────────► Outcome

Fig. 4.3 Cognitivism

If medical education is to adequately theorize learning in dynamic contexts, such as learning on the job in a ward setting, it will need to borrow from systems thinking. The first level of an activity system is the interaction between a subject (learner) and an object (what is achieved). In behaviorism, the focus is on what the environment offers in the way of reinforcement for the learner's actions, 'shaping' his or her behavior (Fig. 4.2).

In cognitivism, the focus is on the individual acting on the world, making meanings (Fig. 4.3).

Both models fail to account for the *contexts* of learning—mediation by artifacts; and the influence of communities of practice as a social context in which learning occurs and meanings are made. Further, both models fail to account for the *production* of roles and identities, and the *influence* of rules of the community of practice upon the learner. These elements are in dynamic interaction and tension. As one element changes, it has effects on all other elements, so that the system is *transformative* both in space and through time. This is its potential and potency, technically a set of 'emergent properties.' The system is then inherently unstable, but seeks stability. This activity system, as a learning process, may then be described in terms of dynamic systems theory, as below.

The system is best considered as a local *ecology*, rather than a collection of individuals. The system is greater than the sum of persons and artifacts and comes to afford unexpected opportunities for learning in its inherent instability, as it transforms (emergent properties of the system). This ecological view is quite different from considering the learning of individuals operating autonomously. The system is characterized as developing a common, cultural mind through time, to which individuals contribute and of which they are a part. This is a *distributed cognition* rather than a set of individual minds. Just how a system of distributed cognition (and also distributed affect) is set up depends upon, for example, learners actively engaging in collaborative processes such as a team briefing.

A system (such as a clinical team) moves through time (is dynamic), but can also be tracked, as a series of 'state spaces.' If a system is frozen for study at any one time, it will be in a state space that is temporary and possibly atypical. An 'average' state space can be modeled as the set of all possible states that the system could pass through—for example, a working day on the ward.

Setting learning goals, in terms of predetermined outcomes, makes clear to the learner what should be learned. However, this does not capture the reality of a dynamic system in which outcomes, as *emergent properties* of the system, are unpre-

dictable. Outcomes for the system do not result from individual decisions divorced from uncertainty, but from critical shifts in states of the system—for example, an operating theater team responding to a crisis.

In systems thinking, a *topology* represents the overall shape of the cognition of the system, such as a team's coordinated pacing of a day's operating list—the peaks and troughs in an individual's cognition will be embedded in this wider topology. Where, for example, are the 'hot spots' in teamwork at any one moment in time?

While individual cognition may show 'attention' to the world, systems thinking turns such agency on its head, suggesting that 'attractors' work in the environment to which we orient as elements in the system. Individuals, of course, may constitute attractors. *Attractors* are points or pathways in the state space. *Trajectories* are significant movements of cognition or activity that occur in the neighborhood of an attractor, such as the attention of an anesthetic team during an equipment malfunction, or an emergent interpersonal/communication tension. *The most important attractor in medicine is the patient*.

Systems theory suggests that an individual has a limited horizon of observation, where a team, for example, can expand that horizon. In practice, this means an extended attention, made possible by setting up a common situational awareness (knowing what others are doing and even thinking and feeling in the team) that allows for better prediction or extended horizon of possibility. No single member knows everything in a team and multi-skilling can backfire, so team members must learn to share task knowledge. As members of the team hold differing conventions about how information can be used—for example, a ward team deliberating a patient's possible transfer to intensive care, then briefing is an important collaborative task to share knowledge.

Where individual-oriented learning theories describe motivations, systems theory describes how a trajectory emerges for work that can be tracked as a succession of states through which the system moves. Personal enthusiasms are pulled into a common rhythm of work—for example, in the successful handover of a surgical patient to the recovery team. In direct contrast to 'autonomy,' in a system, there is always an implication for any one action that can be described as 'coupling' and 'uncoupling.' No part of the system changes without other parts also changing. For example, a key member of a primary care team falls ill, and this has knock-on effects as a locum is employed who does not 'know the ropes' of this particular practice.

In traditional thinking about learning, the environment is seen as offering blocks to be overcome by problem solving. This leads to ergonomic solutions. In systems thinking, the environment affords possibilities or opportunities, or offers 'transients,' as perturbations in the system that can become the basis for innovation. For example, a locum is employed who offers vital insights into negative habitual practices. The environment 'educates' our attention. Just as dolphins collectively create and then utilize turbulence in water to service leaps that would otherwise be impossible in relation to their body mass as solo efforts, so 'turbulence' in a system can be utilized for benefit rather than seen as a hindrance (Clark 2002). Medical education has been described as passing through turbulent times, so let us utilize the turbulence rather than cast it as an enemy.

Conclusions

No single learning theory has enough explanatory and predictive power to inform the range of practices found in medicine. However, the family of learning theories based on how an individual learns needs to be supplemented—or perhaps supplanted—to inform safe practice in dynamic and often high-risk contexts such as collaborative practices, collectively (and loosely) described as 'teamwork.' We need to know not only how established knowledge is constructed and reproduced, but how new knowledge is produced and held collaboratively in inherently unstable, complex systems. Socio-cultural learning theories are more powerful than those oriented to individual cognition when it comes to exploring and explaining how learning occurs in such systems. However, such models are not yet fully embedded in medical education in the way that individualistic learning theories are. This can be explained by the strong tradition of autonomy within medicine, an expression of ideology rather than evidence.

Medicine is a complex, high-risk profession and learning medicine offers an entry into that culture. We can think of medicine not only as a system, but also as a nervous system—alert, indeed on edge; working at maximum complexity without falling into chaos and then dependent upon good feedback systems; and recreating itself (jumping synapses, forming new networks). It is both a central nervous system and an autonomic system. Learning is both cognitive and affective. But more, learning always implies connections between thinking, sensing, doing, feeling, willing, imagining, intuiting and thinking about thinking. We have argued in this chapter that the dominant discourse in medical education describes how an individual learns, with bias towards cognition, but fails to show how an individual enters the *culture* of medicine and acquires an identity within that culture. How does a medical student become an integral part of the central and autonomic nervous systems that are, respectively, the scientific culture and the profession of medicine? The system precedes and forms the individual. We suggest that social and dynamic learning theories offer a more realistic account of how medical students can enter such a scientific culture *as an aspiring professional*, to establish a complex identity that may in time include the identity of the medical educator.

We look in depth at identity construction in the following three chapters, first focusing upon the shift in identity from medical student to 'doctor' and 'specialist' in an increasingly complex or 'runaway' world of medicine; then focusing upon the identity construction of the clinical teacher and the medical educator. In this, we also consider the entry into the community of practice of medical education of those who are not clinicians but academics.

Part II
Identity, Power and Location in Medical Education

Chapter 5
Producing Doctors

What is 'Identity?'

When a medical student is known for his or her exuberance, this is a personality style. When the same student says 'I want to be a pediatrician,' or 'I want to be a psychiatrist,' this is a reference to identity. The student is not born with that identity—rather it is made, although personalities and identities are interlinked. Identities are also closely linked to roles, which are usually clearly defined, socially engineered and legitimated activities, such as a senior physician's role as leader of a ward team; or an anesthetist's role to prepare a patient for surgery, to maintain stability during surgery and to communicate with the recovery team about post-operative pain relief. Identity thus stands between socially sanctioned roles and idiosyncratic personality, and is dynamic and historical. Hall (1994, p. 394) says: 'identities are names we give to the different ways we are positioned by, and position ourselves within, the narratives of the past.'

We previously quoted Montgomery's (2006, p. 166) suggestion that 'medical students have committed themselves to a self-altering course of study.' A medical education—like all educations into the professions and apprenticeships—is fundamentally a process of identity construction (and reconstruction). Bauman (2004, pp. 15–16) says that '"identity" is revealed to us only as something to be invented rather than discovered' and that this is 'a new, quite recent development.' However, as Foucault (1997) shows, the idea of 'self forming' is ancient—the late Greeks and early Romans saw a 'person' not as a given, but as something to be made through task and effort, as both an ethical forming (right behavior) and an aesthetic forming (style of life). For the medical student, a professional identity is something that is 'made' through a medical education.

The development of the medical student into a junior doctor or intern and the doctor into a specialist or resident and then attending physician, is then not simply a matter of accumulation of knowledge, skills and values. It is also a formation of identity. It is there in the descriptors: 'student,' 'doctor,' 'junior doctor,' 'intern,' 'registrar,' 'resident,' 'attending,' 'consultant,' 'general practitioner,' 'family physician,' 'surgeon' and in a host of 'specialist' tags: 'psychiatrist,' 'endocrinologist,' 'dermatologist,' 'histopathologist' and so forth, even to sub-specialists: 'intensivist,'

'pediatric audiologist,' and sub-sub-specialist: 'pediatric cardiac surgeon.' These are species of the genus 'professional,' itself a descriptor of identity. Identity is a slippery notion and hybrids abound—either specific: '*para*medics,' 'operating department *assistants*' and 'nurse *assistants*'; or generic: '*proto*professionals,' '*inter*professionals,' '*allied* health professionals' and 'team*workers*.'

There is heated debate over what constitutes a 'professional' identity, largely focusing upon length and complexity of education and complexity of a work role, related to status (Stern 2006). If a nurse is a professional as she enters a job after three years' of education, why is a medical student not a 'professional' in his or her fourth or fifth year? Or are these students at some point paraprofessionals or 'protoprofessionals' (Hilton and Slotnick 2005)?

These groupings transcend personality or individual differences—although psychologists would claim that 'identity' should cover the idiosyncratic personality or character, as well as the typological. In this chapter and the following one, we consider the formation of a medical professional identity—that of 'doctor' and 'surgeon'—as a product of a medical and surgical education. In Chap. 7, we consider the formation of identity of both the medical educator and the clinical teacher—identities that must have ground in education, but are not necessarily formed through a *medical* education, an education in *pedagogy* or an academic interest in *medicine as a topic for study*. A medical educator could just as well be an anthropologist or a sociologist and a clinical teacher an anatomist, zoologist or a pharmacist (although this input could be considered to be a specific part of the curriculum such as anatomy or pharmacology and therapeutics, where general clinical teachers are normally doctors); an educationalist may never enter clinical or medical circles; and a historian, sociologist, anthropologist or philosopher of medicine, as a discipline-based academic, may be completely uninterested in medical *education*. And just what makes an 'educator' or a 'teacher?' As raised in the last chapter, is it legitimate to restrict this to experience in a role without formal qualification and recognition by qualified peers or a formal body such as an academy?

Identity, according to the sociologist Bauman (2004, p. 11), can be thought of in two broad ways. First, the identity shared by a community brought together by 'life and fate.' This includes extended family, often embedded in an ethnic or national identity that is given at birth, not chosen. Second, the identity shared by a community brought together by ideas, principles or values. This includes medicine and education as well as, say, religious communities. In a religious community, ideas, principles and values may be fixed and indeed may harden as a way of maintaining a community focus and crystallizing an identity. In medicine and particularly in an academic field such as education, ideas, principles and values may be debated leading to reformulation. Communities of practice may exist that oppose each other in terms of ideas or values, but still share a common identity, of 'doctor,' 'medical educator,' or 'clinical teacher.'

Bauman coined the term 'liquid modernity' to capture the nature of the contemporary world, characterized by flux and uncertainty—that has also been described by the sociologist Giddens (2002) as a 'runaway' world in a 'risk' culture (Bauman 2000; Engeström 2008, p. 227). In Chap. 1, we characterized both medicine and

medical education as being in a state of extreme flux, indeed crisis. We suggested that this was a positive crisis in the sense that we are undergoing a *necessary* paradigm shift in the way that medicine and medical education are formulated and practiced—necessary, because the ethic of the old way of professional autonomy no longer holds in an era of public transparency and accountability. However, we are not proposing that this paradigm shift will lead to a situation in which we contain, or nail down, the runaway world before it disappears. Rather, we are in the flux of the runaway condition and bearing its consequences as a necessary tolerance of uncertainty and ambiguity. Our contemporary world is one of rapid change, calling for adaptation; an orientation to process as well as content and to time as well as space (the dynamic aspect of medicine and health-care practice); and one of visible flexibility. For better or worse (we think for better), some of the traditional anchors of medicine and medical education are being pulled up. These include, as mentioned earlier, medicine's professional autonomy, powerful hierarchies and paternalism. Just as the 'identity' of medicine itself, of doctors and surgeons and of educators, can no longer be thought of as stable, but is now liquid, so we must think of the emergence and management of plural identities, including that of the professional 'doctor' merging with the interprofessional 'doctor as team player.'

   None of this should come as a surprise. All of us have multiple identities in that we have 'meta-identities' above and beyond our work and community identities, that Bauman describes as identities of 'life and fate,' including gender, class, race, ethnicity and nationality. Some of these are in flux—gender in relation to sexual orientation; class in relation to post-industrial homogenization; nationality in relation to shared colonial pasts in which new, hybrid nationalities are forged in a post-colonial era. However, many are fixed relative to other identities. We may find that our role as parents is perceived as a more stable identity than our work role; or within our professional roles, such as doctors or health-care practitioners, we have more flexible, uncertain roles such as educator, manager or researcher. Some of the more stable roles, such as a doctor, allow us to exercise what nation states call the power of exemption—we can draw a clear line between who is in and who is out of the profession.

   For the ancient Greeks, there was a clear line between the identity of a citizen, who was promised a fulfilling cultural life of participation (*bios*) and a non-citizen, such as slave, who lived a purely animal life of exemption at the perimeter of culture (*zoe*) (Agamben 1998). Professions maintain a distinction of membership and non-membership through educational qualification and 'examination' and the right of exemption for those who abuse the privilege of membership, such as withholding or removing registration. One form of identity for the medical profession is then based on the power of exemption. This creates some issues for patients, who make distinctions between qualities of care they receive from practitioners who are all qualified to practice as citizens of the medical state. In patients' eyes, some doctors may be thought of as candidates for marginalization for persistent poor technical practice or interpersonal and affective labor. Revalidation through cycles of appraisal promises to address this issue, but it is unlikely that this process will be stringent.

Medicine's traditional apprenticeship 'family' structure of 'firms' can be compared as much with Bauman's communities of 'life and fate' as communities of 'ideas and principles.' Firms established loyalties and familial bonds in the same way that traditional and habitual small team structures in health care have done, such as pediatric cardiac surgery teams (Edmondson et al. 2001). They also, of course, generate the high level of tensions and dysfunction that are often the reality and undoing of 'happy families.' Such structures have given way to ad hoc settings in health care, as part of a liquid work structure. As Richard Sennett (quoted in Bauman 2007, pp. 30–31) suggests: 'A flexible workplace is unlikely to be a spot in which one would wish to build a nest.' Rather, we are seeing the rise of 'cloakroom communities' that are 'patched together for the duration of the spectacle and promptly dismantled again once the spectators collect their coats from their hooks in the cloakroom.' Junior doctors (interns and early residents) are now experiencing a de-territorializing of medicine through which they must learn to be travelers rather than members of a stable 'house.'

'Routine' work, based on stable groups, suggests Sennett, is crumbling across all sectors, not just health care. As we have already indicated, Engeström (2008) suggests that new professional work settings are even seeing the dissolution of what we have habitually come to call 'team' structures. Rather, we are entering an era of 'negotiated knotworking,' of rapidly pulsating work, where groups of people come together for coordinated, cooperative, connected or collaborative tasks with an engagement that requires letting go as much as forming and where there is no stable 'center' (such as a fixed leader), or the center does not hold. Thus, there is no development of identity as a team member in the sense of passage (and staggered socialization) through the typical stages of group development ('norming,' 'storming,' 'performing' and 'mourning'). Perhaps 'mourning' is now the default position.

Knotworked sets of professionals (ad hoc 'teams') must tune to the 'pulse' of the work and move straight to 'performing,' as threads of activity are tied, re-tied and untied, again with no particular center that holds. This new, collaborative, work pattern—that takes technical proficiency as a given in its organic formation of work groups, but has no such faith in so-called 'non-technical' proficiency, such as expertise in communication—suggests that while work itself may have an object or be goal-oriented (benefit to, care of and safety for the patient; sensitivity to colleagues), identity may not be goal-oriented but *means*-oriented. In other words, you work with what you have, not with a planned team where identities are fixed by hierarchy and role.

From the Identity of 'Medical Student' to the Identity of 'Doctor': Can Learning Theory Illuminate This Transition?

In a UK-based study of how junior doctors (interns) learn from consultants (attending physicians) Bleakley (2001b, 2002a) videotaped sequences of bedside teaching and played these back to both the juniors and consultants separately and interviewed

them about the educational content and process. In one sequence, the junior (intern), only three months into his placement on a hematology ward dealing with oncology patients mostly receiving chemotherapy, shows an interesting sequence of activity. A consultant is sitting at the bedside, talking to the patient and the junior (intern) is standing at the foot of the bed, listening. Two registrars (residents) are standing behind the junior talking together and a senior nurse is sitting near the junior doctor, filling in some information on the patient's notes. A pharmacist appears with a drug chart and passes it to the registrars, indicating that it should be passed on to the nurse. One of the registrars (residents) passes the chart to the junior doctor (intern), but instead of passing the chart directly on to the nurse, he pauses, deliberately *and authoritatively* takes a pen out of his pocket as if to write on to the chart and then scrutinizes the chart. He does not write anything, puts the pen back into his pocket, but holds on to the chart for some time before eventually passing it on to the nurse *at her request* (or, rather, insistence).

Watching this—at first glance trivial—sequence in the subsequent interview revealed more depth and importance to the short-lived event. The junior doctor (intern) said that he was confused about the content of the chart as he perused it. The interviewer asked him why he had held on to it and, importantly, why he felt the need to take the pen out of his pocket. The doctor replied that this was just a symbolic gesture—he was not about to write anything—and it made him feel 'genuine' in the situation, just like a 'doctor.' It covered up his ignorance and confusion at not making immediate sense of the chart and the desire to look as if he knew something—signaling competence and control—was greater at that moment than the desire to ask somebody for help in interpreting the chart, signaling incompetence. The nurse in particular, or the pharmacist had she stayed, or either of the registrars (residents), or the consultant (attending physician), or, indeed, the patient (by now an expert in her own condition) would have been happy to have explained and explored the content of the drug chart with the junior (intern). However, the timing was not quite right. But why had he not simply passed the chart on to the nurse? He said that holding on to it, especially with his pen poised, made him feel like he was doing something useful *in the eyes of the patient*. The sociologist Goffman (1971) calls this 'impression management.'

The whole sequence could be thought of as a way that the junior doctor (intern) gained (illegitimate) power through temporary appropriation of the patient's chart, acting as if he understood it. However, more importantly, the sequestration brought on a temporary sense of identity—feeling like a 'real doctor' at a moment of insecurity, gaining deeper entry into the community of practice as a legitimate participant. Of course, as this junior doctor (intern) was the first to admit, this was a paradoxical way to gain an identity. He actually developed into an excellent practitioner and had plenty of opportunities to show positive ways of developing an identity, but this sequence was powerful in showing just how strong his motive was to *appear* to have a solid identity as a doctor early in his career in a moment of uncertainty.

Learning theories that have traditionally dominated medical education (such as 'adult learning theory' discussed in Chap. 3) have shown little interest in identity construction. Such theories were imported from the discipline of psychology and

the discipline traditionally compartmentalized its own interests—as 'personality,' 'intelligence,' 'learning' and so forth. The study of personality, rather than the study of learning was where you heard about identity, except in one particular area. Identity cropped up in the examination of learning styles (such as 'field dependent' and 'field independent' types and 'surface' and 'deep' learners). In recent years, however, as we explored in Chap. 4, interest in learning theory applied to medical education has shifted to include 'social learning theories' that take as their basic unit of analysis, not the individual, but the individual in a context and in *relationship* (to others and with the material world). Social learning theories see identity formation as a *product of* activity and participation, dependent upon the quality (intensity) and quantity of significant relational associations within the system of activity.

The 'big three' social learning theories are: Actor-Network Theory (ANT) (Latour 2007), Communities of Practice (COP) (Wenger 1998) and Cultural-Historical Activity Theory (CHAT) (Engeström 2008). They have four main things in common. First, as stated above, they take the basic unit of analysis to be greater than the individual, as community, activity or network of associations (between people and artifacts as well as between people). Second, they are interested in how learning happens through time as well as in space—they frame learning as *dynamic*, future-oriented and unfolding. This is particularly important because learning is not just thought of retrospectively (what I have learned) but prospectively (what and how I may learn). This offers a historical dimension to learning. Third, learning occurs in two contexts—the social one of people interacting and the cultural one of people interacting with artifacts such as material objects (for example, computers and the drug chart we refer to above). Fourth and finally, learning is not only the accumulation of knowledge, skills and values, but also a process of meaningful participation in activities that leads to 'becoming' as a person and 'being' as a specific identity such as 'professional' and 'physician.'

Actor-Network Theory (ANT)

It is in the everyday mastery and use of the material world, as well as in forming social relationships, that complex activities are completed to give a sense of who I am, or identity. Many of these occasions of learning-through-doing are based in work activity. Medical education should have a natural affinity with learning theories that are grounded in work-based study, because medicine is a high-level apprenticeship, as we outlined in detail in Chaps. 1, 2 and 3. Of the three social learning theories, Actor-Network Theory (Law and Hassard 1999) is the least interested specifically in 'apprenticeship' but the most interested in the place of artifacts in shaping the learning process and shaping identity.

Latour (2007) notes that the 'social' is a confusing category, often applied as a pre-existing framework to analyze phenomena. For Latour, the 'social' is rather any assemblage of activity and artifact. The social is an ever-shifting set of networks, in process, whether this is a meeting between people on a bridge, a handover of

operating instruments from scrub nurse to surgeon, an exchange of gifts, or a master teaching an apprentice how to use a tool. Latour (2007, p. 5) prefers to talk about *associations* or 'types of connections' between things—ties, bonds, aggregates, forces, assemblages—rather than the 'social.' Often, the association, connection or assemblage is between persons and material artifacts—for example, using a computer to assist learning, drawing up a drug for injection, injecting a controlled drug into another who has consented for medical reasons, putting on a lead apron before carrying out an X-ray, handing a patient a pen and form to sign for consent to a procedure, drawing on a scrap of paper how an enlarged prostate can squeeze the urethra. The social, as assemblage, associations or network, is again not a prior category or unit of analysis but an effect of activities, of the meetings of persons and artifacts, plans and intentions, serendipities and uncertainties. The social is then radically *contextualized*, while the only way to grasp the social is to, in Latour's famous description of research, 'follow the actors!' or 'follow the natives!' It is only in close ethnographic work with practitioners that we come to know their worlds—and this must be through their activities and descriptions.

In our example of the junior doctor (intern), the artifact of the drug chart is a key component in the chain of learning, taking on the identity of something that acts upon the doctor to create a change. The drug chart 'bites' the junior doctor's (intern's) conscience. Individual 'actors,' such as the junior doctor (intern) in our example above, do not, independently of context, decide to do things (this is the traditional view of 'agency' from psychology). Rather, dependent upon the force or intensity of things that come together through connections and relations of varying intensities, actors do things *as a consequence of such connections*. Action is an emergent property of the system. For Latour, 'agency' is better termed 'actant,' where a set of circumstances occurs through which a person acts. An actant can be a subject or an object. Thus, 'the syringe had a mind of its own' and 'I decided to change the setting on the machine' should not be seen as having different values—one a metaphor and the other a concrete act. The point is the quality and meaning of the *interaction* within the assemblage of components.

Identity formation is the continual process of things (persons and material objects) coming together to create change. Identity is then a moving feast of occasions. Actor-Network Theory's advice is then to abandon the term 'identity' altogether, because it offers a false and limited view of an assemblage that becomes frozen in time rather than appreciated as dynamic. Rather, in our opening example, we are better to describe the occasion as a meeting of several predictable and unpredictable forces, involving people and artifacts, resulting in a moment of appropriation of information as a way of managing an impression. A multitude of such occasions describes the 'doctor' as *becoming* rather than *being* (a fixed state or character).

For those who feel that human agency has now been squeezed out, Latour (2007, p. 217) reminds us that agency has simply been flattened, or is a product of associations or connections. This is made plain in the 'actor-network' part of Actor-Network Theory. Actors are *networked* into a variety of dynamic associations with others and with the material and symbolic worlds, where: 'attachments are first, actors are second.'

Finally, if a mark of 'identity' is *subjectivity* in the older accounts of psychology, Latour (2007, p. 218) deconstructs this notion by suggesting that 'Subjectivity is not a property of human souls but of gathering itself.' By 'gathering,' Latour means any well-connected occasion, such as a junior doctor learning from a senior colleague and a pharmacist how to read and write a complex drug chart for a particular patient in the presence of that patient, as the chart is also explained to the patient. Identity is a constellation of key presences. In this sense, the identity of the doctor is like an 'attractor' in a nonlinear, complex, adaptive system where several forces meet or intersect to create potential as—and at—the heart of the network.

Communities of Practice (COP)

The Communities of Practice (sometimes referred to as 'situated learning') model of the relationship between learning and identity construction is easier to grasp than the Actor-Network Theory model presented above and yet, as Latour points out, his ideas are actually common sense, because how we experience the world is as a set of rapidly pulsing and changing associations, or things coming together both as we expect and unexpectedly, over which we attempt to gain mastery. The gaining of a sense of place and control in amongst these connections of phenomena gives a sense of who we are and how we are doing in life, where identity can be thought of as a collision of person and objects that becomes meaningful, gains temporary stability and confers mastery. Wenger (1998) alerts us, through the subtitle to his book *Communities of Practice*, that he is also interested in the relationship between *Learning, Meaning, and Identity*.

Meaning is central to Wenger's view of how learning and identity relate. There is no learning and consequently no identity construction without personal meaning. Meaning is not given, as pre-packaged, but is achieved through learning. For educators—especially in the world of work-based learning—there has, traditionally, been far too much emphasis placed upon *relevance* of learning rather than *meaningfulness*. Indeed, for Wenger's early work with the anthropologist Jean Lave, which resulted in the groundbreaking study of apprenticeships—*Situated learning: Legitimate peripheral participation* (Lave and Wenger 1991)—relevance is already guaranteed where learning is 'situated' or based in authentic work contexts. As we saw in Chap. 4, learning for Lave and Wenger is *a meaningful social act of participation* rather than an accumulation of knowledge, skills and values. However, both the learner and other members of a social group (usually a confined 'community of practice' such as a medical specialty team) must recognize such participation as legitimate. It is thus situated in that particular context. Learning may not, then, be readily transferable from one context to another. This makes problematic, for example, transfer of learning from simulated to authentic contexts. In this legitimate social act of participation, meaning is generated as the key factor that makes the learning stick. Further, in the act of participation, socialization occurs that embodies 'transformative possibilities of being and becoming' (Lave and Wenger 1991,

p. 32). This involves 'whole person' learning, where the learner does not passively 'receive' knowledge, but is involved in activities of meaningful participation that allow that learner to 'do' knowledge in the sense of gaining mastery, at whatever stage along the apprenticeship route. This does not involve an independent agent acting on the world, or choosing to do things, but rather 'agent, activity, and the world mutually constitute each other' (Lave and Wenger 1991, p. 33).

Identity construction is a natural consequence of apprenticeship as mastery develops, moving from, in Lave and Wenger's studies, *apprentice* midwife to midwife, *recovering* alcoholic to *non-drinking* alcoholic, and *apprentice* tailor, quartermaster and butcher to tailor, quartermaster and butcher as deepening or maturing identities. This production of identity involves three main factors. First, the presence of an authentic community of practice with available expertise to support the learning activities of apprentices; second, meaningful peripheral participation for apprentices 'that confers a sense of belonging' to the target community of practice; and third, meaningful engagement with practice that moves towards fuller and deeper (central) participation in the community of practice. This structuring of learning is also a structuring of identity, conferring not only meaning in learning, but 'more significantly, an increasing sense of identity as a master practitioner' (Lave and Wenger 1991, p. 111).

This is a familiar scenario for medical education—how do we structure work-based attachments so that, first, students recognize a meaningful community of practice; second, are invited into participation in that community through authentic activities; and third, gain increasing central participation in work practices? For example, while there is a large literature on how clinical reasoning develops in medical students, this has been studied largely as a development of cognitive process insulated from its social context. If identity is confirmed and affirmed by recognized increasing expertise within a community of practice, then clinical reasoning is bigger than the *personal* psychological process of judgment, diagnostics utilizing science knowledge and emergent skill involving pattern recognition. It is more about how such emergent properties are, in Lave and Wenger's terms, legitimated and made central to participation in a community of practice, or *utilized*. If the primary identity marker of the doctor is as 'diagnostician' or 'symptomatologist,' then it is not in 'knowing how' to do this that identity is constructed, but through *meaningful acts of participation*.

As Lave and Wenger (1991, p. 112) point out, the issue of identity formation in apprenticeship learning is subsumed in the *wider act of participation*. Where one focuses upon learning knowledge as a process of reception and memory testing (both recall and recognition)—a sedimentation model—then identity construction becomes separated out as an issue in its own right, where identity is focused upon as 'an explicit object of change.' Here, identity is usually referred to as 'self' and is 'formed' through focus upon a discrete curriculum input such as ethics, medical humanities and, more recently, 'professionalism,' reinforced by policy statements that also isolate a personal 'professional development' from the activity of participation in a community of practice. This may lead to inappropriate testing of personality traits out of the context of participation in work activity such as curing, caring and

safe treatment of patients and collaboration with colleagues. Identity, in Lave and Wenger's model, is then cultural and participatory, as opposed to a psychological trait isolated from participation.

Wenger (1998) has further developed the early work on apprenticeships with Jean Lave to consider how knowledge is managed generally in organizational settings. This offers another layer of constructs through which we can understand the relationship between learning and 'becoming a doctor' in medical education. We will briefly consider three concepts introduced by Wenger that offer meaning in learning and that explore how identity is shaped.

Participation vs. Reification

First, Wenger makes a crucial distinction between 'participation' and 'reification.' Participation describes concrete interactions between people. Reification describes how people make meanings from everyday experience, attach labels to them and create artifacts from them. Participation in itself is meaningless—interactions must be mediated by meanings and common understandings. Without perceived meaning, learning does not proceed. Meaning is 'learning as experience.' We might progress Wenger's idea to suggest that 'events' do not have lasting value as learning—they must deepen into 'experiences' for learning to stick or make any change. While unpopular in an age of 'student-centered' and 'independent' learning, we suggest that good clinical teachers know how to structure learning to maximize the opportunity for events to turn in to experiences. Good clinical teachers do not simply 'facilitate learning,' but provide essential frameworks both to support learning and invite meanings for (and from) learning.

As we discussed earlier, Bruno Latour dismissed the idea that a metaphor ('the syringe had a life of its own') and a concrete act ('I changed the settings on the machine') are different. For him, they are both equally valid actants in a constellation of activities. Wenger suggests that the differential status between the concrete (participation) and the abstract that appears as if it were concrete (reification) is a tension that must be addressed. If practice involves learning as doing, entry into a community of practice involves authentic learning as belonging and identity construction involves learning as becoming, then none of these can be 'grounded' in abstractions posing as the concrete, because such abstractions are not activities but only ways of *describing* such activities. For Wenger, the life of mind must be present to enhance concrete participation, but cannot substitute for it. This is why medical students can never learn their trade directly from classrooms, laboratory settings, simulations and abstract knowledge, but must learn the core of their profession by practical knowing in work-based settings, as we discussed at length in Chaps. 1 and 2.

Participation and reification are complementary. The role of reification is that it can enrich participation through cultural symbols, storytelling and languages. This brings meaning to the act. Let us return to our example of the junior doctor searching

for an identity who—in some ways inadvertently—is drawn into using the *symbolic presence* of the drug chart as a temporary marker of 'being a doctor' through temporary appropriation of that artifact. This movement to reification is too great and too sudden and as a consequence, carries no lasting meaning for identity. The junior doctor has to move back to participation to recover an authentic sense of identity, however shaky this is, admitting in interview that a deeper sense of identity would have been produced by *undoing the mystique* (reification) of the drug chart through having it explained to him by the patient, nurse, pharmacist, registrar or consultant.

Participation vs. Non-Participation

Second, Wenger distinguishes between 'participation' and 'non-participation' in creating meaning in learning and forming an identity. This is self-explanatory. Medical students, especially early in their education, often complain of attending a work-based placement—such as going to a primary care center, or a hospital outpatient clinic, or an operating theater—and feeling like a 'spare part.' This may be poor planning on the part of the providers, or a lack of initiative on the part of the student, but results in non-participation. Participation in a community of practice is meaningful for learning and identity change even where it is peripheral and not central (the usual case for early apprenticeship), but not where students experience 'being out' rather than 'being in.' Peripherality invites participation, but marginality invites exclusion and should be avoided. Perhaps, in our example of the junior doctor (intern), he was motivated to engage in an act of sequestration to gain temporary but illegitimate power and identity because he felt excluded from the community of practice through marginality, the level of participation being too peripheral, despite the fact that he was a *legitimate* member of the team as a junior doctor (intern looking towards residency) and not a medical student.

Modes of Belonging

Third, Wenger describes identity construction as 'modes of belonging' to a community of practice. This entails various levels of engagement in practice, clearly associated with modes of participation above, where meaning for learning is negotiated. For Wenger, the key issue here in joining a community of practice as a novice is being initiated into the shared histories of learning of the community of practice. This occurs in three ways: (1) through engagement in practice (in our example above, the junior doctor (intern) was merely observing the consultant (attending) working with the patient and was therefore unengaged in what was going on); (2) through imagination of what might be, a projection forward into future activity and identity shift and (3) an alignment with the broader enterprises of the community of practice. Identity is history.

An invitation to a student to *temporarily* join a community of practice is of course far more tentative than actually becoming a member as an apprentice on the way to expertise, such as the junior doctor (intern looking towards residency). Temporary *attachment* to a community is fragile, where *engagement* with a community is deeper—including engagement with joint enterprises, mutual engagement with other practitioners and initiation into the shared repertoire or history of the community. This shared repertoire includes stories, rituals, humor, styles of working, effectiveness with key and local artifacts (such as instruments) and 'local knowledge' steeped in history. Medical communities of practice are notorious for their initiation rites and codes of conduct, histories and idiosyncrasies (Becker et al. 1980). However, current practices are eroding some of the traditional identity producing or identification processes of socialization, as medical firms and stable teams give way to new flexible and ad hoc working arrangements. We have already referred to a finding from Bleakley's (2001a, 2002) study of ward-based learning mentioned at the beginning of this chapter, where a consultant (attending) at interview described a 'black book' handed down from junior doctor to junior doctor (intern/resident), that had a stored history of the idiosyncrasies of the 'firm,' including caricatures of some of its past leaders. Here, a potential reification, as abstract rules, becomes an act of participation, as the black book circulated between new members of the firm (clinical team). In terms of an identity construction, 'being' becomes 'belonging.'

The Communities of Practice approach then offers a model for understanding identity construction through participation. Identity is not an effect of personality and notions of 'agency' do not need to be invoked, as the identity is formed from the dynamics of the relationship with the community of practice itself, as the bigger force than 'selfhood.' However, it is difficult, especially in the emerging era of health care, to know where 'communities of practice' begin and end. Wenger (1998) does analyze relationships between differing communities of practice, where multi-membership may occur, making identity constructions plural and complex and where 'boundary objects,' such as protocols and rules, may play an important part in maintaining dialogue between communities of practice. For example, Wenger uncovers the dilemma that, where a member of a community of practice interfaces with another community of practice (for example, two very different health- and social-care teams such as a social work team and a psychiatric nursing team working around the same chronically ill patient with multiple problems, in the community), there is a tendency for that practitioner to know 'participation' in his or her team, but only 'reification' for another team without participation. This amounts to abstract knowledge and not experiential knowledge. Reification can turn into stereotyping, as practices are then only considered in the abstract and not from memories of participation.

More importantly, in the descriptions of communities of practice offered by Lave and Wenger and progressed by Wenger, something seems to be missing. This is the recipient, the *customer* for the practice, the end of the line consumer, the patient for medicine and health care. Our third social learning theory, Cultural-Historical Activity Theory, begins with the customer, consumer or patient, where its prime concern is with the 'object' of any activity. Why are we doing it? Who are we doing

it for? Do we agree that we are doing it for the same reasons? Does the 'object' of the activity answer back and shape the activity itself? We note straight away that 'object' is a rather unfortunate term for the 'things' upon which an activity system is focused, apparently turning people (such as patients) into objects of concern. Just as terms such as 'actant' and 'actor' are used idiosyncratically in Actor-Network Theory, so 'object' has an idiosyncratic use in activity theory.

Cultural-Historical Activity Theory (CHAT)

Bounded communities of practice, the basic unit of analysis of which is the 'team,' are problematic according to Engeström (2008). Teams present a 'puzzle.' First, so-called teams seem bent on dissolving or 'de-territorializing'—to use Deleuze and Guattari's (2004a, 2004b) term for fluid assemblages—as much as 'territorializing,' or sticking together and claiming coherent activity through time. Second, academic studies of teams (Finn and Waring 2006; Finn 2008) vie with practitioners' work experiences on the ground—*understanding* derived from teams analyzed conceptually does not necessarily match the *meanings* derived from work experiences of those who supposedly are members of teams. Recall Latour's research cry to 'follow the natives!' In Wenger's term, the notions that academics use to understand team process can reify that process. Indeed, 'team' itself offers reification—talking about an abstraction as if it were a concrete reality. Where, exactly 'is' the team? What practitioners experience on the ground is in Wenger's term 'participation.' But does participation alone lead to an experience of being in a team and an understanding of the process of working together, whether or not we call it 'team' work?

For Scott et al. (2008), focusing upon a 'team' activity misses what is really happening in today's world of complex health care, which involves a number of health-care providers working around patients, often *not* in an integrated manner but with little overt collaboration. The issue is how to integrate complex activity, where practitioners can be mobile, cross boundaries and engage in multiple roles to improve patient benefit. This implies new, complex forms of identity not only for doctors and health-care practitioners, but also for patients.

For Engeström, where learning in medicine and health care does not mainly occur in discrete 'teams,' or even within bounded 'communities of practice,' it occurs in a much more ad hoc manner in which practitioners are recruited from large pools of a labor force and asked to collaborate on the spot *within different, historical, work structures*. Fluid membership of working groups ('negotiated knotworking') is then the order of the day. If the patient is at the center of this, then much of the learning in medical education is from the patient, who is not formally a member of any clinical community of practice. In Engeström's model of learning, a complex activity is formed around a common, identified 'object' of concern, as discussed earlier. For medical education, this may be patient care or patient safety. Importantly, learning and identity construction do not involve forms of participation in a community of practice, but engagement in complex *activities* with a common object

of concern. Learning is then future-oriented, unfolding towards the object and objective of activity as it continually reformulates that object.

However, as we have seen, in contemporary health care the object of an activity system is often 'runaway' (Engeström 2008, p. 227). By this, Engeström means that the object cannot be controlled, fully comprehended, or even brought under surveillance. Patients by virtue of their idiosyncratic nature, are runaway objects, 'controlled' by the sureties of population studies, norms and evidence-based medicine, offering moulds the individual may not fit (Groopman 2007). Sweeney et al. (1998) remind us that beyond the levels of statistical significance (population studies) and evidence-based medicine (normative responses) is 'personal significance' for the patient—a level of complexity that has high levels of uncertainty. An activity, as cultural, historical and a system, is more than complicated—it is inherently complex and unstable. Activities in CHAT are studied as dynamic, in process and this increases the level of uncertainty in describing an activity system as a fixed item. However, such an approach means that CHAT, as a way of exploring both learning and identity, is realistic and does not over-simplify.

It would be a mistake to read an activity system approach as beginning with a subject apprehending an object. Rather, as Lev Vygotsky, the Russian psychologist father of CHAT first described in the 1920s, the subject is formed *in relationship to* the object of the system, through two forms of mediation: first, mediation through a social context and second, mediation through artifacts such as symbols, specialist languages and instruments, machines, objects or tools (such as computers). Engeström deepens this to wider social influences—those of organizational work contexts—through adding 'roles' and 'rules' (or protocols) as foci (points of confluence, or 'attractors') for an activity system.

As activity systems are not restricted to persons (subjects) acting on objects, but at a minimum activity is mediated through artifacts and communities within which a person is embedded, so activity systems are not guided by persons (agencies or subjects) but, rather, *produce* subjectivities. The necessarily complex activity system that is 'oncology' produces the 'oncologist.' Oncologists, of course, act back on the system—practicing, researching and teaching—but they do not personally 'shape' an activity system. Rather, identity is a vital component in the system that is a product of all parts of the system interacting through time.

Identity is then a *product* of a confluence of factors: social context (possibly a community of practice); an artifactual context made up of a range of artifacts such as computers or instruments; roles and rules—*where these share a common object or outcome for learning*. In our example of the junior doctor (intern) sequestering the drug chart, the mediating social context is the immediate clinical hematology/oncology team (that, for Wenger, would be termed a community of practice, but for Engeström would be termed a cultural-historical activity system). The mediating artifactual context is complex, including a bed in a ward in a hospital, a number of patient charts and records, doctors' stethoscopes and nurses' watches, pens to write with and drugs physically present at the bedside: but the focus for the junior doctor (intern) is a particular drug chart and a particular pen. The rules and roles of the context are also complex, but one focus for the junior doctor (intern) is the rule of

'act independently to show initiative' in the role of 'competent physician,' 'as if' achieving the horizon identity of the more experienced, senior doctor, the registrar (resident). Who would not wish to shed the skin of the early learner, the apprentice, the junior, as quickly as possible, to assume the identity of the resident in the house of medicine, finding a home for one's professional soul? But, as we saw in our example, sometimes the wish for the new identity runs ahead of the establishment of expertise that would guarantee legitimate entry into the community of practice, so that the junior still remains peripheral to that community as he saves face.

The object of an activity system remains complex. The shared object may be 'patient benefit' such as 'patient care' and/or 'patient safety,' with the desired outcome being to help the patient towards discharge from the hospital. But other objects are also operating, as a product of division of labor (roles). For some, it may be 'when does the shift end?' For others, 'what tasks do I still have to finish?' For the consultant (attending), on a teaching round, it is also likely to be: when are the students arriving, how will I accommodate them and how can I arrange teaching for the junior staff? For the nurse, it is probably, at this point, to complete the paperwork she is currently pre-occupied with. For the junior doctor (intern seeking residency), for a short but significant while, it is 'how can I best manage impressions others may have of me?' All of these factors work back on 'self' or 'subject' to construct an identity of the moment. As the activity system moves through time, so the construction of identity is dynamic, with a focus on the achievement of the shared object for the activity system. If the individual is not working towards that supposedly shared object, this will necessarily have a major effect on disrupting this flow towards construction of a particular kind of identity. Division of labor then means that the immediate goals of work can differ across members of a collaborative group, while they still share a larger, common object.

Engeström (2008, p. 199) notes how particular work arrangements may have an effect on identity construction. In a limited craft production model, the craftsman's identity is closely connected with the artifact he or she produces. A butcher is known by the quality of his cuts, but this is bound by a wider knowledge of two other activity systems: livestock farming and slaughtering. In this relatively simple work setting, the customer is not a central factor in the design of the work or the identity construction of the craftsman. In a complex work setting such as medicine and health care, first, the activity system (say, the hematology/oncology team) is intimately linked with other systems (pharmacy, surgery, primary care, respite care); second, the system is customer-intelligent—patients are increasingly becoming involved in decision-making and being treated as partners in the work of the doctor; third, the work is driven by research-based innovation that is increasingly producing overhaul rather than fine-tuning, as opposed to the traditionalism in craft; and fourth, the work does not set out to produce 'health' or 'care' but also explicitly produces social subjectivities such as a knowledgeable self-medicating patient. Identity production within such complex, post-industrial work settings is necessarily multiple and 'liquid.'

Activity theory describes a collective capacity to *do*, or carry out work, rather than an individual agency and identity *at* work. Groups of people create transformations

and innovations in concert with artifacts, established rules (protocols) and work roles and this affords identity and meaning. For a doctor such creative activity might then mean aligning identities of diagnostician, provider of treatment, advisor and ethical carer (the 'professional' identity) with an 'interprofessional' identity of democratic team member or collaborator, supporter, counselor, mentor and educator. Importantly, the object of the activity system provides some coherence to these possibly disparate identities, where it has a focus such as 'patient benefit.'

We purposefully left 'leader' out of the list above, even though the new Carnegie study that we discussed in Chap. 2 suggests that 'pathfinder' and 'innovator' are important target identities for doctors seeking excellence (Irby 2009, personal communication). This is not because we think that leadership is unimportant, but rather that older models of leadership—for example, as an autocratic head or even a role model—are being replaced by new models of leaders—as expert collaborators or *specialists in democracies*. 'Identity' of a working clinical group or collective is now centered as much on social capital as it is on knowledge capital. Empirical work in activity theory has shown that more productive collectives have generated a culture that values quality of communication, network relations, social ties and trust. Such collectives are welcoming of patients (Bleakley 2006b) and improve safety for better patient care (Allard et al. 2007). Such collectives are also horizontally strong and the members talk to each other and debate in a professional manner. Finally and importantly, such collectives take the views of patients seriously.

Agency, or individuals acting with intent, in such powerful collectives can be described as 'distributed.' Searle (1990) calls such collective, distributed agency 'we-intentions.' Such intentionality in an activity system perspective is less likely to be planned than to emerge as a property of a complex activity system. Such potential is achieved, again, through dialogue and collaboration, the hallmarks of a democratic power structure. For Ciborra (2000), powerful and successful work collectives do not, paradoxically, so much seek *control* over their collaborative work as *understanding* and *meaning* (returning us to the heart of Wenger's argument that an effective community of practice generates meaning out of learning and learning out of meaning). Collectives, in Ciborra's view, need not resort to top-down control but generate good work practices from 'drift, care, hospitality, and cultivation' (in Engeström 2008, p. 202). They track the object of the activity, even if it is 'runaway.' Other than 'care,' these are attributes unlikely to be listed in policy documents recommending how team work can be improved in medicine and health care, but they chime with Engeström's (2004) notion of 'negotiated knotworking,' where the 'center does not hold.' In this type of work collective, leadership itself is distributed as the foci of work activities change through time within collaboration. In situations where a common object for the activity is 'intentionality'—the group has goals and it has set out to achieve something—the knot holds appropriately to ensure collaboration.

Patient care and patient safety (together, overall patient benefit) act together as the 'ghost' or absent center of the dynamic knotwork arrangement. By 'absent center' we mean something that exerts great influence and may be assumed, but is never fully acknowledged or articulated. For CHAT, agency is situated in the activity as

a whole. In increasingly complex, patient-sensitive work contexts in medicine, such as community practice for patients with chronic, multiple illnesses (Kerosuo 2006), 'identity' is subsumed in the activity structure itself—the 'network,' 'meshwork' and 'knotwork'— and identity is realized through the unfolding of that activity, as 'networking' and so forth. The doctor, who was traditionally expected to be the team leader, instead becomes an expert 'knotworker,' for example. Again, the patient is the absent center of the knotwork—or the real leader of the team! And it is the doctor who holds that absent center in tacit acts of diagnoses as a connoisseur of symptoms. It is to this central identity of *symptomatologist* that we turn our attention in the following chapter.

Chapter 6
New Forms of Identity in a Runaway World of Medicine

Turning and turning in the widening gyre
The falcon cannot hear the falconer;
Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world,
The blood-dimmed tide is loosed, and everywhere
The ceremony of innocence is drowned;
The best lack all conviction, while the worst
Are full of passionate intensity.

From *The Second Coming*
(William Butler Yeats 1865–1939)

Can the Center Hold?

Medicine mirrors culture. Hargreaves (2003, p. 25) describes a shift in society from 'sustained family conversations and relationships' to 'episodic strings of tiny interactions' and this has also occurred, as we have noted, in medicine's transformation of the 'family' or 'firm' structures to more open, complex and fluid arrangements, linked with increasingly hard to attain outcomes, or runaway objects for activity systems. The center no longer holds, but anarchy does not break loose as the poet W. B. Yeats feared in his analysis of the loosening of social conventions in the modern world. Rather, practices and identities are reinvented accordingly. However, this wider runaway world does not change the deeply personal and difficult ethical pressures a doctor feels in everyday work as longstanding professional identity issues are played out.

For example, identity for doctors engages both public and private person in the composite of the 'professional,' through a clear delineation of appropriate ethical response. The private feelings of intimacy in loving, erotic or sexual contact must now be stringently kept in check in contact with patients, as must feelings of prurience and curiosity, especially morbid curiosity. Disgust in particular, often leading to prejudicial judgment about another's lifestyle, must be suspended and anger must be controlled. A very complex mix of attitudes must be acquired so that 'persons' can be made 'patients' and objectified, not out of inhumanity, but in order *to*

maintain the necessary emotional distance to do the work, since a patient is also treated as a person, with care, dignity and respect.

Jacques Derrida, following Martin Heidegger, famously described putting things 'under erasure' (*sous rature*). This is a kind of ~~crossing out~~ (a 'strikethrough' on your computer software) that does not get rid of the term under consideration, but recognizes that the term is no quite adequate, as it is placed under a temporary suspension. Treating the patient as temporary 'object' may be seen as putting the patient under erasure. We know that this approach of objectifying the patient is neither adequate nor sufficient, but may be necessary. We can stretch the term further, to suggest that putting something under erasure is an alternative to Freudian denial and repression. If medical students are to learn to become doctors and doctors are to learn how to become better doctors, they must learn to put under erasure many of their ordinary human feelings, such as eroticism and desire, anger, frustration, disgust and so forth. They have to do this in order to be able to deal with patients professionally and with equality and equity. We know that this is not a totally adequate response, because it is difficult to manage and to bear. Medical students and doctors are humans, not machines. This dynamic offers a powerful and sometimes unbearable process of identity construction, because the medical student and then the junior doctor must pass back and forth abruptly between roles and identities where boundaries are strictly regulated. In the same way that the medical student and junior doctor (intern) will put under erasure their desires, passions and emotional responses to patients, so they must not transfer back to ordinary, intimate and personal relationships the professional role and gaze of the doctor.

The Doctor as Diagnostician, Symptomatologist and Connoisseur

In *The Birth of the Clinic*, Foucault (1989) describes the genesis of modern medicine as an interlinking of power, location and identity. Central to this description is a way of looking at the body that is simultaneously a looking into the body. This is a *diagnostic* gaze that is grounded in literally seeing into bodies, where anatomy is learned through dissection and marks the doctor as a professional who can engage in intimate acts of touching and examination that would not be allowed in ordinary social situations (Bleakley and Bligh 2009). Such professional legitimacy is patently an issue of power, as legitimate authority. These acts of intimacy are also condoned by the development of a particular location for doing medicine—the clinic. The third element in Foucault's analysis is the formation of identity. The doctor is *characterized* through the cultivation of a diagnostic gaze that signals a particular expertise in examination and diagnosis.

Lingard et al. (2003b, p. 614) describe the medical gaze as embedded in a 'pervasive biomedical worldview' in which 'the patient is the object of medicine, her account is unreliable and must be rendered into a "true" history, (and) her experience

can be broken down and "solved" as a biomedical puzzle.' The medical gaze, defining an identity as 'diagnostician' and 'symptomatologist' (Smith 2005) is characteristically aligned with a social technique of interpersonal dominance that provides authority for the gazer and a set of techniques for managing uncertainty and providing an outer sense of control—a 'certain art of uncertainty' in the perceptive phrase of Lingard and her colleagues. This complex of gaze and authority offers a rhetorical device to persuade patients and colleagues into the validity of the doctor's behavior. Doctors also act through a 'certain art of uncertainty' to bolster self-confidence in an uncertain and complex world of clinical judgment.

Lingard and colleagues add to a significant body of work exposing the paradoxes of the clinical gaze and medical judgment that has been developed over the last half century (Fox 1957). In contrast, other work celebrates the singularity and artistry of the traditional diagnostic gaze, often focusing upon powerful examples of certainty and insight (Groopman 2007), articulating the learned practice that leads to conferment of the identity of 'diagnostician.' For example, in a social-realist fiction an experienced physician and celebrated writer, Verghese (2009, p. 139), describes the diagnostician, connoisseur of symptoms or symptomatologist at work:

> (Dr) Ghosh took the proffered hand and while supporting it he felt for the radial artery. The pulse was bounding at one hundred and twelve per minute. Ghosh's equivalent of perfect pitch was to be able to tell the heart rate without a watch. …'When did this start?' he heard himself say, taking in the swollen abdomen that was so incongruent on this lean, muscled man. 'Begin at the beginning…' 'Yesterday morning. I was trying to…move my bowels.' The patient looked embarrassed. 'And suddenly I had pain here,' He pointed to his lower abdomen. 'While you were sitting on the toilet?' 'Squatting, yes. Within seconds I could feel swelling…and tightening. It came on like a bolt of lightning.' The assonance caught Ghosh's ear. …He asked the next question even though he knew the answer. There were times like this when the diagnosis was written on the patient's forehead. Or else they gave it away in their first sentence. Or it was announced by an odor before one even saw the patient.

The patient has an obstructed bowel and requires an urgent operation to undo the twist. Verghese himself is a brilliant clinical teacher and has absorbed rich detail from other, inspired, clinical teachers who become characters in his writing. He is a champion of the dying arts of diagnosis—percussion, palpation, auscultation—that have been displaced by sophisticated but impersonal imaging (Verghese 2007) leading to what Illich (1977) calls a 'de-skilling.' Close observation, learning from the patient, listening to the narrative, reading the body as text—these are all components of the activity that leads to the construction and reconstruction of identity of the diagnostician. The ear that is listening in the extract above is finely attuned ('the equivalent of perfect pitch'), but is a *literary* ear as well as a medical ear (and eye): the assonance of 'squatting,' 'swelling,' 'tightening' and 'lightning' while used by Verghese as a literary device in this extract from the novel, is, however, precisely how patients may offer clues missed by the novice or those with limited expertise. Of course, Verghese is telling us that medical and literary sensibilities have a common purpose—to cultivate appreciation of phenomena through close, sense-based observation (Bleakley et al. 2003a, b). Medical diagnosis then completes the circle as appreciation is turned into explanation.

Lorelei Lingard also turns a literary eye and ear to medical practices, but using literary method as a tool primarily of critique rather than one of appreciation such as Verghese's approach above. Lingard has a background in English language and literature and a PhD in the study of rhetoric, but is now a highly respected medical educator. While she has had to serve an intense apprenticeship in socialization into clinical locations through work-based medical education research, in return she has brought to that research the gift of the eye of the analytical rhetorician. Verghese, who has a Masters degree in creative writing, brings the expressive sensibility and synthetic approach of the writer to his clinical practice and the focused eye of the physician to his writing.

Lingard et al. (2003a, b) progress Foucault's model of the confluence between power, location and identity centered on the development and use of the medical (diagnostic) gaze and the physical examination, in considering an adjunct process of examination, the use of case presentation between physicians. In this study, it is actually the use of case presentations by medical students to physicians as a teaching device that is the focus for analyzing how professional *identity* is established through rhetorical devices.

The transition from student to junior doctor (intern) is the key area for study of identity construction. Whatever the level of preparation, on graduating from an undergraduate program, a 'medical student' overnight becomes a 'doctor' with associated responsibilities for patients. The identity transition has many facets, but an important one is development of the diagnostician. While quality patient contact in supported learning situations with appropriate feedback from clinical teachers offers the primary route for learning to become a doctor, another important medium for learning is the case presentation where students present a 'case' (a patient) to senior colleagues for discussion. Lingard and colleagues derive some important insights about the formation of identity in becoming a 'doctor' while still a 'student' that go beyond the obvious arena of the accumulation of scientific knowledge informing clinical reasoning. They point out that key to the movement between 'thinking as a student' and 'thinking as a doctor' is management and portrayal of uncertainty.

Key commentators on medical education and 'how doctors think,' such as Ludmerer (1999), Montgomery (2006) and Groopman (2007), agree that management of uncertainty is a key issue and has been traditionally *mismanaged* in medical education. The identity construction of the doctor—and even more so the surgeon—has conventionally been tied up with developing what Fox's (1957) classic study called 'training for uncertainty,' continued half a century later as 'a certain art of uncertainty' (Lingard et al. 2003b). This is to present a face to the patient and colleagues of certainty, where, actually, uncertainty and ambiguity prevail; but more so, to develop an identity that on the interior carries the certain knowledge of uncertainty as it presents an 'impression management' (Goffman 1971) of certainty on the exterior.

Lingard and colleagues show that in case study meetings, where experts use rhetorical strategies that persuade those present (a mixed, interprofessional audience) that uncertainty is being managed in particular ways, students who learn these rhetorical strategies themselves and reproduce them in appropriate settings, are seen

to shift identity from being a student to becoming a doctor. More, a combination of such rhetorical strategies reproduces an existent 'genre' in medicine by reproducing the communities (the genre structures) such strategies serve. Thus, the 'talk' as case presentation in a pediatric setting will be of one kind, but in a psychiatric setting will be of another. However, they will share similarities as 'medicalized' case presentations that, as stories or narratives, differ from those told originally by patients. Thus, 'Professional membership is regulated and evaluated by reference to an established set of community standards and values that are reflected in the presentation genre' (Lingard et al. 2003b, p. 605). In learning to talk like their seniors in a convincing manner, students come to take on the identity of trainee doctor.

Where students present cases in a manner that invites teaching or clarification from their supervising clinical teachers, or they deflect potential criticism through retreating to the identity of 'student,' this reinforces the 'learner' and 'student' identity. This often means presenting cases with confidence shown in mastering the informing science, with a view to obtaining a good grade. However, where students appear to talk confidently, like the doctors who are supervising them—where focus switches from the informing science to the clinical context, diagnosis and patient management—then the students are treated more like 'doctors.' This may include reference to making sense of the patient's condition through current tests and bedside observations and managing current information such as patient charts and records. Importantly, at the heart of this strategy of identity formation through impression management is how well uncertainty is managed.

Students generally avoid or disguise the presence of uncertainty, because they are 'bent on proving competence in an evaluative context' (Lingard et al. 2003b, p. 610) and where the clinical teachers openly discuss uncertainty but show how to manage it, the teachers '*project* certainty, the certainty craved not only by students, but also patients and, more generally, Western culture's sense of scientific rationality' (Lingard et al. 2003b, p. 611). Students who seem to grasp the language of case presentation in which uncertainties are rehearsed and addressed (again, 'a certain art of uncertainty' in the authors' phrase, resonating with the famous quote from William Osler: 'Medicine is a science of uncertainty and an art of probability') are considered by their teachers—in the authors' phrase—to be 'thinking as a doctor.' This is more likely to be 'thinking *like* a doctor'—and there is a significant difference between the two (Gao 2009; Gao and Bleakley 2008).

The teachers do not model overconfidence in diagnosis but a 'respectful management of uncertainty' (Lingard et al. 2003b, p. 612). The rhetorical device for this in a case presentation is liberal use of adverbs such as 'maybe,' 'possibly' and 'probably,' and modal auxiliaries such as 'could,' 'might' and 'may.' The student who shifts identity to become more like the doctor then presents a case with the correct attitude—not overconfidence but guarded certainty. That same student also points to the limits imposed by the patient's account (and the uncertainty this generates) balanced by the confident stance that can be assumed as the patient's narrative is displaced by the medical case. Students who master such a 'professional rhetoric of uncertainty' in clinical teaching contexts confirm their identity transition from student to trainee doctor. Students who maintain a 'novice rhetoric of uncertainty,'

where they do not adequately acknowledge or manage uncertainties generated by the case presentation, retreat to safe ground to reconfirm their identities as 'medical students.'

The Doctor at Work in the Twenty-First Century: Emergence of New Identities Such as the 'Medical Citizen'

In the new era of medicine, Foucault's model of medicine based on the exercise of the clinical gaze is becoming outdated (Bleakley and Bligh 2009). In short, dissections and prosections of preserved corpses are being replaced in some medical schools by other ways of learning anatomy. Radiological imaging techniques can augment surface and living anatomy. The clinical gaze is no longer learned from peering into the open body, where the eye guides the dissecting hand. (Although pathologists argue that autopsy—literally 'see for yourself'—is a quite different experience to dissection and prosection because the corpse is relatively fresh.) Further, that gaze is splintered or distributed across artifacts, as imaging becomes more sophisticated. Medical students' identities as emergent diagnosticians will follow less focused lines than Foucault's classic model suggests. Diagnosis will also be seen to be more of a collaborative process, explored by Actor-Network Theory (ANT) and Cultural-Historical Activity Theory (CHAT) as human-artifact (actant) collaborations and by Communities of Practice (COP) as collaborations within communities.

Through writing, such as Abraham Verghese's celebratory social realist and fictional work, we can learn how to read patient as text, restoring both the identity and the *virtue* of doctor as diagnostician, symptomatologist or connoisseur of bodily symptom. We say 'virtue' because diagnosis is not simply technical and aesthetic, but also potentially an ethical act, one of moral as well as sensory judgment and a rhetorical act of persuasion into a point of view. Through Lorelei Lingard's critical and analytical work we can read medical education as a set of rhetorical practices, not only persuading us through language into points of view, but also rhetorically producing identities. These authors, in differing ways, contribute to a growing body of work articulating textual practices in medicine.

A body of empirical research in work settings shows that medical and health-care 'work is changing' leading to 'problematizing identity' (Iedema 2007; Iedema and Scheeres 2003, p. 316). Studies of doctors' work in settings such as a metropolitan teaching hospital in Sydney, Australia (Iedema and Scheeres 2003) and a primary care team in Helsinki, Finland (Engeström et al. 2003) offer what Jackson (2000) calls a 'new textualization' of work. Due to the implementation of new work settings such as multi-disciplinary clinical care pathways, doctors and health-care workers are talking to each other in new ways (first text); talking to patients in new ways (second text); and talking about this work to researchers in new ways (third text). As a result of this, doctors are then talking to themselves in new ways about these emergent work conditions. The product of new ways of doing things (practices) and

describing them to others and to oneself (reflection on practices) promotes a shift in identity. Sometimes, this shift offers not a fine-tuning of practices and the values that inform them, but a reinvention. In this case, reflection shifts to 'reflexivity'—a critical re-examination of what we do, why we do it one way and not another and, importantly, 'who am I?' as I engage in these new forms of work.

In the process of negotiating new ways of relating—in what are still generally referred to as 'teams,' but now may be better termed 'negotiated knotworking' between groups of persons (Engeström et al. 1999; Engeström 2005, 2008)—professionals now have to *renegotiate* their identities. Iedema and Scheeres (2003) suggest that this process involves a new turn in activity. For example, doctors now have to *recount to a wider variety of other people* (*including patients*) *why they are doing what they are doing*. They have 'to engage in ways of speaking (and writing), that call into question conventional conceptions of what it means to be and speak like a doctor' (Iedema and Scheeres 2003, p. 317). This is not a product of politically correct behavior, bureaucratic management or new forms of surveillance, but a new way of talking about, recounting and accounting for work—paradoxically, often removed from the main body of clinical patient contact work itself. An example would be a briefing or debriefing (wrap up session) in a multi-disciplinary team setting.

Bleakley et al. (2004), in studying operating theater teams (although we have now signaled the problems inherent in the term 'team' on several occasions, we will continue to use it in this section), have shown how one of the factors limiting communication in such teams is the atmosphere or climate set by the surgeon. Typically, this is monological rather than dialogical. In a monological climate, communication is limited to saying, informing, telling, closed questions and confronting. Even where operations move from the habitual and safe to critical and intensive, surgeons tend to stick to this type of monological communication. By contrast, in a dialogical climate, communication shifts to open-ended questions, invitations for conversation and debate, expression of opinions and support. There is research evidence from empirical studies to suggest that dialogical communication patterns improve team morale and commitment to work collaboratively and above all, that dialogical communication improves patients' health outcomes and safety (Borrill et al. 2000; Edmondson et al. 2001). Good communication is a health intervention (Roter and Hall 2006).

In order to improve communication in operating theaters and to set up a better climate for patient safety, standard procedures can be implemented. Such standard procedures can be imported from the experiences of organizations such as the airlines that were once high risk, but whose reliability is now very high. These procedures include pre-list briefing and post-list debriefing. Pre-list briefings allow for the establishment of 'situational awareness' across the team, where members are able to project ahead and imagine how they will interact in planning the day. The World Health Organization (WHO) has now produced a template for a checklist (pre-brief) for mandatory use in operating theaters implemented worldwide from 2010 (Gawande 2009; World Alliance for Patient Safety 2008). This protocol is a classic form of monitory democracy where it not only allows clinical team members

to brief, but includes patients prior to anesthesia, who must verbally agree on issues such as consent, allergies and the side and site of surgery. Such strategies also mandate dialogical communication and are then challenging to those surgeons who are habitually monological in their work activities. The implications for identity construction are critical.

In the establishment of these more democratic but complex environments, identity crises occur, mainly of a positive sort. To return to Iedema and Scheeres' (2003) work, the doctor is now re-positioned through the new variety of reflective and reflexive activities and communications (discourses) in which they must participate. It is not just the volume of communication that shifts identity, but the forms of communication such as moving from monological to dialogical patterns, horizontal rather than vertical and hierarchical communication, interprofessionalism, patient-centeredness and so forth. Boundaries that were previously held sacred and not crossed are now regularly negotiated in the new era of patient pathway care, involving a movement beyond coordination of tasks and cooperation or willingness of practitioners to engage with each other, to collaboration around patients' needs. As noted elsewhere and in what has become a classic case study in the field, Kerosuo and Engeström (2003) and Kerosuo (2006) detail a large-scale restructuring of primary care provision along the lines of such collaboration for patients with chronic, multiple illnesses in Helsinki. Central to such an organizational overhaul was the shift in identity of doctors, from discrete professionals to interprofessionals and expert 'boundary crossers.'

As noted above, for Iedema and Scheeres (2003), the locus of the changes in work patterns for doctors that promote renegotiation of identity are not so much at the coalface in patient care, but in peripheral meetings that talk *about* work (and force reflection upon work) and are *in addition* to clinical work. These include varieties of meetings in which doctors are learning new textualities—ways of talking with others whom they would previously never have met and new ways of writing about their work, for example, in appraisals and incident reporting. In these new settings, selves or subjectivities—identities—are reconstructed as *products of work* in the same way that doctors' work traditionally 'produces' health (or relief from illness).

We see the re-organization of doctors' work over the past decade in particular as so fundamental (Hutchinson 2006) that Iedema and Scheeres' analysis could apply to core, regular patient contact clinical work as well as to peripheral meetings in addition to such work. Core work can now so readily incorporate, say, interprofessional activity. All clinical work processes and their educational dimensions, grounded in team activities, now offer potential movement through coordination and cooperation to implement collaborative care. Engeström (2005, 2008) calls this 'collaborative intentionality.' It is the learning of authentic democratic participation at work and produces the identity of what we describe as the 'medical citizen.' The medical citizen is the 'informed patient' who wishes to engage with health provision in a proactive manner, shaping such provision through forum, debate and action.

Increasingly, doctors' autonomy is eroded as they are expected to work for the company or organization (the family practice, the hospital, the Trust). While this

has, often cynically, been seen as a way that politicians and managers gain control over doctors, an alternative view is that the new work forms create the opportunity for transparency of practices and more open communication with and involvement of patients. This returns us to the discussion we raised in Chap. 1 about the historian Ludmerer's (1999) view of the radical changes facing American medicine and medical education, where patient-centeredness must now become authentic and not just empty rhetoric. Further, doctors must recognize that, in a world of medicine based on post-industrial consumerism, their traditional autonomy no longer serves the customers' (patients') needs and must be swapped for heteronomy or regard for the Other. We can think of this as a movement from colonizing patients' and colleagues' experiences ('doctor knows best') to a decolonizing impulse of shared decision-making and collaborative medicine ('let's draw on all available resources').

While a doctor may retain a sense of authority that derives from depth of knowledge, skill and values, this need not be exercised in an authoritarian manner. Tacit knowing and decision-making based on experience must now be made explicit and balanced by what is in the public domain—the evidence base. For Iedema and Scheeres (2003, p. 332), 'the identificatory trajectory that leads from marginal, via peripheral, into full occupational, professional, or organizational membership' as described by Lave and Wenger and progressed by Wenger, is no longer valid where this trajectory demands a *stabilizing* of identity. Just as medicine traditionally has found ways of coping with its inherent uncertainty, so the new medical work era must find ways of coping with an emergent and inherent instability ('risk,' 'runaway' and 'liquid') that is reflected in multiple and unstable identities.

In the new, unstable and fluid work settings, doctors must speak from positions for which they have uncertain authority, or do not yet 'know the texts,' especially in the non-technical realms of practice that have now been shown to be central to maintaining patient safety (systems, communication, situational awareness). Part of this realization may be that the 'self' is not stabilized in a work identity of central participation in a community of practice, but is actually de-stabilized by new, fluid work settings. These include work-about-work or new modes of work-within-work—such as implementing a brief or debrief—that transcend conventional 'communities of practice' boundaries. Such work about work also includes appraisal. Practitioners may say 'I do not know how to go about this,' 'this is out of my normal work pattern,' or 'I don't know who I am when I am doing this.' Here, subjectivities or identities are not given, expressed and exercised, but are formed through the negotiations that go on within these new textualities of 'speaking about' oneself in relation to a complex of Others, the details of whose work are actually unknown.

Once, it was accepted that doctors could just *assume* what the nurse or physiotherapist or social worker did and that they never needed to account either for, or to, themselves. Now, doctors must sit down as interprofessionals to learn *with*, *from* and *about* an Other, since they are also accountable to others and to self. As Iedema and Scheeres (2003, p. 334) suggest, such new work settings are 'volatile, political, and confronting.' They challenge the assumed certainties of a doctor's role and put traditional identity at risk. The common textual practices in medicine of 'telling' and 'informing' (monologue) that Atkinson (1995) described as 'the liturgy of the

clinic,' are being replaced by conversing, negotiating, collaborating and supporting (dialogue). We will offer two illustrative examples. The first centers on the identity of the doctor as 'diagnostician'—the identity that many doctors would claim is the primary mark of a medical education. The second focuses upon the doctor as teacher or educator.

Two Sample Identities in Transition: Doctor as Diagnostician and Doctor as Teacher

A medical education can be summarized as the way in which novices gradually come to achieve expertise as a diagnostician or symptomatologist. This confers an identity. Great doctors, historically, are remembered as great diagnosticians, such as William Osler. Not only do medical texts emphasize this development of expertise, from general abilities to specialty-specific diagnostic judgment (Groopman 2007), but, as we have noted, the developing genre of doctors writing about their work—as 'fact' (for example, Gawande 2007, 2008), 'faction' and social realism (for example, Verghese 1998; Mercurio 2003; Lam 2006), or fiction (for example, Patterson 2007; Verghese 2009; Huyler 2010)—also emphasizes that doctors see themselves primarily as diagnosticians. They talk to themselves and amongst themselves, in that way, again talking themselves into identities (the practice of textuality).

As we have noted, in the new era of imaging, many diagnostic skills have been lost to machine-based testing and so the identity of doctor as diagnostician has been tempered and perhaps compromised. However, many doctors will still say that their diagnostic capabilities are what enable them to know themselves as distinct from nurses, allied health practitioners and social care practitioners. In the rapidly changing world of medicine and health care, this professional identity structure must now be reconsidered (Gao and Bleakley 2008; Gao 2009).

First, doctors know that diagnostic identities are often formed around the work of patients who are experts in their own conditions or formulate clues for diagnosis through their stories of illness (Montgomery 2006; Groopman 2007). Second, as mentioned above, diagnostic skill is now distributed amongst doctors and radiological imaging technologies (and computer-based diagnostic packages). The diagnostic identity is a shared identity, giving credibility to the analyses presented by ANT and CHAT, where learning is centrally mediated by artifact. Third, diagnostic acumen does not just rest with medicine. While medicine may have the greatest claim upon diagnosis and upon complexities of diagnosis, all helping and care professions use diagnostic methods (clinical reasoning, clinical judgment, pattern recognition) (Higgs et al. 2008; Gao and Bleakley 2008; Gao 2009). For example, nurses reason about care rather than cure, through monitoring the skin color of a baby in prenatal care; midwives diagnose potential problems in labor; physiotherapists diagnose mobility problems that an orthopedic surgeon may not have grasped; a social worker diagnoses a psychological family dynamic pattern leading to an eating

disorder in a teenage girl that the general practitioner missed, who has diagnosed only through literal somatic symptoms. Fourth, patients are increasingly presenting to their family or general practitioners with generalized anxiety or depression. This may be misdiagnosed as an intrapsychic condition and then treated with pharmaceuticals, whereas a cultural clinical psychologist or a medical anthropologist might diagnose this rash of presentations as a sign of a *cultural* condition or symptom of a cultural disorder. In other words, the symptoms may be viewed not as an *eating* disorder, but as a *food* disorder (battery hens, additives, sugar-laden drinks); not a personal depression but an understandable reaction to a manic culture where people feel unable to keep up; not a personal anxiety created by a biochemical imbalance, but a response to the ecological imbalance caused by human pollution (Hillman and Ventura 1993).

Our second example, a key one in light of our concerns in this book and the topic of the following chapter, *is the shifting identity of the doctor as clinical teacher or educator*. In the traditional, autonomous structure of 'see one, do one, teach one,' the identity of the doctor as teacher is conferred, simply through a colonizing of educational activity (and supposed expertise) by the unquestioned medical authority figure. However, in the new era of medical education transparency, so-called educational expertise of many doctors is lacking and formally untested, relying often on charisma rather than knowledge and technique. Such practices then become habitual and remain unexamined. In the new textuality of 'reflexivity'—of *accounting for* one's work through action, speaking and writing—educational methods are now scrutinized by *educational* communities of practice and legitimized through award-bearing educational programs.

Chapter 7
The Medical Educator and the Clinical Teacher

Unpicking the Threads

Howard Becker and colleagues' 1961 study of medical students—*Boys in White* (Becker et al. 1980)—offers a classic ethnography within a tradition that bridges sociology and anthropology. Medical students are studied as entering a cohesive structure through traditional rites of passage, just as an anthropologist might study a group of young persons in Australian Aboriginal culture going through a series of male or female puberty rites. Such rites *confer an identity*. The identity is, again, not given (being) but achieved (becoming)—identity is an objective rather than something that is predefined; it is invented rather than discovered. In our Western, modernist tradition that stresses individualism, 'identity' is usually thought of as a blueprint for an individual's personality. For an Australian Aboriginal, to gain an identity is to *identify with* an external feature as a guiding force, such as an animal, a feature of the landscape or an ancestor. Certainly identity begins in a historical association with a tribal stream, a procession. Medicine, of course, is a processional as well as a professional vocation—a medical student steps into an historical stream and identity formation is partly the resultant stain of that history. But the stream flows forward to a future and identity is also the process of passage towards a horizon partly unknown.

It may be that a certain personality type is drawn to medicine (or medical education), or to a medical specialty (or medical education as a specialty), but this is not the primary concern of the sociologist or anthropologist studying the passage and transition into an achieved identity. They are interested rather in the culture's impressions, as the 'mark' of the doctor. The diagnostic labels 'Diabetic' and 'anorectic' do not describe character types or personalities, but impressions made by symptoms. The title 'Oncologist' does not recognize a character type but is an inscription, a mark of membership and a subscription to a community.

While doctors and their patients have been studied anthropologically for such cultural impressions leading to identities, there is also a need for anthropological study of the marking of the medical educator, gaining identity as a medical educator. How does a medical educator earn his or her 'stripes'? What does it mean for a doctor to also become a medical educator? In an era when all doctors are expected

to be educators, and some will become practiced clinical teachers, what singles out the dedicated educator from those who educate informally and in passing? Is it the transition into a formal system of medical education that confers the identity of 'medical educator' upon an educationally engaged doctor? Similarly, what does it mean for an established academic to make the transition to a community of practice known as 'medical education'? This is a nascent field, crying out for systematic investigation and programs of research.

Medical education is like a tapestry—at one moment it looks like a thriving, research-based community with purpose, direction and structure. Turn the tapestry over, however, and it is a mess of loose threads and disorganized structure, nevertheless still holding together. Medical education is not a discipline, but an interdisciplinary, or even transdisciplinary, complex. Let us unpick some of the threads of this complex.

Who are the members of the constituency of medical education? What confers medical education citizenship? Let us first consider the clinical teacher. There is a wealth of contemporary study of what clinical teachers *do*—including a dedicated journal (*The Clinical Teacher*) founded by one of us (John Bligh) and shaped by another (Julie Browne)—but little empirical work has been carried out on studying identity formation of clinical teachers, especially in relationship to the *educational* component of doctors' teaching roles. All doctors must be teachers and this requires movement beyond the old apprenticeship system of 'see one, do one, teach one' to the application of modern educational methods. Many medical schools now offer 'doctor as teacher' components within the curriculum. However, the level and intensity of teaching varies enormously across doctors' duties. Importantly, the ranks of clinical teachers include, not just doctors, but also, for example, anatomists, dentists, health-care practitioners, pharmacists, clinical psychologists, psychotherapists and biomedical scientists who teach medical students and doctors.

In the late 1970s and throughout the 1980s, David Irby and colleagues (for example, Irby et al. 1991, pp. 54–55) thoroughly mapped the territory of the characteristics of effective clinical teachers and what clinical teachers need to know. This work, again, describes more what good clinical teachers do with and to learners, rather than how they legitimately enter a community of practice. Where the work touches on identity, it is descriptive rather than analytical, so that, for example, the good, ambulatory clinical teacher 'possessed broad knowledge of medicine, seemed to enjoy teaching and patient care, demonstrated caring concern for patients, was personable and approachable, showed respect for others, and was enthusiastic.' Further, these characteristics 'were similar to those found in prior studies of ward teaching' (Irby 1978; Irby and Rakestraw 1981). These descriptions articulate dispositional traits (given personalities) rather than *positional products of interactions, environments and new work settings* (constructed identities). However, the new work described in Chap. 2 that Irby and colleagues (Cooke et al. 2010; Irby et al. 2010) have carried out for the Carnegie Foundation thoroughly revises this earlier approach, where 'identity' is now reconceptualized as positioning on a continuum of medical education and within a life-course. As we summarized that work in Chap. 2, we will not rehearse it again here.

Where we make a distinction between medical educators and clinical teachers, we recognize that these identities may overlap. A clinical teacher is, again, somebody who teaches in a clinical location and is usually a doctor, but may not be. A medical educator is somebody who works in research, teaching, management and administration, scholarship of teaching and learning, but does not necessarily teach in a clinical location or practice as a clinician. Such persons include researchers, curriculum designers and 'classroom' teachers in anatomy, biological sciences, education, health economics, medical ethics, social sciences, medical humanities and so forth. Such medical educators may, however, research in clinical contexts. Somebody can, of course, be both a medical educator and a clinical teacher, as he or she passes back and forth between locations and roles in academic settings, laboratories and clinical locations. The identity of the medical educator is by nature a hybrid identity. Unlike medicine it is still not clear who is a legitimate practitioner. There are so few medical educators that it is hard to reject anyone who is willing to teach, no matter how badly they perform or how uncommitted they are.

Such issues of standards and quality are being addressed through the establishment of processes of professionalization, including formal educational qualification and peer recognition, through bodies such as the UK-based Academy of Medical Educators (2009). Simply classifying in this way, however, does not get us much closer to the identity of a clinical teacher or medical educator, where it again merely reminds us of the breadth and complexity of the constituency. This may be seen as a potential resource, an embarrassment of riches, but it can also be seen as a burden, where medical education may need to sharpen its focus if it is to continue the trajectory already recognized in the Walport report (Walport 2005) in the UK, that lays out career options for doctors in academic medicine and medical education as a specialty. This will remain a Cinderella specialty without intensive work on raising quality of informing conceptual frameworks and research within the field to provide an evidence base for practice.

A Framework for Discussing the Identity of the Medical Educator

Let us deepen our engagement with the issue of the identities of both clinical teacher and medical educator—as persons—by reminding ourselves that 'medical education' itself has an identity as a cultural object, an institution, albeit paradoxical, plural and 'runaway' or fluid. In advance of the argument, we argue that an emerging and dominant identity for medical education is that of a *democratizing force within medicine*, transforming traditional vertical hierarchies into horizontal collaborations and changing the traditional form of identity construction (the modes of socialization described in Becker and colleagues' *Boys in White*.) This is, we believe, a radical claim.

The psychoanalyst Alfred Adler, the father of social work, claimed that 'fellow feeling,' community and collaboration—rather than either sexual motive (Sigmund

Freud, Wilhelm Reich), or the urge for meaning (Carl Jung)—is the primary drive in life. Hillman (1994), in an account of Adler's work, reminds us that the supposed classical Greek 'invention' of democracy shifted emphasis away from individual achievement to collective effort and the fruits of collaboration. The root of the word for 'individual' and 'idiosyncratic'—*idios*—is also the root of 'idiotic,' where *demos*, the root of 'democracy' is cognate with words such as 'runny,' 'yolky' and 'abundant.' There is richness, but also messiness, in the body of people, the *demos*. Actually, as Keane (2009) details, 'assembly,' constituent or participative democracies (where the body of the people decide by majority how to live, rather than 'representative' democracies where elected members act on our behalf) were imported to Greece in the fifth century BCE from models of public assembly that had been common in what is now the Middle East from 2500 BCE.

Medical education is a force for change in medicine that is rich, abundant and promotes collaboration, but, as we have already described, is—to borrow Giddens' (2002) term—'runaway' or fluid. We have already indicated, in Chaps. 1 and 2, why we think that medical education is undergoing an identity crisis where its emerging identity is multiple, complex and fertile, but not necessarily messy nor unfocused. We think that emerging medical *educations*—and here we deliberately draw on a cumbersome plural—are more sensitive to the needs of those whom such educations ultimately serve: patients.

Identities in Crisis and Transformation

In Pynchon's (1990) novel *Vineland*, a couple are trying to work out the future for their rocky relationship, holed up in a cheap motel room in Oklahoma. More, they are using the relationship to define who they are, their identities. On a bigger scale, Pynchon uses this micro-relationship to discuss the national identity of post-Vietnam America and suggests that it is stormy. The couple hammer out just who they are and how uncertain they are of each other against a backdrop of the most violent thunderstorm either of them has experienced and Pynchon takes us into the thoughts of the woman's side of the relationship: 'Just when she thought they were nestled safe in the center of America…. With no warning, everything would pulse hugely with light, and the undersides and edges of the great clouds be hit with electric blue and now and then, all creviced in black, a terrible final red' (1990, p. 215).

While the crisis or crossroads in the development of a medical education for the future—that we outlined in Chaps. 1 and 2—may not be of such epic proportions as this fierce, biblical, electrical storm, its internal rumblings are plain to hear and its storm clouds have been gathering for some time. We describe not just a fine-tuning, but a sea change in medical education, a deep transition in its identity and then in the identities of medical educators and clinical teachers. Pynchon's novel captures the dismay, regret and bitterness felt by a generation of young Americans who saw promise for a new kind of culture emerging from the 1960s 'counter culture,' that was to be met by a conservative backlash resisting racial integration and equality

for women. The metaphor of the storm 'in the center of America' holds a central place in the novel, which is based on the seemingly irreconcilable needs between those looking to an authentic democratic future (a voice for minorities and women, respect for difference) and a 'horizontal' world of collaboration and those who prefer the divisive 'vertical' world of hierarchies, conservative values and competition.

The world of medicine is changing rapidly, to accommodate the new horizontal models that include patient involvement in care, collaborative practices through interprofessionalism and dialogue with political policy makers and management (Hutchinson 2006). This is bringing about a new identity for doctors, who, predictably, are becoming different kinds of professionals to the generations that followed Flexner's revolution a century ago and the birth of the British National Health Service a half century ago. This is recognized through the rhetoric of policy documents such as the UK General Medical Council's (2009) *Tomorrow's Doctors*, where, again, a truly radical change is promised not just for the undergraduate sector, but also for the continuum of medical education.

Where, however, are the blueprints for *Tomorrow's Clinical Teachers* and *Tomorrow's Medical Educators*? As the storm clouds clear, the crossroads are negotiated and the crisis passes, we suggest that medical education is playing a key role as a democratizing force in medicine in its insistence upon forming practices for patient benefit, or that are authentically patient-centered. However, we recognize that there are no single texts that attempt to cover this ground—a gap that this book attempts to address. By 'democratizing,' we mean changing authoritarian structures into authoritative structures that claim their authority from proven quality; introducing authentic and meaningful participative and collaborative practices into medicine, medical education and research (including specific research strategies such as collaborative inquiry), in a concerted move from coordination to cooperation to thoroughgoing collaboration around patients (Engeström 2008). We also include in this a shift from multiprofessionalism (working with other professions) to interprofessionalism (working with and learning from, with and about other professions) and from multidisciplinary approaches to interdisciplinary and transdisciplinary approaches.

Keane (2009) describes the two traditional forms of democracy—assembly (participatory) and representative—and introduces a third, 'monitory' democracy. The first Greek model of democracy was one of common (multitude) rule by assembly—direct participation, dialogue and majority vote (noting, again, that this was only for 'citizens' and then did not include women and slaves). This direct participation model has been reinterpreted by Michael Hardt and Antonio Negri in the influential *Empire* trilogy (2001, 2006, 2009) as a possible global model of 'multitude.' This is a 'coming' constituent democracy of direct action (such as the uprising of indigenous peoples, the normalizing of people with special needs and the direct action ecological movement) that, suggests Hardt and Negri, will replace the decaying 'Empire' of North American dominance to usher in a new commonwealth. The point is that the voice of the people is heard unmediated. In representative democracy, we elect representatives who act on our behalf. There are obvious difficulties in pursuing assembly democracy in a complex and overpopulated world and obvious shortcomings of representative democracy in an era of widespread corruption in

politics and alienation of large minorities who vote for parties that are not elected. Keane suggests that a third form of democracy is emerging that begins as a quality control for representative democracies, but is gradually becoming what we have referred to previously as a runaway object, something growing into a complex system.

This third form, 'monitory' democracy, is the sum of the quality checks that we maintain on other democratic processes. It resonates with our discussion earlier concerning the new textualities of doctors' work, involving accounting for practices to a variety of people who, historically, would not have been involved in such a process (such as other professional colleagues and patients and their families, ethics committees and auditing, appraisal and safety reports for managers and policy makers). Such checks include overall quality assurance monitoring of processes, legal restrictions, tacit and explicit codes of conduct, inquiries and investigative committees, consumer 'standards' watchdog groups and so forth.

These are part of the wider surveillance culture and the culture of 'governance' of activity resulting in a mindset of 'governmentality' (Foucault 1991a). In sum, this is a (representative) *democracy of democracies*. In medicine, the traditional process of representative democracy is being supplemented—and sometimes supplanted—by patient groups, national and local audit groups and processes, legal investigations, management surveillance, appraisals, patient safety practices and so forth. This sounds oppressive, but, as Foucault suggests, power is not usually exercised in modern structures by authorities wielding sovereign power over others. Instead, power runs through systems and is productive, just as it may be oppressive. It produces resistances and identities. For example, patient feedback and monitory democracy offers an authentic resistance to medicine's traditional autonomy and lack of transparency and accountability. Without civil rights, human rights and a women's movement—all monitory democracy processes—we would not have progressed constituent democracy to a wider and proper constituency.

Monitory democracy is a useful principle to invoke in our discussion of the identity of medical education, medical educators and clinical teachers. We have already suggested that medical education, as a historical, cultural process and a community of practice, may be the force that will fully democratize the institution of medicine. In turn, as medical education *research* comes to provide the evidence base for medical education practices, so medical education research will be the monitory democracy shaping medical education. The development of these layers of democratic potency can be described as the movement to a 'reflexive' medical education culture.

Using Social Learning Theory Frameworks to Identify the Medical Educator and Clinical Teacher

Using the framework offered by previous chapters, we can describe medical education as a community of practice (COP), an activity system (Cultural-Historical Activity Theory, CHAT) and/or a network of actors in relationship with a complex of actants or artifacts Actor-Network Theory (ANT). This final section looks in

more detail at the strengths and limitations of each of these social learning theory approaches as we apply them to shed light on precisely 'who?' a 'medical educator' and a 'clinical teacher' may be.

Intuitively, it may seem that medical education affords a community of practice. However, we shall see that each of these analyses shows particular limitations. For example, we have already noted that it is difficult to articulate the boundary to a community of practice. This may be straightforward with an established community such as 'radiologists' or 'plastic surgeons.' However, where do we place, say, the large body of 'jobbing' clinical teachers who may not think of themselves as 'medical educators'?

One way of approaching this organizational identity issue (one of boundary setting) is to consider a spectrum that has at one end those medical educators who gain an identity of 'jobbing' *clinical teacher*; in the middle those who gain an identity as teachers but who also engage in *scholarship of teaching and learning* (or reflection about teaching including academic understanding) and at the other end those who primarily *research* in the field of medical education, forming the evidence base that can be drawn on by teachers and scholars of teaching (Boyer 1990). Researchers move from positions of reflective practice to critical reflexivity, in problematizing medical education practices, conceptualizing them, accounting for the quality of their practice to themselves and others and consistently reinventing the field. Bligh and Brice (2009) suggest that the identity of the medical educator can also be extended, from teacher, scholar of teaching and/or researcher to include expertise in management.

There are, then, doctors who have carried on the apprenticeship tradition and have an interest in education. While they have often gained further expertise through continuing professional development short courses, they have no formal teaching or educational qualifications. They do not see themselves as part of an academy of educators with strong links to academic life or academic medicine. As these clinical teachers develop an academic interest in medical education, they begin to study the process more deeply, perhaps even gaining a postgraduate qualification in education. Such clinical teachers then become scholars of the activity, understanding that issues with which they are familiar in medicine also apply to education, such as working from an evidence base rather than intuitively.

Importantly, they will have acquired both a sense of curiosity about why they do what they do pedagogically and a theoretical framework through which they can better inform their understanding of teaching, learning and wider educational issues. They will have developed the conceptual and theoretical tools to ask and study questions such as: what is a curriculum and how is it developed, implemented and evaluated?; what is a syllabus?; why use PBL, or small group work?; why use this assessment process and not that?; is learning transferable?; what are the most effective ways to scaffold learning at work?; how do you structure feedback?; how do you mentor learners?; how do you facilitate self-directed learning?; is peer assessment effective?; how are learning outcomes written in different domains and how can they be used as criteria for assessment?; do differing knowledge domains in medicine require differing teaching approaches?; what is good bedside teaching?;

how can patients be involved in teaching?; when is it appropriate to use simulation?; how can electronic environments best be employed to support learning?; and so forth.

Already, from this truncated and selective list of topics, it is clear that there is a large gulf between those who simply teach and those who are reflective about teaching and how to inform teaching. The shift to a scholarship of teaching and learning from that of a jobbing teacher involves a major shift in identity, equivalent to the novice to expertise shift that these doctors gained as they made the transition from medical student to junior doctor (intern). When David Irby wrote in the 1970s and 1980s about what clinical teachers need to know, it was accepted that clinical teachers mainly picked up the educational tools of the trade intuitively or through role modeling and did not necessarily need specific expertise in the discipline of education. Now, that assumption is questioned.

While this transition from jobbing clinical teachers to involvement in scholarship of teaching and learning is important in adding to the professional educational capital of the community of medical educators, it is limited in comparison with those who move further along a spectrum, beyond scholarship of teaching to academic research in the field. If medical education is to gain credibility in the wider academic community, it has to engage in systematic and programmatic research of its activities and to evolve an evidence base (as we explore in depth in Chaps. 14 and 15). Doctors should be the first to realize this, as they themselves have been through the era of a shift from idiosyncratic and local practices to evidence-based medical practice (Millenson 1999). As scholars of teaching and learning begin to research practices such as work-based learning and assessment, collaborative processes of learning, evaluation of programs and so forth, they add to the intellectual capital of medical education to formulate an academy. An academy of medical educators (Bligh and Brice 2007) takes on several key roles: professionalizing medical education to construct an identity of a medical educator beyond the clinical teacher, legitimating membership through recognition by peers and experts, linking medical education to other educational communities of practice and professional bodies, convening conferences, publishing a journal and advising on routes for qualification. At the far end of this spectrum, for clinicians, is the new imperative to recognize academic medicine and medical education as medical specialties (Walport 2005).

As far as calling 'medical education' a community of practice is concerned, we now have three communities of practice that have areas of overlap: clinical teachers, clinical teachers who engage in the scholarship of teaching and learning and medical educators. The last group includes a large proportion of non-clinical academics, creating a potential problem of translation between the discourses of practical clinical communities and conceptual academic communities (Albert et al. 2007).

Criteria for calling something a 'community of practice,' discussed in Chaps. 4 and 5, include meaning, participation and levels of engagement. A community of practice is also a community of learners who gain meaning from learning. It is unclear if the many 'jobbing' clinical teachers gain a sense of meaning (rather than just satisfaction) from teaching, since meaning is linked to educational understanding.
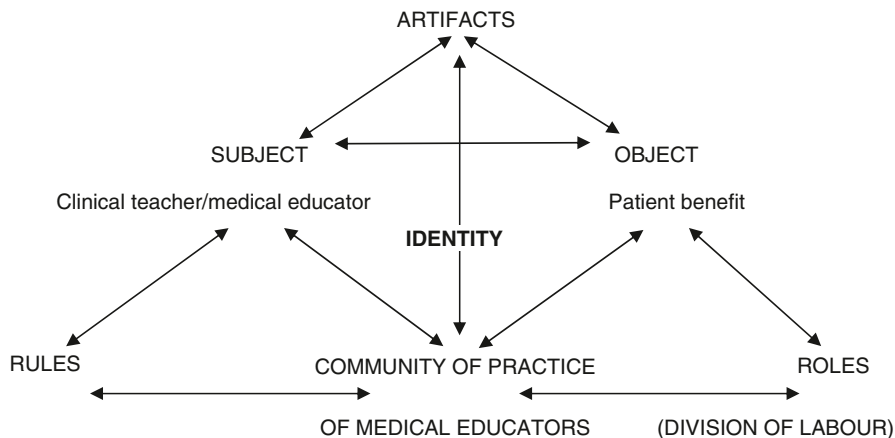
Meaning is not necessarily a comforting thing—it is challenging, awkward and uncomfortable and leads sometimes to radical disorientation and potential reorientation in ideas and identities. Too many clinical teachers, unfortunately, characterize medical education as useful only when it is 'fun.' This is understandable, as education may offer what many clinicians perceive as a form of relief from challenging and uncertain clinical work. If you perceive education as a common sense practice, then such an attitude is hardly surprising.

In terms of participation and levels of engagement, it is hard to pin down quite what an adequate level of participation and engagement might be across the spectrum from clinical teaching to medical education research, to warrant delineating a boundary for a distinct 'community of practice.' For example, what constitutes central and peripheral participation in such a community? What are the exclusion and marginality criteria? Where all doctors now have a prescribed duty to engage in education of colleagues and patients at some level (for example, General Medical Council UK *Tomorrow's Doctors* 2009), many of these doctors would not automatically think of themselves as members of a community of practice of either clinical teachers or medical educators, unless they have, at a minimum, formal responsibility within a medical school or links through a teaching hospital or teaching general practice, or active interest in the postgraduate education center for their hospital group. Are these doctors then excluded from a community of practice of clinical teachers or medical educators?

Jobbing clinical educators who have engaged in limited scholarship of teaching and learning will earn only peripheral participation in a 'core' community of medical educators. The latter will have researched, published, gained credibility in the field, be recognized by peers and have gained legitimacy through joining an academy at an appropriate level of membership. How will these peripheral participants in a research-led community of practice of medical educators view central players who have no clinical experience and, indeed, patently misunderstand the workings of the clinic, which they gleaned more from Foucault than from footwork?

Can they legitimately draw on Wenger's (1998) distinction between 'participation' and 'reification' to suggest that academics in the medical education field who have no clinical experience or expertise, yet study clinicians or clinical environments, are working in the realm of reification? In other words, are they concretizing what is for them actually metaphorical and/or conceptual? Unless they undertake extensive and periodic socialization into clinical environments, as researchers they have no 'participation' experience in the very cultures they research.

Matthieu Albert and colleagues (Albert 2004; Albert et al. 2007) have analyzed the tensions between academically based and clinically based medical education research, demonstrating that the tension between 'research for ideas' and 'research for application' remains unresolved. Thus, even as we transcend the tensions between teaching and research communities, we are faced with another split within the medical education research community. The 'communities of practice' model offers some insight into understanding how identities of the clinical teacher and medical educator may be *stabilized*, as they formally enter educationally biased communities, but the model has limitations. Importantly, while we sense the desire

ARTIFACTS

SUBJECT ←→ OBJECT

Clinical teacher/medical educator   Patient benefit

IDENTITY

RULES   COMMUNITY OF PRACTICE   ROLES

OF MEDICAL EDUCATORS   (DIVISION OF LABOUR)

Fig. 7.1 Identity construction of the clinical teacher and medical educator as a product of an activity system

to get the 'community' part sorted out, we are still unclear as to what the community *does*. What is its goal or object of inquiry? Where does its attention focus? Is it producing high-quality research for the University to maintain high levels of funding, bringing in big research grants, promoting research to benefit practitioners, promoting research to benefit patients, producing competent doctors, producing excellent doctors and/or working for patient benefit? And how does the object come to form the activity of education?

Our job, as medical educators, is both to experience and to understand Fig. 7.1 as a living, dynamic process—to grasp slices of the whole activity of medical education through time and across contexts. The overall object is patient benefit (patient care, patient safety). Intermediate objects for clinical teaching include: quality of student learning and improvement of teaching methods and process (scholarship); where intermediate objects for medical education include: improving the evidence base and refining applications. Educational objects include: practice improvement for clinical teachers (for example, how to identify learning outcomes; how to run a small group; how to assess a clinical practice), reflective practice improvement for clinical teachers interested in the scholarship of teaching (reflection-in-practice and reflection-on-practice) and critical reflexivity for medical educators who are researchers and may teach (including values clarification and relativization, discourse evaluation, reinvention of practices and, importantly, *reinvention of identity*).

A community will only stabilize if rules and roles are agreed. In setting roles, we will get a division of labor, where a series of objects will then emerge for the community, subsumed under a generic object such as 'patient benefit.' For example, the clinical skills educator interested in developments in simulation will have a different immediate object from the medical educator in an organizational role interested in policy and the development of an academy. Both, however, subscribe to the twin generic goal of patient care and safety.

What CHAT, as a framework for understanding identity, then offers is the further consideration of how subject and object interact with artifacts and how rules and roles are established within a community of practice. It would now be impossible to imagine how the identity of a medical education community could be built without the help of artifacts such as online resources and a technology platform. The thinking of all evolving medical education centers, divisions, institutes, faculties and groups (undergraduate, postgraduate and hybrid), and then the establishment of their identities, will be mediated by use of a website. As this thinking evolves, an activity system model reminds us that rules and roles will play a central part.

Medical education communities of practice, seeking identities within that of the sprawling mass that is an international medical education network, will have mission statements, aims and objectives and protocols that align with their broader institutional aims and ambitions, but also give a clear indication of innovation. For example, some may claim alignment with the idea of a 'creative knowledge environment' (Hemlin et al. 2004)—a group of talented researchers who focus on collaboration and networking to promote innovation and *production of knowledge* rather than *reproduction of ideas*. The negotiation of these rules will occur in a managed, financial environment with a transparent organizational structure and a horizon of possibility (van der Vleuten et al. 2004). Finally, roles will evolve within the activity system in response to the dynamics of that system. Such roles, of course, will feed back to the evolving identities of those who work in such medical education groups and the management structure will recognize that a division of labor is essential to achieving the current object(s) of the activity system, however 'runaway' these may be.

A value of this activity system modeling is that it promotes thinking about the identity of medical education (for example, both as a medical educator and as a member of, or contributor to, a medical education center) as dynamic rather than stabilized or static. The 'communities of practice' model is more oriented to strategies of stabilization (formal entry and bedding into a community) than transformation and inherent instability within systems. The CHAT model further promotes thinking about several activity systems interacting through time and creating opportunities for boundary work and boundary crossings (Kerosuo and Engeström 2003). This includes collaboration between medical education centers nationally and internationally, collaboration between medical educators and clinicians and health-care practitioners in work settings through research designs such as collaborative inquiry and collaboration between medical educators, medical education centers and academies.

ANT offers a third perspective on identity (both of individuals and of organizations) by dissolving the term 'identity' in favor of 'actor-*networking*.' Recall that an 'actor' can be an artifact such as a machine, computer, journal article, instrument, sign or symbol. From the point of view of ANT, the discussion so far in this chapter has been moving in the wrong direction, where it analyses rather than synthesizes. ANT encourages us rather to move away from taxonomies, categorizations, divisions, border mentalities, centralities, peripheries and margins and so forth, to consider meshing, networks and spontaneous reorganization of complex systems.

CHAT (Engeström 2008) has also been moving in this direction, where it has questioned the usefulness of terms that turn activities (process) into things (content). An example we have previously discussed is 'teams.' This descriptor tells us nothing about what a 'team' might *do*. These activities are better described by terms such as 'knotworking,' 'swarming,' 'teeming' and 'wildfire activities.' Through such activities, teams are not held together by explicit 'norms' but by tacit knowledge—unseen cognitive structures and 'absent' knowledge best described metaphorically, such as 'cognitive trails,' 'rhizomes' and 'mychorrizae' (Engeström 2008). These are distributed and *cultural* 'neural' networks shaped by history, that educationalists call a 'hidden curriculum' and that is the subject of an emerging inter-discipline—social-cognitive neuroscience (Harmon-Jones and Winkielman 2008). Here, the 'neural' is commonly held information and the process of the neural is away from knowledge reproduction (information storage) to knowledge production (innovation).

All of these approaches owe a debt to the groundbreaking work of Deleuze and Guattari (2004a, b) who evolved a *post*-structuralism to challenge and upset the main tenet of structuralism—the philosophical view that all phenomena are fundamentally ordered by underlying structures and codes such as a generative language code or a binary form (oppositions). Deleuze and Guattari saw such thinking as in the mould of imperialists and colonizers who conquer countries and 'order' them in their own image, where they see apparent disorder. This is 'territorializing.' An ordered 'city' (of ideas and practices) is built and heavily defended against intruders. At some point, however, the nomads ('de-territorializers') lay siege to the city, pull down its walls and free the inhabitants, who have become slaves to the city's ideals. The nomads move on. What then happens in the 'de-territorialized' space? What ideas and practices emerge? We have considered many over the past three chapters in particular, such as the shift in perspective from space to time (dynamic theories of learning), multiple and fluid identities, the dissolution of reified 'teams' for activity and process such as negotiated knotworking, the shift from vertical hierarchies to horizontal networks and the process of democratizing practices.

The shift between territorializing and deterritorializing is not necessarily one of the exercising of sovereign power, or power over, such as the colonizers oppressing the colonized. In Foucault's model of power, while the colonized may exert active forms of resistance imitating sovereign power, the more important power dynamics occur at the capillary level. As power runs through the system so the colonized develop subtle forms of resistance such as parody or irony, where the system is subverted and changed through joining its mainstream discourse and employing that discourse for change. For example, as medicine establishes the new territory of evidence-based practice it cannot then avoid having to employ an evidence base for its educational wing. Developing an evidence base offers medical educationalists a powerful tool of resistance to the established traditions of medical education. They are then enabled to oppose old style practices such as 'see one, do one, teach one' or role modeling based on charisma rather than capability.

COP enthusiasts would be the first to point out that the new words coined to describe this process of deterritorializing, such as 'runaway objects,' may be reifications—ways of describing something that is abstract as if it were a real thing.

However, CHAT and ANT enthusiasts will point to the fact that concepts in these fields have been derived from empirical studies and observations. Where tacit knowledge (Polanyi 1983) and implicit learning (Reber 1996) have long been known to psychology, these technical descriptors do not capture how such knowledge operates on the ground, for example binding people at work through a common cognitive model ('situational awareness'). Are the more concrete terms of rhizomes, cognitive trails and mycorrhizae (the underground tangled web of a fungal 'root' that bears a symbiotic relationship with plant and tree roots) not only more poetic and arresting, but also oddly more concrete descriptors of the activities in question? They can be seen as embodied metaphors (Lakoff and Johnson 1999).

Actor-Network Theory (ANT) is less interested in the formal arrangements that constitute or confer identities (such as academies and qualifications) and more interested in the informal, often serendipitous, accidents that are facilitated in any complex network or system working at maximum complexity at the edge of chaos. Here, persons and artifacts literally and metaphorically collide—in corridors, through café and bar room conversations, at staff meetings, at faculty parties, conversing with drug representatives, using search engines on the internet, through serendipitous email, at conferences—to be *assembled* and *reassembled* in loose associations for learning and identity reconstruction (Latour 2007).

Chapter 8
Identity Construction of the Medical Educator Through Learning and Writing

Introduction

In the previous three chapters, we have emphasized that construction of identity is central to medical education. Indeed, what a medical education sets out to do may be described in terms of identity construction, as medical students become doctors and as doctors become hospital specialists or community generalists. In Chap. 5, we defined identity as being 'positioned'—by historical, cultural and social influences. We distinguished identity from personality, suggesting that identities are made, or socially constructed, rather than given and that identities can be fluid and multiple. As Bauman (2004, pp. 15–16) suggests, identities are 'invented' rather than 'discovered.' We noted that amongst the professions, medicine in particular is characterized by the strength of the vocation, quoting Montgomery's (2006, p. 166) suggestion that 'medical students have committed themselves to a self-altering course of study.' We compared this with Michel Foucault's idea of 'self forming'—a way of describing the construction (or production) of identity as a style of life. We then looked in detail at how identity construction of contemporary doctors is rapidly changing thanks to new contexts and structures for clinical work and emergent understanding of what it is to be 'professional,' involving new forms of therapeutic relationships with patients, collaborative relations with colleagues and accountability to the public.

We then reviewed the place of learning theories in relationship to identity production, noting that the three main social learning theories—communities of practice (situated learning) (COP), cultural-historical activity theory (CHAT) and actor-network theory (ANT)—describe identity construction as central to the process of learning, re-defining learning not just as accumulation of knowledge and skills, but as meaningful participation in a community of practice or a learning and practice network. In Chap. 6, we looked more closely at what contemporary work-based clinical learning contexts—that are in a high state of flux—may mean for the traditional and characteristic identity 'mark' of the doctor as a diagnostician. We noted how the medical 'gaze,' traditionally described as the mark of the clinician, has become increasingly dispersed through the emergence of ever more sophisticated radiological imaging technologies and the increasing acceptance that other

health-care professionals are also diagnosticians in their own right, where patient care is a distributed practice across a range of diagnostic and prognostic practices.

In Chap. 6, in describing the work of Lorelei Lingard and colleagues, we noted that a powerful way of describing shifts in identity construction, for example, as medical students become more experienced and confident in practice, is in terms of the rhetoric of the practice. Practices are used to persuade others into recognition of an emerging identity, such as the transition from student to apprentice doctor, or student to proto-professional. Such an analysis—of identity construction as a rhetorical activity—introduces a *literary* element to medical education, where students use textual practices (writing and speaking) to form an identity and to account for the quality of their practice and learning as they move from thinking as a student to thinking like a doctor, with elements of thinking as a doctor.

We concluded Chap. 6 by describing empirical research that demonstrates how a new culture of 'reflexivity' is emerging in medicine, where doctors must now account for the quality of their practices in new ways—to the public, including patients, to colleagues and to themselves, in forms of a 'monitory' democracy through, for example, appraisal, revalidation, audit and public accountability. Central to the success of this is the establishment of a doctor–patient dialogue that is collaborative and participative, rather than authoritarian. This, in sum, produces the new identity construction of the physician that we described as 'medical citizen'—a doctor engaged in civic life as well as the profession of medicine, who carries over democratic values and behavior from public life to work settings, challenging the traditional hierarchical structure of health-care teams.

'Medical citizen' can also describe the identity of the informed patient who engages collaboratively and democratically with the doctor in joint care. For example, chronic illness naturally leads to patient expertise that the doctor can gainfully employ in shared care (extended to the health-care team, or several teams). Authoritarian medicine can deskill expert patients, while within such a traditional hierarchical arrangement we will find forms of resistance emerging, from individual patients showing 'noncompliance' and arming themselves with information from the Internet, to radicalized patient groups.

In Chap. 7, we examined the differences between the identity construction of the doctor as practitioner and that of the clinical teacher and medical educator. We mapped the variety of possibilities of those who are engaged in the spectrum of clinical teaching and learning, medical education and medical education research, to include both clinicians and academics. We called for a more extensive anthropology and ethnography in this field. We also introduced a new framework for understanding the field, drawing on models of democracy, where we summarized a medical education as a force for democratizing medicine and medical education research as a force for democratizing medical education. Finally, we asked just what is a medical education 'community of practice' and how does one gain legitimate entry into this community in terms of meaningful identity construction as a medical educator?

In this chapter, we review the tension between individualistic and collaborative or social models of learning, suggesting that these approaches need not be opposed, but can be seen as complementary components in identity formation of the medical

educator. We conclude this large section of the book that focuses upon identity by returning to the importance of a literary perspective. We argue that, as *readers* of literature, we can become sensitive towards character (and therefore, possibly, more understanding of the range of patient presentations) and, perhaps, more tolerant of ambiguity. However, and more importantly, as *writers* of literature, in a rapidly growing subgenre that includes popular culture, doctors are coming to offer readers (and viewers) unique insights into the doctor–patient relationship that transcend insights gained from testable learning theory. A medical education can be enhanced by both a 'high' literary and a popular cultural sensibility, to include narrative appreciation. The development of a subgenre of medical fictions—from social realist accounts of practicing medicine to television medical soap operas—presents a unique opportunity for democratizing medicine and medical education, where such literary fictions rhetorically speak back to doctors about their practices, as they provide public engagement opportunities, however controversial.

Identity Defined by Philosophy of Teaching and Learning: Student-Centeredness and Democracy in the Classroom and Clinic

We have suggested that while contemporary medical education's main role is to produce excellent doctors, it also sets out to democratize medicine primarily through authentic patient-centeredness. This is firmly embedded in the Western tradition that sees education's main role as one of teaching democratic habits (Bellah et al. 2007) through modeling student-centeredness, a parallel to patient-centeredness. Student-centered approaches in education are now established practice and we may forget how radical the idea was when first introduced by John Dewey a century ago. Indeed, when Rogers (1983) was tirelessly trying to promote student-centered learning in the 1960s, apartheid was established in South Africa, women were second class citizens even in the industrialized world and segregation was still fresh in people's memories in the Southern States of America, supposedly the birthplace of modern democracy.

Schön (1983, 1990), who wrote his PhD on John Dewey's work, deepened the notion of student-centeredness by introducing the idea of reflective practice in learning for the professions. He argued that by reflecting on practice, the teacher would come to better understand his or her relation to the learner. This was a radical move because it dissolved traditional apprenticeship power relations of the master over the apprentice. The master now acted as a facilitator to the apprentice's growing expertise in self-direction, which would be nurtured by learning forms of reflection that enabled the apprentice to be able to account for the success (or otherwise) of learning. Interest in reflection would now be replaced by an interest in reflexivity. Where reflection is appreciative, reflexivity is a *critical* approach that asks what values inform practices and can such values be re-imagined? An example would be a doctor engaging in an appraisal in which he or she takes a critical look, through

a number of key cases, at the extent to which evidence base practice is employed. Reflexivity asks us to take a second, critical look at what we do and who we are. Reflexivity is a form of monitory democracy in which appraisal, audit and safety concerns constitute meta-practices.

Schön—and this is often overlooked in his work—also introduced the idea of reflection-in-community, where professionals learn collaboratively, sharing good practices and offering peer support in democratic learning structures. Interprofessional training wards illustrate this (Lidskog et al. 2009). This echoed the collaborative learning movement that had been founded by Lev Vygotsky in the USSR in the 1920s after the Soviet Revolution and was continued by his pupils such as Leontiev (Daniels 2005). Here, 'student-centeredness' was formulated in terms of designed learning centered on 'scaffolding,' where teachers would set conditions that gave room for the student to experiment and test potential, but with some supportive safety structure in place so that students were not set up to fail. Carl Rogers had also pointed out that so-called 'self-direction' in learning is always a socially embedded process in situations where it depends upon intersubjectivity (the basis for empathy) and where learning is 'facilitated,' rather than directed, so that learners learn the meta-cognitions of reflection and reflexivity as a learning *process*, as they approach the *content* of any learning episode.

By the 1980s, Rogers (1983) had produced a more coherent account of self-directed learning with illustrative case studies, where person-centered psychotherapy was fused with educational ideas to offer a neo-Deweyean, pragmatic, self-help method of learning, challenging the tradition of expert authority structures that formulate learning as a sovereign power structure—a master/pupil relation built on a master/slave model. This self-help approach to learning, that also upheld democratic principles of invited participation in social affairs (equality of opportunity) and tolerance for the opinions of others (equity) was deeply rooted in Protestant American values (helping those who help themselves). Rogers himself was raised in a strong Protestant family setting.

Rogers' contribution to learning theory was to turn American self-help individualism against itself, to challenge its capitalist bent. Puritan values encouraged hard work, but the surplus capital gained should not lead to self-indulgence. Such surplus must be ploughed back into one's enterprise. If this is a business, then it will inevitably grow and gain in capital (Powers' 1998 novel *Gain* describes this eloquently). Rogers applied this model to human affect as social capital. If one were fortunate enough to engage in a positive learning experience, this would not simply involve the accumulation of knowledge as capital, but would involve a supportive emotional exchange between persons. The 'teacher' (facilitator) would benefit through the emotional satisfaction of seeing a learner develop confidence and capability. The teacher then did not re-invest knowledge and emotional support, but offered this freely, without ties, as a good host. For Rogers, this act of hospitality was grounded in the positive model of intersubjectivity described by existential philosophers such as Emmanuel Levinas and Martin Buber, who talked of an 'I/Thou' relationship as a genuine reciprocity—not forcing the Other to fit into one's own values, but accepting the Other on his or her own terms.

Rogers saw such reciprocal exchange of knowledge and affect as both grounded in and educating for empathy. Empathy was a core condition for effective support of learning as it allowed the teacher to judge—and set—the limits for scaffolding of learning: just how much new challenge can be built in to a learning episode such that an individual is motivated to achieve, but is not put off by the difficulty of the task? Rogers did not, in academic learning as opposed to psychotherapy, see 'empathy' as standing in another's shoes and seeing the world through their eyes, but as using the intersubjective moment of trust between a learner and a teacher to judge the level of support and intervention a learner may need, as the teacher gauges at any moment what that experience of learning may be like for the learner. This describes a critical sensitivity for teachers of clinical skills in particular.

Empathy and the 'Prospero Effect'

Macnaughton (2009) argues that empathy can be a 'dangerous practice' in medicine, while Marshall and Bleakley (2009) point out that 'empathy' is a modern version of Homeric 'pity' that has lost currency where it is used to describe a modern instrumental communication 'skill' rather than a timeless state of being of acute sensitivity to an Other. Macnaughton, Marshall and Bleakley all warn that current desires to further instrumentalize empathy through measurement are only likely to devalue the notion. Macnaughton controversially argues that empathy between a doctor and patient is impossible, if empathy is defined as emotional identification. This would require, rather, Buber's 'I/It' relationship of professional to patient or client, where doctors have to maintain an objective distance as a necessary defense against being overwhelmed by affect and as a professional stance. Macnaughton (2009, p. 1941) then suggests 'that true empathy derives from an experience of intersubjectivity and this cannot be achieved in the doctor–patient relationship.' However,

> all is not lost. Doctors do not need to feel the distress of their patients themselves to do something about it. We may have a momentary mirroring of that patient's feeling within us, but what we maintain is sympathy (feeling for not with the patient) and the need to respond. It is potentially dangerous and certainly unrealistic to suggest that we can really feel what someone else is feeling. …A doctor who responds to a patient's distress with 'I understand how you feel' is likely, therefore, to be both resented by the patient and self-deceiving.

Macnaughton does, however, point to the value of reading fiction for generating empathy for the patient through character studies, but sees this as, at best, a transient identification.

There are, however, alternative readings of 'empathy.' While persuasive, Jane Macnaughton's argument is driven by a particular and unacknowledged value perspective. It is grounded in a kind of individualistic thinking that we have critiqued throughout this book. If one starts with the notion of bounded subjects and private experience, then 'intersubjectivity' is by definition an impossible project. Macnaughton suggests, logically, that from such a position, 'we cannot gain direct access to what is going on in our patient's head.' ('Head,' rather than 'heart,' may be

seen by some as a strange choice for location of the subjective, perhaps reflecting a medical orientation in its own right.) If, conversely, one's starting point is the social, the collective, taking up the powerful challenges of the new interdisciplines of 'social neuroscience' and 'distributed cognition'—in other words, if one starts with Vygotsky's, or indeed Dewey's, social learning theory rather than the personalistic models of Kolb or Boud—then the intersubjective is the default position, not something to be gained. Pathos—suffering—is already a shared cultural experience, as Homer's use of the word 'pity' suggests (Marshall and Bleakley 2009).

Rather than an individual not being able to gain access to another's experience, we are more worried about a practitioner such as a doctor *territorializing* another's experience in the face of cultural difference. It is, perhaps, better that a doctor first looks to his or her desire to heroically conquer another's experience—for example, in medicalizing a symptom or experience that drives out the patient's own narrative understanding—than worrying about 'empathy.' Let us call this the 'Prospero effect,' where in Shakespeare's *The Tempest*, the cultivated Prospero has claimed the island inhabited by the 'savage' Caliban—a commentary on the dangers of imperialism. This approach shifts the ground of debate concerning empathy away from the psychological to the cultural and political problem of neocolonialism.

Our second alternative to Macnaughton's argument derives from a challenge to a common partner of individualism—oppositionalist thinking. Individualism and oppositionalism form the twin pillars of Western Enlightenment rationalism and stain its colonies. Martin Buber's pairs 'I/Thou' and 'I/It' inevitably lead to positions of inclusion and exclusion. There is, however, an alternative to either acceptance or rejection of 'empathy'—to consider empathy as a *continuum* of cultural intersubjective experience—from sympathy (we cannot really identify with what others are feeling but we do not switch off), through empathy, to compathy (we over-identify with what others are feeling, so much so that we can only talk about ourselves and have already forgotten what the Other expressed). The spectrum need not be seen as polarized.

Medical Education's Conservatism

In contrast to the *humanistic* and personalistic individualism of those in the existentialist tradition such as Carl Rogers, Lev Vygotsky's *humane* ideas concerning social and collaborative learning gained a foothold in Finland, bordering Russia, where they were reformulated by Engeström (1987). Educationalists such as Heron (1982, 1999, 2001), in the UK, fused ideas of intersubjectivity from group psychotherapy with ideas of self-directed learning from the legacy of John Dewey. Heron's ideas lacked the Puritanism that lingers in Rogers' approach, where 'person-centeredness' becomes an imperative and a movement, rather than a suggestion. This was formally developed by Heron (1999) in the arena of assessment, challenging the autocratic power of the 'expert' as the only source of assessment authority and introducing the idea that if explicit criteria were developed for assessment, power for assessment could be shared between expert others, self and peers in a triadic model, that would

advertise democracy in learning. Work on identifying learning outcomes at various levels of complexity (taxonomies as hierarchies) and across differing domains (thinking or cognitive, doing or psychomotor, and valuing or affective) had been carried out in America since the 1950s, offering a framework for both developing learning outcomes and assessment criteria. Heron (1982), Bleakley and others introduced these educational ideas to UK General Practitioner education in the early 1980s, but this had little impact at the time.

Medical education, even in the 1980s, was generally unwilling to embrace models of education that challenged the traditional apprenticeship structure, such as student-centeredness, self-directed learning with self-assessment and collaborative learning with peer assessment. Medicine was still a hierarchical and relatively closed, self-governing profession. Recalling our discussion in Chap. 1, it is ironic that Abraham Flexner, an educationalist and not a physician, admired John Dewey's work and wished to introduce this radical model of education to medicine. While Flexner did achieve an important breakthrough in introducing small group learning methods to medical education, the rhetoric concerning Flexner's success in overhauling medical education overshadows the reality. Mainstream medical education has remained largely conservative and undemocratic.

Education research began to glean evidence for the value of small group methods rather than pedestrian lectures and for the increase in motivation for learning that came from genuine collaborative activity between learners as early as the 1960s. Small group, discussion based, activities replaced monological teaching with dialogical learning. Medical education has readily absorbed some of these practices into its classroom activities. Some medical schools were at the forefront of use of problem-based learning methods. Such methods are currently well established within contemporary medical education and already being challenged, for example, questions have been raised about whether problem-centeredness squares with patient-centeredness.

Clinical work-based learning in medical education, however, has tended to remain distanced from these participatory learning methods, perhaps because clinical teachers were not generally qualified in either educational theory or method, but took on these roles as enthusiastic amateurs. The tradition in work-based medical education has been to reproduce the apprenticeship system, with a reliance on authority-led and sometimes authoritarian, methods such as telling rather than asking and using discussion and humiliation as correction. As a result, work-based medical education has not developed democratic, participatory learning structures as rapidly as progressive educators might have hoped for.

The 'Constituent Principle'

If a clinical educational community of the future is to be democratic rather than autocratic, it must follow what Negri (2008, p. 95) calls 'the constituent principle.' This is the twin principle of the values of equality of opportunity and equity. Here,

democracy returns to its earlier forms of 'assembly democracy' rather than the later form of 'representative democracy' introduced by the American Founding Fathers (Keane 2009). Learners must be invited to participate in such a manner that oppression is neither invited nor condoned. Paradoxically, of course, this is itself an injunction, an exercise of sovereign power. But it is a benign injunction. Importantly—and this is where the educational ideas of Dewey, Rogers, Schön and Heron provide illumination—the individual can be realized in the collaboration. This democratic, collaborative and participative form of democratic learning is what we understand by 'adult learning theory,' rather than the descriptors such as 'autonomy,' 'independent learning' and 'self-direction,' which we see as oxymoronic, where it is self-evident that all learning is mediated both socially and by artifacts, or is already distributed, contextual, historical, cultural and literary (as we argue in the closing section of this chapter).

Negri (2008) further suggests that the translation of a constituent principle into constituent power depends upon the presence of an adequate subject. The individual is honored within the collective, so that in a fully constituent democracy individuals maintain a singularity, Hardt and Negri (2001, 2006, 2009) term this kind of constituent democracy 'plural singularities.' We suggest that this is an appropriate model for a medical education of the future, where educators are both singular and collaborators in a democratic structure of learning. Here, then, is a paradoxical identity that explains why learners can be taught to effectively assess themselves and their peers at the same time, while appreciating the expert guidance of a knowing tutor and facilitator.

A Literary Perspective on Identities of the Medical Educator

In this final section, we argue that knowledge of learning theories, discussed throughout the early part of this book, is a necessary but not sufficient condition for progressing medical education. We develop this argument fully in Chaps. 13 and 14, where we treat the doctor–medical student–patient triad in medical education as a kind of text, that is both authored (produced) and read (consumed, reproduced and reframed) in various ways that again can progress medical education for patient benefit. Macnaughton's (2009) provocative commentary on 'empathy,' discussed above, applauds the value of literature as a means of identifying with textual characters if only temporarily. We see literature as a rich source of inspiration for a deeper understanding of many contemporary issues in medical education. We have already seen how a literary method such as analysis of rhetoric can illuminate aspects of medical education, demonstrated in the work of Lorelei Lingard; and also how a literary sensibility celebrates doctoring but also uncovers its ethical textures, demonstrated by doctors who are also excellent writers, such as Abraham Verghese and Kevin Patterson.

Medicine has both an evidence-based, scientific grounding and a narrative-based, artistic and humane face to practice, with science practice and a literary

sensibility in productive dialogue. Medical educators may rely too much upon instrumental and literal accounts, eschewing both the metaphorical and narrative engagement aspects of medicine. We agree with the contemporary Peruvian writer Mario Vargas Llosa (1986) who suggests that 'Literature is a form of permanent insurrection. Its mission is to arouse, to disturb, to alarm.' Vargas Llosa continues that literature should keep men and women 'in a constant state of dissatisfaction with themselves.' This resonates with the nineteenth-century poet John Keats' description of 'negative capability,' set out in a letter to George and Thomas Keats in 1817, as tolerating a state of 'being in uncertainties, Mysteries, doubts without any irritable reaching after fact & reason' (2004). Keats studied medicine before turning full time to poetry and in this definition intuits what the historian Ludmerer (1999) now identifies as a key fault line in contemporary medicine—the inability of physicians to both tolerate and admit to the high levels of uncertainty in their profession to themselves and to know how to share this uncertainty appropriately with colleagues and patients. While Keats is primarily making a plea for the value of the arts—that set out to create ambiguity—he also reminds us that medical science may rush in too quickly to resolve ambiguity and that the art of medicine and surgery may benefit from sometimes suspending the 'irritable' desire for certainty. Indeed, the worse case scenario is that medicine's rational face is used as a psychological defense against feeling uncertainty, for this, according to Keats, is precisely what shapes the sensibility and sensitivity that we can describe as the artistry and humanity of medicine.

Shadowing the standard medical education texts (Jolly and Rees 1998; Bligh and Boaden 1999; Ludmerer 1999; Distlehorst et al. 2000; De Cossart and Fish 2005; Fish and Coles 2005; Calman 2006; Gunderman 2006; Quirk 2006; Carter and Jackson 2008) and standard synoptic medical education research text (Norman et al. 2002)—published since Miller's (1961) groundbreaking edited collection *Teaching and learning in medical school*—is a 'grey literature,' that turns out to be an extraordinary rainbow literature. First-hand narrative accounts, such as Horton's (2003) *Health Wars: On the Global Front Lines of Modern Medicine* and Orbinski's (2009) *An Imperfect Offering: Dispatches from the Medical Frontline*, characterize medical education as a life experience from within the profession of medicine experienced globally and under duress. These accounts introduce a literary perspective, including identification with characters, rhetorical power, metaphorical intensity and narrative engagement, missing from standard academic texts. Such texts reinforce Nietzsche's observation, quoted previously, that good writers are 'physicians of cultures,' an observation developed particularly in Deleuze's (1993) final book before his death *Critique et Clinique*, where Deleuze draws parallels between the diagnostic work of doctors and the role of writers cast as diagnosticians of culture. For Deleuze, all phenomena can be read as signs or symptoms reflecting a relative state of health or illness.

While there is a long tradition of doctors who write, doctors turning their practices into reflexive literary accounts for wider public consumption and understanding is a modern phenomenon. Selzer (1996, 1998) introduced the genre of the modern popular medical/surgical essay, writing about surgery for an educated public who

would never otherwise be initiated into its secrets (and hence democratizing sur-gery), but in doing so, produced a string of excellent medical education texts. Like Selzer, Atul Gawande is a renowned surgeon who can also write well (having a regular medical column in *The New Yorker*) and then writes by implication about medical education. Other talented physician-writers who take medicine, surgery and medical education as their content include Abraham Verghese, whose work we considered briefly in the previous chapter, Sacks (1986), Lam (2006), Patterson (2007) and Huyler (2010).

Why these writers are important to read is not because they are all that is avail-able to fill a gap created by paucity of good medical education texts. Rather, these literary texts written by those practicing medicine and surgery: first, serve to de-mocratize medicine, making transparent and public what was once the content of restricted access conferences, closed mortality and morbidity meetings, ethical hearings and the self-serving learning histories of a communities of practice. Sec-ond, these texts engage the heart as well as the mind. Third, these texts are explic-itly educational in their insistence upon making us think, read further and reflect. Fourth, such texts promote understanding of work-based activity from the inside, as auto-ethnographies, where they describe learning and identity construction as meaningful engagement with work. Fifth and finally—and perhaps most impor-tantly—these texts put patients and their concerns at the center of their narratives. *Such texts collectively form an innovative monitory democracy within medicine.* Further, their common theme is that while medicine is a passion, medical education is an intense passion.

Literature (including drama) is the discipline approach *par excellence* for draw-ing out character, delineating role and articulating issues of identity. Fiction allows a distancing from the real that offers an imaginative and creative dimension, allowing us to get under the skin of issues of identity. The importance of literary approaches to understanding identity construction in medicine and medical education is rein-forced by the recent development of the literary genre of the medical confessional and by a parallel exponential growth of television medical soap operas, or 'medi-soaps.' While the relation between literature and medicine has a long history, these new confessional approaches offer an immediacy of public engagement with issues of identity construction that were once kept within the profession. Less sensational and distorted than the television 'medi-soap,' the literary medical confessional, as social realist account, offers a cathartic outlet for the author and an educational in-road for the reader in seeing oneself through the Other. This genre offers a different way of thinking about identity construction in medicine and medical education from the discipline-based approaches that we outlined earlier.

The discipline-based approaches work in a tradition of identity as 'selfsame' (Cixous 1991). Here, even where identity is considered by disciplines taking social group, society and culture as their units of analysis, identity is brought back to ad-dress the question 'Who am I?' as an issue of self. By openly positing questions about the identity of medicine and its practitioners to an assumed public audience through the medium of literature, the new medical confessional literature sets up the public readership as the Other, a mirror in which the identity of the author as

doctor or surgeon is re-defined. This makes such medical writing and its consequent identity construction of the profession, the practitioner and the medical educator (all inscribed through the genre of the medical confessional), a reflexive, rather than reflective, practice. Re-defining what was once an autonomous profession as open to public scrutiny is a risky business. Hence, again, it is also democratizing, through 'monitory' process. This is particularly apparent in the way that, through such writing, clinical decision-making is so nakedly and unashamedly displayed (with its abundance of indecision, uncertainty and ambiguity) and failures so readily acknowledged.

Here is a new 'confessional' genre to which an educated public, a non-clinical audience, can readily relate. Such making explicit of what is normally tacit knowledge has not been that well achieved even in medical education's and medical education research's drive to understand how clinical reasoning works (Eraut 1994; Eva 2005; Quirk 2006). However, the genre of the medical-confessional appears at ease with such explication (Verghese 1998; Gawande 2007, 2008). Standard academic texts have something to learn from this approach.

Writers such as Verghese and Gawande articulate a new way of framing the necessarily *moral* engagement between doctors (we include surgeons) and patients, doctors and work colleagues and doctors and students, by literally writing out their own identities in their social realist accounts as a textual practice. For example, Gawande (2007, 2008) rehearses complex and unresolved ethical and technical issues he regularly encounters in surgery, such as the statistical likelihood of committing one or more life-threatening technical errors in a career, the reality of everyday risk in practice and the morbid fascination that disease may hold for doctors and surgeons that transcends any desire for objectification of patients. Similarly, Verghese (1998) tackles issues such as ethical dilemmas where doctors discover the unethical practices of other doctors and, particularly in the novel *Cutting for Stone* (2009), political and diasporic dimensions. Lam (2006), in a poignant study, describes the ethical and technical difficulties that a psychiatric case of paranoia presents, where any intervention seems only to exacerbate the condition. Patterson (2007) describes how Inuit communities drifting away from traditional lifestyles become disabled by their colonizers' diseases, offering ethical dilemmas for doctors who wish to work productively with those communities. What we get from these accounts is how the mere act of telling appears to constellate an identity that would be hard to gain within the profession itself as a self-reflection. Rather, the authors rehearse potential responses to their narratives, positioning themselves in the cathartic telling. Again, we can refer to these as medical-textual practices of reflexivity. In turn, a new genre of medical *education* is invented, as these texts are simultaneously in the public and professional domains.

If, as Ludmerer suggests, medicine has become self-serving, or looks into the mirror of the Other and only sees its own reflection, then the main virtue of medicine has been lost. This virtue, suggests Montgomery (2006), is the ability of doctors to make clinical judgments using practical reasoning that 'fits' the patient in a realized act of 'difference.' A self-serving medicine is the same as turning one's back on the patient. Meaningful contact with patients offers an identity construction

through which the doctor is assembled as an ongoing process of professional development in the mirrors of all the patients he or she ever diagnosed, treated, advised and learned from.

Literature, even social realist accounts rather than fiction, engages us with questions of identity often through passion and emotive connection. Literary criticism gives another level of distancing that allows for a critical reflection on the notions that literary writing engages us with so viscerally. In contemporary theory, the disciplines of psychology, sociology and anthropology have drawn on narrative, literature and literary criticism to develop complex interdisciplinary engagement with topics such as 'identity.' Ask a literary critic about 'identity' and they are likely to engage you in a discussion of big topics such as gender and feminisms, ethnicity and race, or colonialism and post-colonialism (Alcoff and Mendietta 2003). These are dimensions to critique that we draw on throughout this book, because they illuminate medical education in ways that the traditional discipline studies do not.

Chapter 9
Power in Medical Education

Bodies of Power

The previous four chapters on identity, this chapter on power and the following three on location, together provide a rigorous theoretical framework yet a practical primer for a new literacy in patient-centered medical education—a way of doing medical education that requires talking about it, in depth and at length, with an extended vocabulary. In this chapter, we set out a typology of power, addressing the kinds of power that have both relevance and meaningfulness for medical education. The central question we address is: *why* do we do what we do in medical education in one way rather than another way? In other words, what is a legitimate practice for a medical educator to engage in at any one time and in any one location and how are such practices appropriately resisted if they are seen to be deficient, or inappropriate?

Only three months into Jack Kennedy's Presidency of the United States in 1961, at the height of the Cold War, he made a fateful political decision that in time brought the USA and the USSR to the brink of a nuclear confrontation. This was the decision to attempt to land a group of American-backed insurgents in Cuba, at the Bay of Pigs, which in turn led to the Cuban missile crisis. The consensus view has been that this was a result of a small group psychological phenomenon once known as 'risky shift' and now more often termed either 'choice shift' or 'group polarization.' Somebody comes up with a wild or risky idea—in this case, to bring together a small group of USA-based Cuban exiles to receive training from the CIA and 'invade' Cuba with a view to destabilizing Fidel Castro's regime—and this is discussed in such a way that it is rapidly seen as acceptable and becomes a norm, defying rational judgment. However, Owen (2008), a practicing doctor in the UK for six years and then a career politician, suggests a different, medical, explanation for the Bay of Pigs fiasco.

Owen suggests that Jack Kennedy made an irrational decision as a direct result of poor health. An ill body led to a temporarily ill mind. Kennedy suffered from Addison's disease and chronic back pain, stomach and colon symptoms and fevers, leading to chronic sleeplessness. Addison's disease is an adrenal deficiency leading to muscle weakness, lassitude and fatigue. Owen suggests that this combination of

symptoms was acute at the time of the 1961 Bay of Pigs crisis and led to Kennedy being so distracted as to make poor judgments—such as this 'mission impossible' to overthrow Castro, while, critically, failing to provide air support for the invaders. Through his novel *American Adulterer*, Mercurio (2009), a doctor-turned-writer, has also investigated the huge sexual appetite of Jack Kennedy that provided a driving but distracting force in the President's life (most famously with Marilyn Monroe) and never seems to have been open to therapeutic intervention.

Further—and our key interest here—Owen suggests that this poor decision-making was tied up with what he argues to be poor, uncoordinated medical *treatment*. Kennedy had a different physician for each of his complaints and the whole clinical picture was never appreciated. Also, treatments were given that were inappropriate—for example, one doctor treated Kennedy's pain and lassitude with high doses of amphetamines, knowing that he already suffered from sleeplessness. Owen argues that Kennedy's later, much more deliberate, decision-making at the time of the Cuban missile crisis 18 months after the Bay of Pigs fiasco—where a nuclear catastrophe was avoided—was due to a turnaround in his medical treatment. A new endocrinologist was employed to coordinate a medical team around the President's overall health.

This account serves as an allegory for our analysis of power in medical education, which can be discussed in terms of three *forms*—first, a necessarily flawed, all too human, figurehead in whom power is invested making critical, autonomous decisions and drawing people along with him (the authorization of the Bay of Pigs fiasco); second, a team of like-minded people making decisions together on behalf of the whole (the Cuban missile crisis); and third, a group of individuals who accept and cherish their differences from each other, working together for mutual benefit (Kennedy's new, coordinated medical team). The first form is an example of sovereign power; the second, an example of weak democracy and the third, an example of strong democracy—defined by Hardt and Negri (2006, p. 99) as 'multitude,' or 'plural singularities,' introduced in the previous chapter.

As we move into an era of collaborative clinical team work based on patient pathways (Headrick and Khaleel 2008), we will argue that the two currently dominant forms of power—sovereign power and weak democracy—must transform to strong, participative democracy ('multitude') for optimal patient care and safety. This argument is prefigured by our discussion in previous chapters concerning the value to medical practice of flattened hierarchies or horizontal rather than vertical communication structures. We have already argued that 'monitory' democracy is an inevitable consequence of the runaway world of medicine, in which some governance process—or meta-democracy—must be in place as a quality assurance process. This already alerts us to a new condition of power to which the exercise of proper self-regulation is central.

Early in Chap. 1 we drew a parallel between Ludmerer's (1999) history of medicine and medical education in North America and Berlin's (2003) description of the 'crooked timber of humanity'—in this case, the human flaw within medicine—that is the inability to develop sound autonomy. No matter how well self-regulation within the profession works in general, it only takes a few high profile cases to

question self-regulation, such as—in the UK—the serial murderer GP Harold Shipman continuing to practice even after suspicious behavior was noted by colleagues, the Alder Hey organ retention scandal and the Bristol baby heart operation deaths from malpractice. Hence the sharp rise of a monitory democracy.

Jack Kennedy making an irrational autonomous decision that placed lives at risk is an example of poor exercise of sovereign power. Sovereign power works well when the body politic is divided, where authority steps in to avoid potential chaos. However, sovereign decisions may come to divide a potentially 'whole' body—such as Kennedy's group of specialists who neither coordinated activity nor collaborated as a team to improve care of their common patient, but made autonomous and potentially confounding decisions. Owen suggests that Kennedy made a poor decision over the Bay of Pigs because his body was 'divided' and his medical care was divisive. As Kennedy's medical care became integrated, so his body responded and Kennedy was more relaxed in accepting a distributed decision-making, more able to avoid jumping to conclusions because he was less irritable. The fact that Kennedy's, Khrushchev's and Castro's teams of advisors, through the United Nations, were later able to bridge differences to avoid a potential world catastrophe shows that differences can be accommodated for the common good or collective goal.

The common good, in an assembly democracy, is guaranteed only by participation of the common people, the multitude. 'Multitude,' however, does not imply a homogenized 'people' with a shared and stereotypical identity, such as 'workers,' 'women,' 'surgeons,' 'the health-care team' or 'patients.' Instead, multitude recognizes diversity and difference—indeed celebrates such difference—without reducing this to a common identity or a stereotype. In a crisis, people will often set aside or negate their differences for a commonly agreed goal, such as a cease-fire, coordinating humanitarian aid in a crisis or saving a life in critical care. We suggest that this same spirit can be translated to everyday health care. The patient's welfare is, after all, the reason for the necessity of developing multitude in medicine, moving from the exercise of sovereign power to more democratic power sharing and suspension of divisive power interests.

Jack Kennedy's confounding and divided body of symptoms, reinforced by his divided body of specialist physicians, are symptomatic of what can go wrong with the philosopher Thomas Hobbes' (1588–1679) classic view of power. Hobbes describes the body politic within a tradition of politics, reaching beyond Hobbes' own era to the present, which says that only the singular (the one) can rule, whether this is the singular body of the monarch (sovereignty), or the single body of the people forced to speak with a common voice (state communism).

Neither of these two variations on the singular voice is democratic because neither recognizes, nor celebrates, difference, but wishes to reduce difference to a common heart and mind (whether subjugated 'subjects' or subjugated 'comrades'). Hobbes (2008) himself designed the frontispiece to his political treatise *Leviathan*, first published in 1660, that argues for the *necessity* of sovereignty. It shows a king towering over the earth. On close inspection, the head of the figure is that of the monarch, but the body is composed of numerous smaller bodies—of the citizens.

The citizens execute their duties *as* the body of the king (laboring on his behalf), but the king's head rules all. The king has complete authority in return for the promised protection of the subjects, a promise that may remain unfulfilled. This has also been the dominant model of power in medicine in modern times, where, for example, the surgeon traditionally 'thinks' for, or on behalf of, his team and then 'for' the patient.

Sovereign power is, however, fundamentally flawed, since parts of the body may get ill, as with Kennedy himself. The surgeon who thinks autocratically 'for' his team, may find that in a crisis he cannot delegate, develops tunnel vision, loses his team and in extreme cases, may lose the patient. While notions such as collaboration, delegation and distributed power are well established in contemporary leadership theory medicine in many quarters still claims value for sovereign power. In the operating theater and other acute medical arenas such as emergency medicine, in particular, autocratic sovereign power is putting patients at risk every day, because medical errors are mainly grounded in systems-based miscommunications. We know that this form of iatrogenesis in medicine can be reduced considerably through introducing democracy into health care work so that horizontal patterns of communication and shared practices (the non-technical domain) are opened up to challenge the traditional, and often entrenched, vertical hierarchies based in the technical domain.

A high-profile surgeon, researcher and writer, Atul Gawande (Gawande et al. 2003), from a thematic analysis of 444 malpractice litigation claims and interviews with 38 surgeons, suggests that 24–43% of surgical errors are grounded in the non-technical domain (miscommunications), rather than based on technical lapses or mistakes of judgment. However, Singh et al. (2007), in a study of 240 malpractice claims involving trainee surgeons, found that the figure for medical errors related to team-based miscommunication or breakdown was more like 70%. The Joint Commission on the Accreditation of Healthcare Organizations (2004) in the USA also places the figure at 70%; and the earlier, now classic, Institute of Medicine (Kohn et al. 1999) study *To Err is Human*, puts the figure as high as 70–80%, also suggesting that 50% of such errors are avoidable. A body of research shows that such miscommunications can and must be addressed, where, as indicated above, teams transform practice from habitual hierarchical structures to more participative and democratic networks. However, this requires a wholesale change in attitudes towards teamwork, a climate change, as a basis to a practice change in the culture (Bleakley et al. 2004). Such climate and culture changes in what were once high-risk and are now high-reliability organizations, such as the airlines, took over ten years to establish (Helmreich and Merritt 1998) and we would expect a similar, embedding process to occur in medicine. The introduction of a safety culture in medicine (Pronovost and Vohr 2010)—and the consequences for curriculum redesign across the continuum of medical education to educate for participation in and shaping of this safety culture—is a key and critical change in contemporary medicine that forms part of the paradigm shift we discussed in Chap. 1. It is a response to a crisis—again, the runaway iatrogenic effect of medicine producing unnecessary illness and death through avoidable, systems-based communication error.

    The inappropriate exercise of sovereign power is not beneficial to patient care. Autocratic vertical hierarchies frustrate the development of horizontal meshworks, networks and negotiated knotworks (Engeström 2008) signaling open, participative communication. Modern democracy begins in the eighteenth-century Enlightenment, with the French Revolution signifying the key transition from the exercise of 'vertical,' autocratic, sovereign power to participative democracy, where power runs horizontally. Following the ideas of the seventeenth-century philosopher Baruch Spinoza, Foucault (2002) suggests that power, in this horizontal sense, is already a *potential* and *potency* in any system. He describes how power runs through systems and can be harnessed in various ways.

    As described earlier, Foucault calls this 'capillary power,' where power is not just *exerted* as a sovereign 'power over' others, but runs more and more finely throughout any system to reach into unpredictable places, as a micro-power. An example of this is what Foucault (2002) calls 'biopower,' where power operates, often in subtle ways, even at the level of personal hygiene, where, in private, we act as if we were under surveillance. This is the fine level of a monitory democracy at work. Power or control is internalized and is now at the end of the capillary system, controlling the way that we self censor, or regulate, our lives and the way that we shape an identity in the process, as 'self fashioning' (Greenblatt 2005). This is a power that cuts several ways. We might engage such power as a help in persuading physicians to wash their hands in clinics as a form of infection control, for example, by enlisting medical students to act as senior clinicians' conscience through gentle reminders (Gawande 2008).

    Foucault's coining of the term 'capillary power' is to draw attention to the *reach* of power, but such power can, as it were, run through major vessels, where it becomes a dominant force, as a one way flow, especially in forms of resistance. This major flow usually involves the legitimization of a particular way of knowing things and seeing things, where power and knowledge are intimately linked. Where sovereign power *reproduces* the status quo, capillary power (power running through the system) is *productive* of new forms of knowledge, values, relationships and identities.

    However, in any system, there are always counter forces or resistances running against the dominant flow of traffic. These are not legitimate views within a community of knowledge and practice, but are often tolerated in a democracy and may gather enough force to become significant and, indeed, to challenge or displace the dominant flow of power. Where we may be at a tipping point, or a paradigm shift, in medical education, this can be seen as the gradual displacement of a dominant flow of power by a set of resistances that collectively form medical education in a new key, or a new shape, constructing a new disciplinary identity. At the heart of this change is the shift in the dominant metaphor—or way of thinking and subsequent set of practices—from the vertical to the horizontal, or from autocratic hierarchies, through meritocracies, to participative democracies and productive use of monitory democracies. *We expect this in our everyday life as citizens, so why is democracy not everyday in health care*? Is the 'medical citizen' yet to be created? Is the nation state still hampered by paternalism—the great and good male role models in every

teaching hospital's boardroom preserved in stately oil paintings and lining the walls, still maintaining rule from the grave?

In the following section, we expand analysis of the historical shift from sovereign to capillary power structures, introducing the idea that such a shift also implies the construction of new identities. We introduce the notion of 'virtue power.' We then deepen our analysis of power structures in medical education to address the contemporary movement into a social era of simulation and the simulacrum (the copy without an original), with an account of 'virtual power' (as distinct from 'virtue power'). This provides some theoretical background to our detailed discussion and critique of learning in virtual or simulated environments in medical education, in Chap. 11.

Sovereign, Capillary, Virtue and Virtual Power

According to their effects, four broad kinds of power can be distinguished, as follows:

- *Sovereign power*, as discussed above, is *reproductive* of conventional, vertical authority structures such as hierarchies. This is power *over* somebody.
- *Capillary power*, as discussed above is *productive* of transformation, creating new horizontal structures such as meshworks, networks and knotworks and new identities linked to transformed roles. This is power running *through* a system.
- *Virtue power* is productive of *identity* beyond expression of personality.
- *Virtual power* is *seductive*—where it appears to be invisible, or has 'disappeared' as it now comes to *permeate* all activities. This is power that has 'dissolved' in a system.

Sovereign Power

Sovereign power aims to maintain authority through reproduction of that authority. In medical education, this would mean sticking to a traditional way of doing education (such as the conservative apprenticeship system), which is oriented to maintaining hierarchies of knowledge and skills. Such hierarchies then frame identities focused on authority, where a legitimately *authoritative* voice can readily slip into an oppressive *authoritarian* style. This offers power *over* others, either through legitimate authority, or coercive authoritarian power.

Legitimate power, gained, for example, through particular knowledge or technical expertise (expert power), can be exercised in a benign manner—as authoritative rather than authoritarian behavior. Coercive power in medical education is another matter, a hangover from the days of the all-powerful consultant who taught by humiliation within a traditional apprenticeship structure involving tough-minded rites of passage. The expectation is that the identity of the medical student is modeled

on the authority figure, ultimately to reproduce the tradition. The rationale has been that, where medicine is such a demanding profession, when the going gets tough the tough get going, so neophytes must be toughened up. As with any quasi-militaristic regime, the tender-minded will perish, especially under sleep deprivation. We recognize that this can also be a stereotype and there have been many compassionate and great teachers of medicine who have outstanding authority and exercise charisma because of their insight, wisdom and skill. Many of these also had the quality of grace. They become, however, authorities and not authoritarians.

Power has traditionally been exercised over patients in an authoritative (and sometimes authoritarian) way, as varieties of paternalism (Heron 2001; Coulter 2002), while—no matter how charismatic the doctor—patients are then relegated to the role of 'subaltern,' the submissive Other. ('Subaltern' is a term used in literary and cultural studies in particular to describe a colonized person). Such paternalism mirrors colonial and imperial traditions of conquer, govern and exploit, however benign this may appear outwardly. Many contemporary authors in cultural studies and postcolonial studies have noted a pattern, or order, of pairings in which sovereign power is typically exercised by one person over an Other, such as: Man/Woman; Adult/Child; White/Black; Master/Slave, where the first term has authority over the second term. ('Master/Slave' seems terribly harsh in a more enlightened age, but we retain this opposition, used by the philosopher Hegel in particular, because it has such historical resonance). However, such oppositional pairings offer a paradox— while it is clear that there is no slave without master, there is also no master without slave. The ruling term is only given presence because of the second term. The slave, as inferior term, then exerts a paradoxical power. (This is why the 'Master/Slave' pairing still exerts such power, because Hegel's argument about one term being dependent upon the other suddenly appears so powerful when we say that there is no 'master' without 'slave').

Bleakley (2006b, c), drawing on narrative data collected from incident reports in the operating theater, describes how the traditional subaltern in the operating theater team (the scrub nurse and circulating nurse) may accrue a paradoxical power, even in the role of the normally submissive Other where the surgeon has identity of 'master' as clinical team leader. In this conscious role of Otherness, nurses exert at least two kinds of power-as-resistance that challenge the status quo. First, they offer what Bhabha (2004) describes, in a colonial setting, as 'sly civility' and 'mimicry.' Nurses mock and imitate the less savory sides of the 'master' surgeon, while appearing outwardly to be civil or obedient. In a second, more focused resistance, such 'sly' activity can become a form of what the ancient Greeks called *parrhesia*, fearless speech or 'moral courage' (Foucault 2001; Bleakley 2006b, c). Here, in a virtuous act and exercising a form of virtue power, on behalf of patient and/or colleague care or safety, the nurse as subaltern speaks out against injustice, poor practice, bloody-mindedness, poor communication or unacceptable (often gendered) behavior such as bullying and harassment. This may also be seen as an example of Thoreau's (2008) famous citizen's 'duty' of 'civil disobedience'—the invitation to speak out against perceived injustice imposed by a governing body, even if democratically elected. In a reinforcement of these oppositional strategies to traditional sovereign

power structures, nurses will also explicitly offer the patient, although anesthetized, 'hospitality' in the operating theater (Bleakley 2006b), treating the patient with respect—more so because that person is vulnerable.

Such Master/Slave forms of oppositional thinking and subsequent practice do not just inhabit the traditional practices of the operating theater. Rather, they offer the central metaphor of colonialism, reinvented in modern times as fading nineteenth-century colonialism and the modern imperialisms of America and the old Soviet Union in particular. These outward forms of bare political domination (Capitalism against Communism, Cold War politics) are mirrored by descriptions of human patterns of thinking as 'structured' through bare oppositions. As previously noted, at the height of modernity in the early twentieth century, an intellectual movement called structuralism emerged that took oppositionalism (white versus black, thinking versus feeling) as a universal structure for cognition—a cognitive architecture or frame that characterizes the thinking process and then structures of society.

Structuralism argued that oppositionalism is 'hard wired.' Post-structuralists, especially feminists such as Cixous and Clément (1986), argue that structuralism exerts power and control because it claims that oppositionalism is a 'natural' way of thinking. The post-structuralists argue that oppositionalism is not a 'natural' condition at all, but serves to favor (or naturalize) one term over another, as discussed earlier, such as Man over Woman, White over Black and so forth, supporting inequalities and prejudice. This challenge also breaks down what have been considered to be 'natural' hierarchies of power—vertical structures—to be replaced by power as a horizontal system of possibility, or 'capillary' power (structurally, a networking or knotworking activity). Indeed, they point out that it is the structuralists themselves who say that signs have meaning only in *difference*, one from another, within a complex system of signs. This total set of differences is not structured hierarchically, like a pyramid—rather the system of differences is best imagined as a horizontal web or net of associations.

By way of illustration of a sign system as a system of meanings generated from differences between signs, think of the relationships between medical specialties and sub-specialties. As medical specialties have proliferated, so they have formed relationships to each other—both as sets of vertically structured silos and as horizontal fields of possibility. Medicine and surgery have become separate fields, and surgery has assumed superiority. Hospital and community medicine have also separated, but acute care has assumed superiority over chronic care. This kind of traditional power arrangement does not make any sense in an era of coordinated, cooperative or collaborative teamwork care around patients and so horizontal power structures are gradually displacing the old vertical, hierarchical structures that now appear feudal.

New roles and identities appear within these horizontal power structures as a result of vectors—or lines of force—that move transversally across the horizontal flow. An example of this would be a policy imperative that disturbs established power structures and habits. For example, the World Health Organization (World Alliance for Patient Safety 2008) has developed a standard operating theater checklist format, whose use will be mandatory worldwide. The checklist format is open

to some local adaptation. However, many surgeons, assuming leadership in the operating theater, do not currently use a checklist as a patient safety net (for example, double checking formally in front of the entire surgical team that the right side or site is being operated on before knife goes to skin). The widespread implementation of this checklist will require the introduction of pre-list briefings and post-list debriefings, inviting full participation from the operating theater team. Such horizontal, participative, activities are unfamiliar to authority-conscious surgeons, traditionally exercising sovereign power. This new work practice, again, becomes part of the emerging accountability of doctors and surgeons to self and others, a reflexive practice forming a new identity—that of the 'inter-professional,' supplementing the 'professional.'

The paradox of such policy interventions is that the intervention itself is a mandate and then by definition an act of sovereign power. However, the content of the intervention is decided by horizontal means—a long process of open, expert and peer debate. The policy intervention itself can then be said to cut across both traditional, vertical sovereign power hierarchies and democratic, capillary power flows, as a lightning flash, an angled vector that is an irruption. The irruption that is the proper execution of the operating theater checklist will serve to radically change vertical power structures, toppling the towers. However, it also runs through horizontal, capillary structures to change the nature of flow and perhaps to positively destabilize and revitalize structures that potentially may become homogenized to offer weak horizontal potential. The new line of force may be harnessed to work with the dominant flow of power that has shaped the status quo, where the hierarchy is subtly repeated in a horizontal mode, as a benign force ('settled' colonialism); or it may offer a new flow of resistance, empowering the subaltern (such as the circulating nurse), for example, as a line of resistance.

Current examples of new, powerful movements in medicine that will re-arrange power structures are the establishment of emergency medicine and medical education as specialties. Emergency medicine in the UK is only recently recognized as a specialty in medicine rather than a sub-specialty of surgery. Medical education in the UK is slowly being recognized as a specialty discipline for doctors who have achieved a certain standing already within a medical specialty and now want to devote their attention to medical education as their specialism (Walport 2005). While in a nascent state, this new professional choice serves as a lightning rod for the three forces we have outlined above—vertical, sovereign power effects; horizontal, capillary power effects; and vectors, or irruptive lines of force, that run at 45° through both vertical and horizontal structures to change their dynamics. Out of such power plays, identities emerge.

Capillary Power

The seventeenth-century philosopher Spinoza described the 'constituted state' as the sovereign rule, but in parallel with this can emerge a 'constituent power' of

society (Negri 1999). The latter is both the collective power of the constituents, the people or a democratic potential, but is also the potency of the complex system of society itself, as an entity greater than the sum of its parts (the individuals). Capillary power—in which power is seen as already existing within any system, such as the constituent power of society, as 'potency'—is *productive*. Power is not employed to oppress or rule, but, again, is a *potential* that flows through a system, so that where such potential is harnessed, it can be productive—of identities and of new knowledge and practices. Power can also be harnessed as resistance to established ways of doing things. Knowledge and power are inextricably linked, so that 'authority' becomes contested, according to how knowledge is legitimated or said to be 'true,' 'authentic' or 'useful.'

In contrast to sovereign power, Nietzsche (1844–1900), and then Foucault (2002), developed the model of 'capillary power' that we have already outlined. For Foucault, capillary power has come to displace sovereign power in modern times. For other commentators, such as Agamben (1998), sovereign power is not *displaced*, historically, by the capillary power that Foucault describes—rather, the two work side-by-side. Nietzsche identified power with knowledge in his idea that a 'will to truth' is also a 'will to power.' In other words, truth claims do not sit outside of power effects. There is no such thing as pure 'knowledge'—rather 'knowledge' is made legitimate or illegitimate within a social structure. For Foucault, knowledge is not something that an individual possesses, but is historically and culturally constructed, again as that which is 'legitimate' to know and do within a specified context. Foucault calls the interaction between legitimate knowledge, practice and consequent identity a 'discourse.' We have already discussed, in Chap. 1, emergent forms of medical education as part of a changing discourse.

Where power operates in a capillary manner, it ultimately comes to be both felt and expressed through an individual's body as well as the body politic. For example, we may feel the need to comply with, or reject, imperatives for maintaining a healthy lifestyle. The body becomes the site for a number of internalized forms of 'government' or shaping of activity and conscience. Indeed, a clearly recognizable mindset results from this—one of 'governmentality.' We may feel guilt after over-indulging; or may feel as if we are being watched and judged by others as we lose control of our body shape and either put on, or shed, too much weight. These can become 'personality disorders,' open to treatment, in the most extreme cases a body dysmorphia in which a person perceives that balance can only be obtained through voluntary amputation of a limb, or loss of weight through purging by forced vomiting.

Our bodies are simultaneously controlled by external dictates such as a public health campaign and internalized rules of behavior, as if we are now surveilled, even as we eat or exercise, or refuse both. Foucault calls these flows of power—acting upon, shaping and controlling the body and interactions between bodies—'biopower.' We have extended this to include the quality assurance and regulatory structures of 'monitory democracy' (Keane 2009). This leads us to question the psychiatric identification of, for example, an 'eating disorder' as a disorder of personality. Rather, we see this as an issue of identity that is culturally and historically

constituted, where an eating disorder now becomes a 'food disorder,' a 'fashion disorder' and so forth, subject to a cultural governmentality.

When sociologists, in particular, speak of the 'medicalization' of modern life, they refer to the process by which 'natural' or everyday events, such as childbirth, have come under the domain of medical control (Illich 1977). For Foucault's model of power, medicalization is a pervasive modern biopower, a form of control or governmentality that shapes activity. The capillary reach of such power is evident in contemporary medical research that attempts to give a neurological basis to character type based on brain scans showing relative sizes of cortical areas. For example, Gardini et al. (2009) correlate four personality types with particular areas of cortical brain volume, where, for example, if a scan reveals a 'harm avoidance' type (shy, withdrawn character traits), or a 'reward dependence' type (potentially addictive personality), we may, suggest the authors, offer particular compensatory patterns of education or socialization. Another way of reading such research is to suggest that this offers a new approach to medicalization of 'normal' life, increasing the range of biopower.

As medical education seeks to articulate 'best' practices, ostensibly calling for an evidence base, so it is in danger of becoming another form of governmentality exercised through pervasive capillary power. Examples of this include the apparently viral, unreflexive spread of so-called 'adult learning' methods, reflective practice, problem-based learning (PBL) and the objective structured examination (OSCE) in the face of conflicting evidence claims for their effectiveness as they are currently conceptualized, structured and employed. The pervasive character of capillary power is felt where individuals or groups feel obliged to subscribe to a method they have not fully understood or critically addressed. In turn, as capillary power runs through a system and becomes infectious (hence the hollow calls for legitimacy for trends in medical education that are fashions rather than proven methods), so countercurrents of opposition automatically emerge.

As resistances organize themselves, so they may offer a force of power strong enough to counter a prevailing movement. Foucault's description of this is in terms of what is considered 'legitimate' as an activity and how conditions arise that create such legitimacy. For example, we do not exercise sovereign power by censoring or punishing explicit disagreement with Flexner's model of medical education. Indeed, Flexner's model has been gradually and often subtly resisted (capillary power) while it still retains credibility and legitimacy, especially in its country of origin.

Forms of resistance to a century of Flexnerphilia, such as that articulated expertly and sensitively by Hodges (2005), are, predictably, ill-fated, however good their arguments. This is because the broadly pro-Flexner, conservative, flow of power has been (and still remains) so strong. In Foucauldian terms—and Hodges is a perceptive Foucauldian—the conditions of possibility for the emergence of Hodges' critique as the mainstream view are not yet established, or are nascent. Hence, the view is not in itself illegitimate, but is illegitimated, in spite of its depth of insight and persuasive argument. We have great sympathy for Hodges' view—that Flexner's purge of North American medical schools for their educational failings also closed down those schools catering for women and black students at a time when these

groups could not enter mainstream schools. The schools that had more open acceptance policies were, as one might expect, underfunded and undervalued and hence had no infrastructure or resource to improve their educational track record.

Our second example also involves a typically unique and critical insight from Hodges (2003)—that the dominant discourse surrounding the value of the OSCE as an assessment tool is grounded in psychometrics and then marginalizes other discourses such as 'OSCE as performance.' Capillary power flows through the system that is the OSCE in medical education in a way that has come to gather around, support and legitimize discussions concerning psychometrics—validity, reliability and so forth. This has made illegitimate other viewpoints that come to form patterns of resistance to the dominant discourse—such as Hodges' pointing out that the OSCE can be treated as a performance, where this raises all sorts of questions about its validity as a tool of assessment. Further, it means that the OSCE is theorized in an unfamiliar way (through Erving Goffman's dramaturgical model) and this remains hard to legitimize in the face of the capillary flow of the normative discourse (OSCE as psychometric tool).

Virtue Power

Brian Hodges' position, as an authentic and articulate critic of mainstream views, does have a power 'house,' or home. Spinoza famously described power as both a moral quality—a virtue—and expressive. Power is a potential and 'expresses,' as does personality. Virtue power is then productive of identity, as varieties of expression—identities such as the 'informed critic' and the 'public watchdog.' Hodges' critiques above are virtuous ones—morally charged and spoken on behalf of the democratic virtues of equity, equality and citizenship.

Exercising power does not necessarily mean oppression. It may mean liberation (on behalf of another, for example) or it may signal an explicitly conscious act of resistance such as speaking out—expressing moral courage or *parrhesia*, referred to earlier. Here, the exercise of power again produces a change in identity. The previously oppressed (say, the operating theater nurse who has been ignored, harassed or bullied by a surgeon over time) gains moral courage and speaks out. Now she is a different person in that professional setting, having spoken for democracy and inclusion.

Nietzsche also saw power as a virtue and as offering a style of life. Nietzsche's description of a 'will to power' as part of the human condition is one of the most famous and highly debated topics in philosophy, where it has been (mis)read as a guiding principle for the fascist mentality of 'purity.' However, Nietzsche can be read quite differently. His ideal of an applied 'muscular' thinking, famously described as 'philosophizing with a hammer,' can be read as a tough-minded approach to tough ideas, where ideas become enacted as ways of living, sometimes vigorously hammered home, and certainly nailed to a mast. 'Wrestling' with ideas conveys the same muscular engagement. Nietzsche's ideas are less about sovereign

power or power over others and more about speaking up for oppressed positions, as virtue power. Nietzsche famously describes a 'transvaluation of all values'—what we now call radical relativism—exploring how values are legitimated according to historical, cultural and social context.

Medicine has been stereotyped as a tough-minded profession offering a tender-minded practice. By this, we mean that the traditional system of medical education is high stakes, often encouraging heroic individualism, where practice may be stereotypically paternalistic, but is basically tender-minded, or caring. This produces a paradoxical mix of wished-for virtues in medical students and doctors—on the one hand, self-reliant, thick-skinned, competitive traits within the profession and its career ladders; and on the other hand, caring, compassionate, even-handed practice in treating patients—in doing the job that is traditionally a calling and a vocation. Cure and care must mix in equal measures.

In the paradoxical mix of tough-mindedness and tender-mindedness traditionally demanded within medicine, power and identity coincide in character virtues. Such virtues in turn offer ways of exerting power and influence. As with sovereign power, this can be both positive and negative. Medical education has traditionally focused upon the education of positive character virtues, enshrined in medical oaths and professional behavior. As we saw in Chap. 2, the 'professionalism' approach is typical of North American medical education that frames medical identity in terms of virtuous persons who become role models. Characteristics of 'good teachers' are also often listed as personality traits rather than interpersonal capabilities. Such traits are then legitimized as desired attributes of good doctors listed in policy documents—such as honesty, probity and unselfishness. These are 'patient-centered' traits. However, a medical education also calls for doctors to be 'leaders'—both within and outside of the profession.

While 'leadership' includes a variety of forms and styles, there is a tradition of authoritative, hard-nosed leadership style in medicine that can be seen in what Arluke (1980) describes as 'roundsmanship.' This is summarized by Jolly and Rees (1998, p. 179), 'where academic units derived their *raison d'être* from the intellectual and personal characteristics of one or two key personnel,' whom Sir Kenneth Calman (2006) calls 'magnets.' Medical education is then grounded in personality, rather than evidence-derived educational principles or methods. In the previous three chapters, we argue that a future medical education needs to shift focus from identity as personality to identity constructed by context. Identity moves beyond personality and character to include role and style and must be considered within the wider context of an institutional character and style. For example, we might consider leadership not in terms of a strong personality, but in terms of a style that sets the conditions of possibility for the practice of full democratic participation. As noted previously, this returns us to reframing leadership as Irby and colleagues (2008 podcast) have done, in terms of 'pathfinder' and 'innovator.'

However, even while translating 'personality' into 'identity,' we should not ignore the importance of the charismatic, gifted or positively powerful individual. Hillman (1995) describes the 'intelligent uses' of differing kinds of power in terms of human agency in conversation with cultural practices (agency and structure)—as

qualities, values and styles, shared across person and organization. Hillman suggests that while 'power' in the contemporary world cannot be isolated from its dominant cultural (and popular) meanings, it is realized through personal agency. While Foucault's model of power elegantly describes the networks and effects of power, it fails to give full meaning to the actors—persons—within that network. This is because Foucault's model sees 'person' as a *product* of power. Foucault, again, borrows this idea from Nietzsche, who suggested that power is not simply some force that is yielded to control or impose, but power is something you step in to—a historical stream or discourse—that constructs a character. Power is opportunity and timing, or utilization of circumstance. As historical and cultural changes bring new discourses, new ways of thinking and doing, so power and identity are inevitably yoked through the ways that persons engage with opportunity.

Hillman (1995) suggests that current, cultural discourses of power are themselves still tinged with 'heroic' characteristics, grounded in modernist values of industry, efficiency, production, maintenance and service. These characteristics are readily recognized in a medical culture that has not yet shaken off its colonial ways and offers the 'power of ideas' (values) that drive the 'ideas of power' as practices. Again, such values are easy to spot in conservative forms of medical education and are enshrined in desired character virtues. However, how such 'powers' are exercised is complex. For example, a characteristic style of power, 'ambition,' can exert itself as a cutthroat desire to succeed. But Hillman points out that 'ambition' at root means going to one's limits and can then be read as taking necessary risks. The ambitious lead the way for the rest of us, showing what may be possible.

Hillman suggests that we read character 'virtues'—such as 'control,' 'influence,' 'concentration,' 'authority' and so forth—less literally. For example, 'service' may bring to mind two images—service to a cause (such as the altruism of doctors) and the servicing of equipment. Both can be re-imagined by swapping applications—the 'care' involved in service to a cause (medicine as healing) is surely readily applicable to equipment. We can care for, rather than neglect, equipment that serves us, rather than thinking in terms of 'efficiency,' where equipment is readily replaced or discarded. A 'maintenance,' rather than 'replacement,' value orientation is ecological, offering sustainability and also works in the realm of ideas. For example, as we suggest above, we do not want to simply reject the tradition of the personality cult in medical education. Rather, we can transform that perspective, to engage with it on new ground—hence, our insistence upon the value of 'identity,' as well as power and location. We should not be drawn to a charismatic person only to be blinded by his or her presence, but because that presence is attractive and influential.

In summary, for Hillman, power must be re-imagined and displaced from its orthodox positioning in relation to the Protestant tradition of heroic individualism (success and gain are hard won). Power can be thought about from a variety of perspectives, such as the power of ideas and is exercised in ways that can be complex and contradictory. For example, the recognition that authority may rest in an individual as an effect of his or her 'gravitas,' or 'charisma,' is quite different from somebody exercising 'authority' in an authoritarian manner, or exercising sovereign power through fear or tyranny.

In conclusion to this section on virtue power, we do not reject on principle 'sovereign power,' rather we suggest considering sovereign power always in relationship to virtue power in the potential construction of identity and style of life. We are reminded of an identity construction described by Shakespeare in an encounter between Kent and King Lear:

Lear: 'Dost thou know me fellow?'
Kent: 'No, sir; but you have that in your countenance which I would fain call master.'
Lear: 'What's that?'
Kent: 'Authority.'

(William Shakespeare—*King Lear* I, iv, 24 ff.)

Virtual Power

While sovereign power is to be followed or obeyed in a loss of autonomy, or openly challenged in a recapture of autonomy, capillary power is a stream that you join, beyond autonomy, as it pervades life. What if this stream breaks its banks, disperses across and soaks into, the land, so that the stream is now unseen? Can we not help but look closer, to investigate its disappearance, in *fascination*? Capillary power may be productive, but what if that power becomes seductive? In life, advertising exerts such power. It does not exert any legitimate or concrete authority over us. We can simply ignore it, or critique it, or mock it. However, as all-pervasive advertising subtly guides our lives, so we join its stream and we are swayed by it. Soon, we do not even notice the presence of the forces of advertising, as it disperses and enters every part of our lives. It becomes an unacknowledged and permeating presence. We no longer know the difference between art and advertising, journalistic copy and advertising, entertainment and propaganda.

In this slow 'creep,' that is a re-appearance rather than a dis-appearance, power has become seductive, operating in an unacknowledged and unappreciated way. Of course, the phenomenon around which seductive power plays, whether a piece of information, knowledge or cultural trivia, is now beyond critique. Does this kind of power have meaning for medical education? We think that it does and we explain why in detail in Chap. 11 as we look critically at thorny issues surrounding learning by simulation. In short, learning by simulation has become mainstream in medical education and it is in the simulated environment that power can particularly act in seductive ways.

First, simulation seduces because it makes risk invisible. Second, simulation seduces such that its followers fail to offer substantial self-critique concerning its shortcomings as a method of learning and identity construction. Finally, simulation seduces where it inhabits ethical territory, such as 'faking it' by students—particularly, say, putting on a great performance of communication for the OSCE, but behaving abominably outside that context (an act of dissimulation, bringing us back to Hodges' (2003) articulation and critique of OSCE as performance). Simulation and ethics also become entangled where medicine becomes an ally of the simulacrum—the copy of an original that never existed—in obvious areas such

as surgical 'enhancement,' but also in areas such as prescribing drugs for mood enhancement. The perfect body is as unattainable as the perfect mood—both are culturally determined simulacra. However, those who believe that they inhabit the imperfect body and suffer from imperfect moods (everyday anxiety and mild depression) may be driven by the simulacrum of the perfect life to seek medical help. In turn, medicine may comply with the patient's wishes, inadvertently reinforcing the seductive side of simulation.

Medical education, drawing heavily on simulation, can then come to imitate the 'real' life of our virtual culture. Baudrillard (1983) describes the contemporary social condition as one of virtuality, rather than reality, where the simulacrum or copy now precedes and replaces the real. Thus, 'reality' television shows and soap operas become more real than real life and high definition wildlife programs replace 'nature.' The public comes to know and judge medicine and health care through serious medi-soaps (*E.R., Holby City, Casualty, House, Nurse Jackie* and so forth) or dark comedies (such as *Scrubs*) as discussed in the previous chapter. In such virtual contexts, or conditions of 'disappearance' and 'dispersal,' suggest Baudrillard, what meaning does 'power' hold? Is power now operating in a vacuum?

Chapter 10
Place Matters: Location in Medical Education

Introduction

In this and the following two chapters, we link location with identity and power in medical education. Place or location is considered from seven perspectives:

1. The location of undergraduate education. This debate centers on the historical legacy of Flexner's revolution, that set a template for how and where medical education takes place—two years' (for graduate entry) learning science in the laboratory and classroom, plus two years' applying science in clinical settings.
2. The contemporary dis-location of early (junior or intern leading to resident) doctor education as a result of the new liquid work settings that we have discussed in previous chapters, resulting from the dissolution of the 'firm' or the 'house,' so that junior doctors are now more de-territorialized, transient and nomadic in their work placements.
3. The dissolution of traditional vertical hierarchies for more collaborative, horizontal geographies of multi-disciplinary, inter-professional work around patients on planned care pathways.
4. The way in which distinctive clinical settings have dissolved into less well-defined areas for practice such as community settings. This shift is not just a literal, architectural one, but also reflects a shift in the way of how we think about medicine. It is paralleled by the way in which the clinical gaze has become more distributed.
5. Changes in hospital architectural styles, which construct changes in medical care practices and form particular styles of work.
6. The location of medical education in virtual settings. In Chap. 11 we critically consider the value of learning in simulated settings and consider hybrid alternatives ('authentic' simulation, or simulation located in real clinical contexts).
7. The dangers of globalization of a Western-led medical education. In Chap. 12, we consider place or location on the largest possible scale to examine how varieties of global medical education (either online or on the ground) may be offering new, unacknowledged forms of neo-colonialism.

Where Are We in Medical Education?

'The present epoch,' suggested Michel Foucault in 1967 (Foucault and Miscowiec 1986, p. 22), 'will perhaps be above all the epoch of space…that of a network that connects points and intersects with its own skein.' Foucault's prescience predated the Internet or World Wide Web and the wireless revolution. Space, for Foucault, would be experienced in the future as a paradoxical mix of 'the side-by-side' and 'the dispersed.' Casey (1998), in a comprehensive philosophical study of space and place, suggests that descriptions such as Foucault's are, however, misleading, because they fail to make a clear distinction between abstract space and concrete location. This chapter is about the importance of concrete *location* in medical education—the places *where* teaching and learning happen. But we must not throw out Foucault's prescient remark on a technicality. His point is that we experience space (and, by implication, place) as a paradox—both close to (pressing) and dispersed (a world of horizons and open possibilities). The rise of the Internet has confirmed and increased this paradox. The parallels with clinical reasoning should not be missed—at once close and dispersed, on the button and drifting or uncertain.

As we have seen, a feature of traditional, Flexnerian, medical education is the abrupt shift of location, like scenes in a play, from a focus upon learning in classroom and laboratory to a focus upon learning in clinical spaces. Contemporary medical education has re-shaped this shift by emphasizing work-based placement and contact with clinical spaces early in a medical student's education. This challenges the long-standing Flexnerian model of a pre-clinical science education (classroom and laboratory) preceding a clinical phase. Further, the use of networked space, such as the Internet, introduces a third space for teaching and learning that is neither classroom nor clinic. Students can be on a train, or in a café, but also be 'in' an online classroom, laboratory or clinic. Place is both literal and virtual.

Also, sense of place or location has recently altered considerably in hospital-based medical education. We have already noted that the traditional 'house' structure of firms has dissolved. Junior doctors in the UK used to be called 'housemen' (interns in North America), but they no longer have a family home. Internships are more fluid, as part of the liquid modern, where specific place does indeed mutate to general space. As internship proceeds to 'residency' this suggests finding a home, but in the new, fluid, work settings of the early twenty-first century, 'home' is more halfway house or temporary residence. Medicine is still served heavily by the 'locum' (from the Latin *locum tenens*, literally a 'place-holder,' a temporary tenant).

This discussion may suggest that these doctors of the future will have more difficulty in finding their feet or putting down roots, but the new generations of doctors are those who have grown up in the 'wired' and 'wireless' networked generations, familiar with paradox and conversation between the real and the virtual, where 'place' (actual or concrete location for work) and 'space' (varieties of standard clinical spaces—ward, operating theater, pharmacy, consulting rooms—and virtual spaces such as electronic drug formularies accessed on palmtops) are melded. Further, community practice clinics of the future may be less like 'surgeries' and more like 'community centers' or 'health centers' where the doctor's practice

is adjacent to a counseling center, a pharmacy, a complementary health provision and a gymnasium, as a postmodern 'one stop' health mall. Parallel to this development is an expansion of doctors working, say, part of the year in a busy downtown urban hospital and part of the year in a rural setting with an indigenous community (or the reverse—say, part of the year with a deprived Hispanic population in a downtown urban area where shootings are common and part of the year in a white, privileged, middle class rural setting where anomie and heart problems are the major afflictions).

In the terms we have already introduced, used by Deleuze and Guattari (2004a, b) to capture the spirit of liquid modernity or the postmodern era, these new doctors are more 'nomadic' and 'deterritorialized.' They will be less interested in claiming space as a form of imperialism (vertical and hierarchical thinking), and more interested in horizontal connections that dissolve hierarchies and create interprofessional working, or collaborating across boundaries once cherished as markers of identity and power. They will meet a greater range of patients as a consequence. Another consequence of this drift is that identities change, as we explored in previous chapters. 'Homelessness' is a new condition of professional work, where individuals will not have a fixed job for life but will tend to move locations.

Power, discussed in the previous chapter, is not just an effect of *relationships*, as flows of activity in space and time. It is also an effect of *where* these activities occur—again, space, place or location. Jolly and Rees (1998, p. 184) suggest that medical educators have largely ignored the importance of location. Traditionally, the focus in medical education has been on the characteristics of teachers, such as personality and learning style, or on the nature of an activity, such as problem-based learning or kinds of assessment, rather than on the *contexts* for such activities.

In this and the following two chapters, we argue that location matters and is intimately connected with both power and identity. In *The Birth of the Clinic*, Foucault (1989) set the tone for the study of the historical relationship between location, power and identity in both modern medicine and medical education. However, while accounting for the conditions of possibility for the emergence of the modern medical gaze in the late eighteenth and early nineteenth centuries and how this gaze constitutes a new identity for the doctor, Foucault does not actually discuss the nature of literal location in any depth. Rather, the clinic is treated less as a literal place and more as a metaphor aligned to the development of a cognitive architecture characterizing expert medical practice—a *frame* of mind that is also a frame *for* mind. Our concern in this chapter is to move away from metaphors of place to discuss the influence of literal location and architecture on the establishment of a frame for thinking, or a cognitive architecture.

Our argument is familiar to any student of architecture—that place, indeed specific buildings or open space, can shape a sensibility and then a set of activities. Location, like power, can serve to shape or facilitate a dominant pattern of activity, or can set up conditions of resistance. Some brief examples readily illustrate this.

First, corridors. Despite planning formal areas for doctors, surgeons and health professionals to meet, corridor talk emerges in hospitals as a common, informal way of getting business done (Middleton 1998). This is not a product of human planning,

but of an environmental accident. The corridor, as a passage between more specialized spaces, acts to facilitate the serendipitous meeting. This makes sense—not only will people literally bump in to each other ('corridor' literally means 'running place') as they venture from their clinical territories (corridors then offering primary deterritorialized spaces), but also the corridor is symbolically and literally a conduit between spaces in a network. In activity theory, that we have previously discussed at length, a corridor is an example of an embodied boundary place between activity systems—a boundary object. 'Boundary crossing' (Kerosuo and Engeström 2003) is a key, dynamic aspect of medicine and health care, where effective collaboration between professions makes for safe practice.

Second, coffee rooms. Unlike corridors, coffee rooms tend to be insulated and drive sub-groups (such as nurses) into themselves. They are literal silos promoting intra-professional identification. The coffee room acts to facilitate informal talk and business gets done here in a way that does not happen in the formal meeting such as a ward handover or a pre-list briefing. Coffee rooms allow sub-groups to bond through stereotyping of other groups (we know ourselves in difference from the Other). It is the mark of more democratic organizations that coffee rooms become common spaces (for example, some operating theater coffee rooms encourage whole team use, where in other settings the surgeons' and anesthetists' coffee room is separated from that of the nurses).

Third, hospital wards. Most clinical areas, such as wards, have both a designed gateway and a central information gathering, viewing area. The gateway is usually supplemented by a closed-circuit television set-up and acts as a strongly 'policed' area between the public and the clinic. The central desk is the hub of a ward controlled by the head nurse on duty, through which key information flows and from which any member of staff can assume the position of the panopticon or 'all seeing eye' (Foucault 1991b). Medical students, for example, must let the senior nurse know that they are on attachment to a ward round. At this point of reporting to the senior nurse, issues of power, location and identity meet in one of the most common rituals in medical education.

There is a famous anecdote about the 1930s American bank robber Willie Sutton. When Sutton was finally caught and tried for a series of robberies, the judge asked him: 'Why do you rob banks?' Sutton replied: 'Because that's where the money is.' (Sutton's law in clinical reasoning says the explanation first rests in the obvious, not the unusual). If we translate this to medical education, we might ask: 'Why do we send medical students to learn mainly in acute care (hospital) settings?' The answer may come: 'Because that's where the sick patients are.' Clinical learning for undergraduates has traditionally been centered on learning in hospital settings because acute pathology will be concentrated here. But medical education is changing to place emphasis upon health as well as illness, prevention as well as cure and population and social context as well as the idiosyncratic case met in an acute clinical setting.

In the tradition of medical education that emphasizes the acute, we can also speculate that typical educational mindsets will have developed. For example, acute settings, as locations, may place emphasis upon 'heroic' medicine (Ludmerer 1999)

and the conquering of illness, where role modeling by inspirational individual doctors follows. Actually, the money is not just in the banks—medical work is also distributed across the community, where students learn not just about symptom and diagnosis, but about culturally bound relationships between health, illness, environment, consumerism and choice.

So why, following Flexner, do we traditionally educate medical students mainly in classroom and simulated settings (the preclinical phase) for two or three years and then send them out into work-based settings (the clinical phase) for two or three years? Flexner argued, from an older understanding of cognitive architecture, that basic science must be in place to provide the foundations and building blocks for clinical reasoning and understanding. We now recognize that better clinical reasoning is developed from close integration of science-based knowledge, stored as 'scripts' and 'schemas,' with contemporaneous (and cumulative) live patient encounters (Eva 2005). Nothing works better than talking out and applying the science around a real patient example. Clinical reasoning is perhaps best learned as an ongoing dialogue between *cumulative* scientific knowledge and patient experience.

Where medical students consistently say that they feel unprepared for the clinical experience, this is a question of location as much as a question of knowledge and skill. Research in situated learning over the past 30 years shows that context is the key factor in learning (Regehr 2006)—for example, it is hard to transfer learning from sheltered, simulated contexts to real clinical contexts precisely because of contextual factors. A medical student can learn to suture a pad, or a pig's trotter in the quiet of a skills laboratory: but suturing a nervous and frightened child's wounds fresh from a traffic accident, in a busy Accident and Emergency unit at 2 a.m. is quite another challenge. The virtual skill and virtual power of the simulated context may fail to build the confidence necessary to cope with reality.

In a time where safety interests on behalf of patients produce constraints on the literal clinical skills interventions students can carry out on patients, context for learning has become a key issue. For example, the groundbreaking work of Roger Kneebone, Debra Nestel and colleagues (Kneebone et al. 2005, 2006, 2007; Nestel and Kneebone 2010) in 'authentic' or 'seamless' simulation, 'immersive' and 'distributed' simulation (Kneebone et al. 2010) shows that clinical skills usually learned in protected locations under conditions of simulation, are best learned in live contexts, but using models in combination with expert patients or actor-patients. The context maintains a level of authenticity that the simulated setting cannot match. Learners can experience the contextual uncertainty on the ward, practice authentic communication and legitimate team work and practice a skill under complex conditions, such as catheterizing a simulated body part, or suturing a simulated wound placed on a real arm, while talking it through with an acutely responsive, script-savvy actor-patient in a ward context.

If one likely scenario for the future of undergraduate medical education involves student learning based around a panel of patients followed longitudinally, as discussed briefly in Chap. 2, then location will be key to learning. Students will not be attached to teachers, but attached to patients. This offers a new model of patient-centeredness: since patient-centeredness is where patients are *located*. The

traditional clinic, as the province of the doctor and the frame for legitimizing the medical gaze, will be destabilized, as medical education not only follows the patient (also following Sutton's maxim that you rob a bank because that's where the money is), but also expresses itself within cross-team settings that multiply the potential number of locations a medical student or doctor may inhabit in learning. This can be seen as a form of de-territorializing that parallels the new emphasis upon flattened hierarchies in teams (heterarchies). The old, vertical authority structures can be compared with the crumbling high rises of modernity, now being replaced by low-rise, more intimate, hybrid housing, also requiring less maintenance. In the expanse of the horizontal, doctors become more nomadic, venturing from their discipline homes to encounter the Other in guises that include locations.

Traditionalists may argue that we should not fix something that is not broken—surely hospital-based ward round teaching, the traditional location for student learning, has served us well? A study by Miller et al. (1992) on teaching rounds, reported in Jolly and Rees (1998, pp. 180–181), suggests otherwise. Teaching faculty promising 'ward round' bedside-based teaching consistently overestimated not only the amount of time spent teaching, but also misjudged the location for learning. Miller found that only 11% of teaching time actually occurred at the bedside. Sixty three percent of teaching occurred in conference rooms, or similar settings away from patients, and 26% in hallways. Where studies have shown the nature and value of both formal and informal corridor talk in health-care settings for staff, the location is not conducive to learning around patients. Here, clearly, location is not where the patient is. To make matters worse, as Jolly and Rees (1998) further report, a 1979 study demonstrated that the typical contribution to ward rounds by students—who were usually placed in passive, rather than active, roles—was actually less than the contributions students made to lectures.

Also, while students have consistently asked for work-based experiences that offer feedback after hands-on experience, this has not been forthcoming. Location matters only when the opportunities presented by the location are fully utilized. Hospital-based teaching opportunities may have been spurned, or, more likely, have been frustrated by senior doctors trying, unsuccessfully, to balance service and educational commitments in busy, under-resourced work environments (Bleakley 2002a).

There are two main pedagogic problems raised by the traditional Flexnerian chronological division of location for learning between classroom and workplace—first, as introduced above, situated learning theory suggests that learning in the classroom will not readily transfer to the workplace because it is context-specific. Second, laboratory and life sciences teaching is often undertaken by specialists such as anatomists, biochemists and physiologists and not by clinicians. The response to this long-running problem of transfer has been to develop more learning (and assessment of that learning) through simulation of clinical contexts, taught by clinicians and health-care practitioners and involving standardized patients and actor-patients. This carries its own pedagogical flaws, since transfer of learning is still not guaranteed from artificial to real contexts, because real clinical contexts offer quite different sets of circumstances for learning, including the level of complexity and

uncertainty. We discuss this issue in more depth in Chap. 11 and we believe that the problems raised by learning by simulation are being addressed imaginatively and productively by the work of Roger Kneebone and colleagues, referenced above, in the use of immersive environments and authentic or 'seamless' simulations, where the issue of context is addressed head on.

Hospital Architectures and Cognitive Architectures

The kinds of learning and identity constructions in medical education that have traditionally occurred in hospital settings can be seen to reflect the architecture of the hospital. In turn, architectural forms embody and reflect the kinds of power structures that we discussed in the previous chapter. The classic nineteenth-century hospital style reflected strict divisions between specialties: a circle of buildings, each devoted to a medical specialty, is arranged around a common green space (Keating and Cambrosio 2003). The message is to maintain strict silos within hospital care, but to offer a communal space for relaxation. The learning model is one of students rotating around specialties with little sense of connectedness to the whole—the traditional 'firm' system. The smaller cottage hospitals also reflect craft forms of work and production, where the autonomy of the medical profession is paramount and patients, as customers, have no say in how such work shall proceed.

The twentieth-century hospital, under the sway of the 'efficiency' model, developed the 'tower and platform' design. This is the modern, industrial complex, hospital that is a familiar landmark in most cities, where laboratories (tests and research) and the mortuary constitute the platform and wards constitute the towers. The towers maintain the specialty divisions but multiply numbers of patients (upwards). Within the hospital, clinical spaces are built on the 'white cube' model. In modernist medicine, medical education and hospital care, horizontal platforms feed the activities of the vertical building. In the horizontal space, both 'support' and 'development' occur. These provide stability for the vertical activities, but hierarchies are still the rule in the vertical domain (wards, direct patient care), where networks characterize the base or platform (scientific research, laboratories, testing, product development, educational support).

The 'tower-on-a-podium' or 'matchbox-on-a-muffin'—Modernist, Internationalist and Brutalist styles of architecture using concrete, steel and glass—have come to dominate hospital architecture. As Jencks (2007, p. 39) notes: 'The most appropriate and successful application of the International Style was on hospitals,' where a 'machine aesthetic' is evident. Again, the rhetoric of such a building program has been efficiency and rationality, promoting a flow of patients within an industrial model. Organization of work follows the same structure, shifting from craft production to mass production. Mass production becomes inefficient and lean production process enhancement (quality assurance) models of work in health care become popular. These still do not involve the customer (patient) as such involvement remains hard to enact in faceless spaces such as large hospitals. Where patients start to

get involved with provision of care, mass customization models are developed, attempting to modularize hospital spaces and to return some sense of face or identity to portions of buildings whose brutal overall presence remains.

In Verghese's (2009, p. 385) novel *Cutting for Stone*, a young doctor arrives from Ethiopia to work in a poor section of New York in a hybrid hospital that is:

> L-shaped, the long limb seven stories high, overlooking the street, a wall separating it from the sidewalk. The short limb was newer and just four stories high with a helicopter parked on top. The tiled roof of the older section sagged between the chimneys while the middle floors pushed out gently like love handles. The decorative grille under the eaves had oxidized to a bile green, old corrosion ran down the brick like mascara, parallel to the drainpipes.

The hybrid building—a cottage hospital that has been 'modernized' cheaply in a brutal manner and then post-modernized by the addition of a 'short limb' acting as helicopter pad—reflects, as Verghese describes it, the hospital's rather chaotic work of caring for a poor, largely Hispanic, community. The building symptomizes—the oldest parts corroding, the brutalist part sagging, the new building noise-polluted from the helicopter's runs. The interior is 'a land of fluorescent lights where day and night were the same' (Verghese 2009, p. 389). But, hidden by the modern overlays

> there were places in the hospital where the lights dimmed and where I could see traces of Our Lady of Perpetual Succour's past glory; it showed in the gold filigree work above the archways, in the high ceilings of the old maternity wing, in the marble floor of the administrative foyer, and the stained-wood cupola of the chapel. Once the pride of a rich Catholic community, and then a middle-class Jewish community, Our Lady of Perpetual Succour went the way of the neighborhood: it became poor in catering to the poor. (Verghese 2009, p. 390)

The young doctor is invited to visit a purpose built hospital in Boston:

> …a spanking-new hospital tower, weirdly shaped and shining as if it were made of platinum. It was the kind of structure architects compete to build. From a patient's perspective, it didn't look welcoming. The tower hid the older brick sections of the hospital, whose architecture felt authentic and aligned with the neighborhood. …The revolving doors led to a glass-walled atrium, the ceiling extending up at least three stories and accommodating a real tree. …I followed the blue line on the floor to the elevators of Tower A, which took me to the Department of Surgery on the eighteenth floor. (Verghese 2009, p. 420)

Such high-rise hospital architecture signals not only industrial efficiency but medical sovereign power—research power—for, as Verghese notes, this is not a patient-friendly building. The sleek new building with its interior tree (and 'a waterfall trickling gently over a slab of granite') offers the now tired architectural code of the corporate body—international bank, expensive hotel chain—where the customer will be a consumer, an item and number to be incorporated into the corporation's slick machine that thrives on flow, throughput. The corporation will be polite, even accommodating, to paying customers. Such designs shape a medicine-by-numbers and learning-by-numbers—corporate seminars run by life coaches, teaching complicated adults puerile and reductive 'communication skills.' How could such buildings not lead you to 'have a nice day'? In the shadows of the towers are the older buildings with soul, neighborhood-friendly, as Verghese notes, no doubt now accommodating the pathology laboratories.

International style modernist architectural thinking has permeated modernist medical education, where the platform is the 'classroom,' 'laboratory' and 'clinical skills' complex, often characterized as democratic and progressive (small group learning, facilitation, problem-based learning, student autonomy); while the tower or matchbox is the clinic, where work-based learning occurs in strict hierarchical settings, often characterized by authority-led teaching. There is a disjunction between the two—yet it is in the clinic, largely the hospital, that the 'real' learning can be said to happen. In such a scenario, the vertical architecture of the hospital reflects the vertical authority structures of the clinical hierarchy, with senior consultants at the apex, where the horizontal structures of the University learning environments offer more democratic models of participation. It is no wonder that students feel the disjunction acutely—and as a paradox—as they shift between classroom and hospital.

However, the industrial architectural style slowly transformed. A study of French hospitals shows that the size of the platform has been increasing relative to the size of ward space (which has been decreasing) since the Second World War (Keating and Cambrosio 2003)—from 7% in 1945, to 20% in 1965, to 35% in 1985. The horizontal is creeping up on the vertical. New thinking in architecture (Jencks 2002, 2007), that is beginning to influence hospital architecture, promotes horizontal, hybrid designs that challenge the minimalist and brutalist dominance of vertical, high-rise buildings. The new—postmodern—architecture offers smaller, intimate, environmentally sensitive and purpose-built spaces, internally often complex (for example, using color) to provide greater sensory stimulation than the stripped-back, glass, concrete and steel minimalist aesthetic of modernism. Such postmodern building and planning is illustrated in hospital architecture such as SickKids in Toronto and the pediatrics department at the University of Alberta Hospital, Edmonton, Canada, an intimate and animated environment in the heart of a hospital architecture that otherwise plays with themes of neo-Victorian grandeur through its soaring atrium.

Work patterns follow, with an attempt to honor the patient's (customer's) involvement in the work product that is 'health.' Innovation-driven production is found within mass customization, where health-care providers work with patients in tailoring health interventions. Importantly, emphasis shifts to prevention and health care at home and in the community, so that the health 'factory' of mass production is formally challenged as a way to deal with production and consumption of health.

The new postmodern, hybrid buildings offer 'interdisciplinary' spaces, built for patients (and with patients involved in planning) that also satisfy staff needs, are responsive to local social and environmental pressures and create a more intimate space that is more like home and less like hospital. New pediatric departments bring the color and life of the playground and home to transform the traditional modernist, sanitized white cubes of clinic and ward into more complex and responsive environments. Such developments also break down the sharp division between modernist platform and tower, bringing greater horizontal networking into buildings. This also challenges the strict specialty divisions of the nineteenth-century hospital, while retaining its central green space of intimacy and relaxation. Inter-specialty work (essential to pediatrics) is facilitated in the new, more intimate hospital designs, also promoting an interprofessional frame. In terms of new models of work, production

and consumption, customers (patients) now come to dictate many aspects of health care through a choice agenda and health-care work becomes more widely socially responsible, focusing upon social production, such as health awareness campaigns, ecological issues, global health issues, employment satisfaction and work morale and dialogue through customer relations.

Architectural codes can then be seen to structure styles of work, production of roles and division of labor. Again, location for medicine and medical education is then an important aspect of power, and involves the production of identity. In the remainder of this section, we offer illustrative examples of how such architectural codes may work.

The Platform

A 'platform,' for Keating and Cambrosio (2003, p. 21), offers a 'configuration of material components and symbolic activities.' A material component might be an architectural feature, a particular clinical space, a piece of laboratory equipment, a computer or a complex such as a printout of a test result, combined with a patient's drug chart and notes wheeled on a ward trolley. Symbolic activities include the configuration of a clinical team (say, as a hierarchy), or the 'code' offered by a building (say, plenty of window space and light signifying 'health'). If the material and symbolic factors are put together they form a 'platform,' supporting (and generating) a variety of activities. Importantly, a platform usually signifies a collaborative effort between architects, clinicians, scientists, technicians, politicians and managers, interacting with a variety of material artifacts, to offer improvement of services to patients.

A platform is equivalent to a plateau, an elevated, flat-topped geographical feature, such as a hilltop. Platforms support established activities and offer springboards for new activities, providing both stability and a jumping-off point. The new architectural platforms are now plateaux, where the vertical tower has been absorbed into a more complex, horizontal structure encouraging networks, public-practitioner interchange, interprofessional working, academic-practitioner collaboration and circulation of practices and ideas.

Such buildings are not modeled on trees (the skyscraper, as ever more precarious vertical growth), but rhizomes and fungal mycorrhizae, as tangled, often symbiotic, horizontal growth with occasional, spontaneous vertical shoots or reproductive structures. These buildings are then hybrid structures drawing on a variety of styles but characterized by an explicit rejection of the Modernist international style (Jencks 2007). Social process, work patterns and cognitive architecture that such new buildings promote is 'combinatorial,' representing an epistemological shift to interdisciplinarity and an ontological shift to greater 'fellow feeling.' The transition to this postmodern architecture of low-rise, complex, hybrid building mirrors (and may create or sustain) a shift in the way that medical and health-care practitioners work—aiming for greater collaboration around patients, with multiple team

coordination and cooperation through complex networks and meshworks in heter-archies, or flattened hierarchies.

The White Cube

In a perceptive biography of Le Corbusier, Vogt (1998) shows how a code developed in the famous architect's work that offered a direct relationship between buildings, health and politics. Le Corbusier was obsessed by three elements in architecture (Vogt 1988, pp. 35–36)—white and light, raising buildings off the ground to avoid what the architect called the 'soiled' reality of the world and 'the Platonically pure cell,' or the white cube. This is a sanitized, Puritan mode of 'thinking buildings,' but also shows a strong element of control and authority. It is a good example of the relationship between a mindset (as a cognitive architecture) and a literal archi-tecture that frames both a style of life and work. It is precisely such strict, puritan, controlling factors that postmodern hospital architecture rejects, where the modern-ist style is seen as reflecting an imperialist medicine that serves to alienate rather than involve patients. While adventurous pediatric hospital departments such as the University of Alberta Hospital at Edmonton are meticulous about controlling infection, the white cube is not used as a default position for space—children can still make a mess with paint as part of their therapy and the enthusiasm of the staff is the infectious element.

Le Corbusier saw architecture and design as positive means of social regulation and formation of identity. He was convinced that habitation should be stripped back to essentials (a basic cube) with maximum light and ventilation (a glass box) for 'hygiene.' The basic cube can also act as a module. It is free, both metaphorically and literally (where it is raised from the ground), from the entanglements in dark-ness and dampness that characterize the rhizomatic and mycorrhizeal structures we refer to above, anathema to Le Corbusier's emphasis upon sanitization. Verghese's *Our Lady of Perpetual Succour* hospital, described earlier, would have fallen on hard times for Le Corbusier, as her 'old corrosion ran down the brick like mascara, parallel to the drainpipes.' No such natural ageing for Le Corbusier's cubes, that should be painted white and regularly maintained—kept spotless to disguise age-ing. Where there is no natural light, then walls should be painted white to reflect available light. Buildings should be lifted off the ground, raised on pilotes (thin, but strong, supporting structures). This allows air to circulate under the building, but also offers a code, for lifting dwellings away from a heavy, contaminating earth into healthy, light air. The clinical analogies are easy to see—Le Corbusier was at-tempting to *design health through architecture*, as he designed buildings through an obsession with a particularly Northern European/North American puritan view that brought health and efficiency together. This design conceals a political code.

It is no surprise that the white cube is repeated within the hospital, as the basic clinical space—again, minimum maintenance but maximum exposure of stain to in-dicate the need for vigilant maintenance. Le Corbusier, however, was also politically

motivated, holding strong right-wing views. His architectural model, multiplied up in functional housing, is easily read as a form of social engineering based on a chilling relationship between health, efficiency and racial purity. The white cube, in this reading, offers a confluence of location, power and identity—in confirming the space as hygienic, the patient as subject of treatment and social control and the identity construction of the doctor as a figure of authority and 'master' of the cube, exerting a regulatory gaze. This description is also a recurrent theme of the colonial specter, where the 'white mansions' of the white colonizers throw the black slaves into sharp configuration, as a means of surveillance; while the white citizens are brought to the fore against their shadowy background of support for slavery. An artificial way of democratizing is offered by modernist interiors, where at night the modern hospital becomes saturated by white light under ubiquitous strip lighting, so that, as Verghese (2009, p. 390) observed, 'day and night were the same' or equality is symbolically and artificially manufactured.

Patients are also easily regulated under these uniform conditions, where aberrations stand out as stains, following Goffman's (1991) description of the 'total institution' and Foucault's (1991b) description of the institutional arrangement of internal space for easy surveillance and regulation—such as the classic open ward where the lights are on even during the day to redouble the effect of close inspection. In this sense, the open ward is like the opening of the corpse in dissection—a gesture of enlightenment. The gesture also suggests that disease has no place to hide, but hospital acquired infections literally enter through the back door as white-coated clinicians who know their medicine forget their basic rules of health and duck the hand washing regime (McEachern 2009). It is regularly reported that while nurses are meticulous about hand washing, 50% of doctors still ignore the most basic hygiene rule, washing their hands of basic patient care responsibilities.

Students also learn in the white cube and tightly regimented spaces of the classroom and lecture theater. As the white cube of the clinic sets out to create an atmosphere of sanitized practice, in which the 'diseased' patient is clearly demarcated from the (traditionally) white-coated doctor as both detached observer (diagnostician) and healer of that disease, what does the white cube of the classroom denote? Is there a parallel sanitization of knowledge, in which certain 'core' curriculum knowledge is set apart and kept from contamination—through the dark matter of dissent potentially generated by students—by the purists of medical education?

Much has been made of the chaos of the hospital, especially of intensive spaces such as Accident and Emergency, the operating theater and day-case provision, but our suggestion here is that the white cube mentality organizes these spaces and insulates against the messiness that may be found in community settings, where other mindsets for learning than the authority-led classroom may be generated. This is not just about hygiene and control, however. In modern art, the white cube is associated with Minimalism—a movement that attempts to strip art down to a basic code, where 'less is more.' The white cube became the archetypal form of the modern art gallery, as it is of the operating theater, with brilliant light focused on the work (sculpture, operating table) and strict rules about contamination (do not touch each other or unsterilized equipment, do not touch the art on display). Such minimalism

is attractive to medicine, where it is a central rhetorical feature of the stripped-back case study and the elegant grand round, never fussy, sticking to the facts, boiling things down to essentials (again, less is more), but also objectifying the patient, reducing her to symptom and formula.

Jencks (2007) suggests, somewhat tongue-in-cheek, that the dream of efficiency modernism 'died' with a specific incident in 1972, when an ultramodernist housing complex in St Louis, Missouri, was dynamited after it had turned into a slum through heavy vandalism by its residents. The original, multi-million dollar project was built on Le Corbusier's modernist principles of functionalism and cleanliness, with high-rise 'streets in the air' and efficient 'boxed' accommodation. The building famously alienated people—Ballard's (1998) postmodern novel *High Rise* exquisitely captures the tensions created by such buildings—forgetting that architecture should also look to comfort and complexity and to retaining a sense of intimacy, community and street life, rather than boxing people off in the air as if social contact invited cross-contamination. In Ballard's novel, the control and order of the high rise is undermined by the lack of social contact the building generates, so that social unrest and anti-social behavior gradually become the norm, as a spate of violence and unrest ensues. This echoes Freud's famous maxim that the repressed returns in a distorted form.

In postmodern architecture, the baroque and highly ornamented—repressed and denied in the clean lines of modernism—return as a challenge to the dominance of Le Corbusier's austere and antiseptic square, providing an aesthetic for a new age of both complexity and simulation. Jencks (2007) calls for a new 'counter-Reformation' of complexity and sensuousness to challenge what he sees as modernism's brutal and reductive abstractions. To return to a point made at the beginning of this chapter, learning in such new, complex spaces is also more 'nomadic' and 'deterritorialized,' as barriers between specialty areas are brought down. New identities are produced not through tightly controlled specialty disciplining, but through more fluid interdisciplinarity. Such architectural transformations are mirrored in medical education's concerns with deterritorializing—where students are invited to be nomadic in order to gain breadth of experience across clinical and community contexts and learning is not confined to the classroom but is gained on the move, especially in mixed economy team settings.

Work-Based Learning: Vocation as Location and Deterritorialization

If there is one, dominant central change in emerging contemporary medical education, it is the greater emphasis given to work-based learning, especially in the early stages of an undergraduate medicine career. There is a hot debate in education concerning how work-based learning may best be structured for learning in the professions such as medicine. How we should structure learning in the workplace depends upon the work context and this returns us to our brief comments above concerning

changing historical patterns of work organization from craft, through mass production, lean production and mass customization, to new models of co-configuration or innovation-driven production and social production, where patients as customers gradually gain more power in shaping health-care work practices as the practices themselves become more sensitive to social needs, such as worker morale and affective capital.

Structuring learning includes how students can gain legitimate central, rather than peripheral, participation in a community of practice; how a teaching episode can be structured around patients to involve learners, without going over the learners' heads (scaffolding); and how feedback may best be given and integrated. What is missing from such research is looking at learning from the point of view of *work* itself, rather than from the point of view of medical or clinical *pedagogy*. There is an opportunity to structure clinical work process as an organizational learning, where hospitals and community practices, for example, work with medical schools in developing progressive modes of work and production that in their own right improve patient-centered care and safety as they generate pedagogical opportunities. Too often, learning for medical students and junior doctors is frustrated by clinical work contexts that in turn are stuck in outdated modes of work and production.

Engeström (2008) has developed a model, first proposed by Victor and Boynton (1998), of five historical modes of work production: craft production, mass production, lean production, mass customization and innovation-driven production, to which Engeström adds a sixth: socially conscious production—a work mode that also constructs a socially conscious identity. Engeström argues that analysis of modes of learning in work settings is hampered by lack of description of the context of work activity on the basis of these historical types. For example, where an argument is made for the generic effectiveness of democratic or participatory 'teams,' this misses the point that a certain mode of production may demand a certain kind of social work arrangement. We will illustrate this point through three brief examples.

First, large health organizations, such as the highly complex UK National Health Service (NHS, reputedly the world's second largest organization), have moved from mass production, through lean production, to mass *customization*. The NHS is a non-profit making public service supported by taxes and thus has a responsibility to satisfy its customers—citizens as patients. What the organization produces is 'health.' In the era of mass production and consumption of health services, as the NHS grew, the patient's view was not considered. The literal organization, while a service industry rather than a producer of goods, is always cost ineffective under a mass production model. Various 'rationalizations' and overhauls of the NHS have resulted in the establishment of a 'lean' production service; however, where this is focused upon productivity, it does not take the consumer's (patient's) view seriously in planning work services. The new era, stimulated by the challenge to medical paternalism and the growth of patient autonomy and choice (Coulter 2002) is pointing towards the development of a mass customization model (patient 'choice' on a huge scale), as elements of mass production and lean production linger.

Because of the size of the NHS, it is difficult to conceive that the organization could move towards innovation-driven production or co-configuration, where

customers (patients) work collaboratively with providers of services (health-care providers) to shape the service through innovation to satisfy local and individual needs. Below, we give three examples of how this can happen in a locally co-configured service. The first concerns a Canadian hospital that has tailored its service (hernia repairs) around a combination of patients' feedback and surgeons' focus on perfecting technique about what works. The second describes a more complex surgical procedure—pediatric heart surgery—where innovation-driven provision has been made to directly benefit patients who require intense concentration of complex provision *at speed*. The third concerns a particular service within the UK NHS—supporting heart failure patients in the community. All three demonstrate that it is possible to move from mass customization to local co-configuration of work provision based around patients' needs.

Gawande (2008) describes a very specific clinical work setting in Shouldice hospital near Toronto, a hospital dedicated entirely to hernia repairs. Gawande calls it a 'hernia factory.' As a result of surgeons doing nothing but hernia repairs of varying kinds, not only is efficiency maximized, but also the rates of morbidity are dramatically reduced. Work satisfaction is high, because these surgeons do not crave variety. Rather, they find satisfaction through perfection of one procedure. Surgical innovations are developed, such as more effective repair techniques that avoid the use of surgical mesh, considered by some experts to be an unnecessary introduction of a costly foreign body.

At the complex, rather than the simpler, end of surgical procedure, pediatric heart surgery has been overhauled in other work settings. Edmondson et al. (2001) describe a new type of team education, including learning how to work at speed and how to adapt to innovative methods. Through good leadership, such teams learned effectively because they fostered 'psychological safety' where any member can feel free to comment on how the team is performing, make suggestions and point out potential problems. Also, better teams were explicitly designed, where they formed through collaboration and choice with staff selected to fit particular roles rather than through recruitment of those who just happened to be there. As a result the better performing pediatric heart teams had stable membership.

Both are examples of what Victor and Boynton (1998) describe as 'mass customization' models of production. Again, what these teams are 'producing' is health. The customer is the patient. Location is fine-tuned for maximum efficiency. Preparation is all-important and precision is the aim of the work process. Most work settings in hospitals are not like this. Hospitals have mainly moved from 'craft' production, through 'mass' production, to 'lean' production. Again, let us assume that the product of a hospital is health and that the customers are patients. In craft production, the makers have complete control over the product and take pride in their individualism and independence. As a location for learning, medical work in this frame is located entirely at the bedside in a traditional teaching hospital setting as a traditional apprenticeship. The Master displays his skills and knowledge to the apprentices, who learn by watching and then doing and then teaching. The patient is the object of the craft and has no say in the product. Indeed, traditionally in medical education, safety concerns for the patient were not clearly thought through as

students were allowed to intervene in ways that would now not be acceptable. While protocols abound for safe practice and safe teaching of practice, Gawande (2007), in a telling tale of learning by trial and error how to put in a central line, reminds us that risk is still a major factor in doctors' learning, and that 'supervision' is an elastic notion.

Medicine in the craft era was self-governed and deeply hierarchical. Intrusion into its world by educators, politicians or managers was resented. As accountability for practice took hold in medicine, economic accountability followed, inviting management of practices and locations. The work model that dominated the shift from small, cottage hospitals to modern industrialized platform-and-tower buildings, described earlier in this chapter, began to take over from a craft model. This was mass production. Hospitals became industrialized and patients became objectified in a different way from the craft era, where they were interesting teaching 'objects.' Now they became items in a production process, but had no say themselves in how that process happened. Place and process were intimately tied, as hospitals were streamlined for throughput and efficiency. As described earlier, the modernist principles of Le Corbusier held sway, where buildings promised efficiency and health (the white cube) but actually offered control. This frames a form of medical education quite different from the craft model—one of the production line and maximum efficiency for time spent. Patients and students are consequently dehumanized, as are clinicians who may find it easier to work in inhumane ways in such environments.

In the late modern or postmodern era of culture and architecture, beginning in the 1960s and still in place, we have experienced a backlash against the brutal side of modernist buildings. Postmodern hybrid buildings, as described earlier, try to bring back intimacy, low-rise and complexity, throwing a spanner in the works of the production line. A new organicity is invited, where the straight line gives way to the meshwork and network, also reaching into the community through models of patient pathway care that involve multiple service input around single patients. The work orientation is now one of lean production and process enhancement focused on quality rather than quantity. As patient numbers do not fall away, the amount of time patients spend in hospital is reduced and work patterns now become centered on meeting targets and throughput. Most of our clinical work settings now reflect this model.

In organizations, such as progressive computer companies, craft, mass production and lean production models have been abandoned for either mass customization (larger companies) or innovation-driven production (smaller or distributed companies). In the former, the customer is involved in the process of production, even where that production is large scale. In health care, the equivalent would be the involvement of patients in their own care. For example, large-scale health education drives may focus upon patients with heart failure. These patients are not in recovery, but may maintain a good lifestyle in the face of further heart problems. They can be in care in a mass customization work model, where cardiac specialists, heart failure nurses and patients and their families work together to coordinate care activities based on production of care at home and in the community driven by the

customers' needs (Wingham et al. 2006; Dalal et al. 2009). As a mass customization vision (home-based care rather than hospital-based care for example) is devolved to the specific needs of each patient and their home setting, so innovation-driven production takes over and patient-intelligent care is offered. The patient is not just consulted, but shapes and drives the work of care. An example would be the formation of self-help groups to augment hospital care and community support.

Engeström (2008) offers a further development of work settings from Victor and Boynton's—that of the socially conscious, socially productive work setting, responsive to patients and the public, caring for the social needs of workers and responsive to wider social issues such as environmental and global health concerns. Charities may have always advertised the ethics and objectives of this kind of work, but can still operate by any of the other five work models. Ideally, the socially conscious work setting is one in which positive social values are (re)produced through work. Clinical work for the benefit of patients is, by its nature, nascent socially productive work modeling citizenship. Production of health is also production of a caring society.

Clinical work is socially conscious primarily where it has turned from hospital-based cure to community-based care, including preventive medicine, population health and health education. The new forms of socially conscious work produce care environments tailored to needs of the patient. Place comes to shape care. The pediatric ward environment at the University of Alberta Hospital, Edmonton in Canada illustrates this transformation of work services where it is designed for the children who live there while under care. One only has to walk around any hospital carrying the legacy of mass production health care to know how difficult it is to convert such spaces to socially conscious work environments. Such faceless, often brutal, environments are ecologically disastrous, fail to facilitate social contact and do not produce social responsibility. Rather, they are prone to produce iatrogenic illness.

Thus, when we speak of 'work' based learning, let us remember that the locations for work are complex and varied. We need greater sophistication in understanding kinds of locations, their typologies and characteristics. Studies of work-based learning tend to concentrate on generic pedagogical issues and treat work settings as homogenous. Practitioners tend to put up with their work environments. A vicious cycle emerges in which people are dulled to the locations in which they work by the locations themselves and so find it hard to gain distance from and be critically aware of the effects of the workplace. As a result, locations show symptoms, as do the patients who inhabit these locations. We suffer with and from uniform, consistent strip lighting that reduces us all to the equivalent of the desiccated office plant, drooping and desperate; lighting that sometimes remains on when patients want to sleep and that generates headaches that are interpreted as originating from stress or overwork, when it is also the lighting itself that causes us stress. Similar symptoms arise from air conditioning in buildings where you cannot open the windows. The ceilings (recall the 'high ceilings of the old maternity wing' in Verghese's description of the older corners of *Our Lady of Perpetual Succour* hospital) no longer lead you to look up to the heavens as the painted ceiling of the Sistine Chapel does, or

draw your eye gently around plasterwork moldings to drop down the walls and be lowered onto the floor by carefully crafted skirting boards. Rather, the ceilings of modern buildings are low and oppressive, force you down in misery rather than up to the skies in wonder, and are not aesthetic but functional objects made to be fixed. There is usually a tile missing, exposing the electrical cables and pipe work (Bleakley 1998, pp. 165–172).

Locations, we argue, *do* matter. Architects do not purposefully set out to dull us, but to involve us in spaces. Buildings should work aesthetically, not anesthetically, educating our senses, making us notice, drawing us to detail as well as the grand scheme. Locations not only shape practices and learning, but also promote, or hinder, patients' recoveries.

Chapter 11
Learning by Simulation and the Simulation of Learning

> *To make a good doctor we need medical schools to be honest with students and teach them about how things really are. We need to provide medical students with that most powerful and dangerous of life forces—reality.*
>
> Colin Guthrie (2002)

An Age of Simulation

In this chapter, we continue the theme of location for medical education, but now move away from work sites such as hospitals, to the clinical skills centre. Here, learning by simulation has become the dominant teaching method.

In earlier chapters, we have referred to the shift from a modern world to another condition of living that is variously called 'postmodern,' 'high modern,' 'late modern,' 'liquid,' 'the risk society' and a 'runaway world.' Whatever term we use to describe the emerging cultural condition, a rupture has occurred within modernism, the dominant cultural condition of the twentieth century. The key change may be the invention of computers, whose widespread availability and use has realized the World Wide Web. For many, the Internet is the only experiment in assembly (or participative) democracy that has worked. Certainly, the ready availability of electronic resources for learning medicine has revolutionized medical education, where medical students can learn anatomy virtually, while junior doctors can carry palmtops with an electronic drug formulary and prescribing guidelines literally at hand. Medical and surgical practices are also being reconfigured electronically, such as surgery through robotics with 'absent' surgeons, while case conferences can be held globally.

These are positive developments in what has been called the age of simulation, where the representation—television images, computer-generated images and so forth—replaces or precedes the literal. Before the electronic age, simulation in medical education already existed with flesh-and-blood actors playing 'patients.' This is still a central part of education in clinical and communication skills. Increasingly, the safety of patients has been prioritized, so that medical students, doctors and

even surgeons and anesthetists undergoing professional training, are no longer able to practice certain invasive procedures, interventions and intimate examinations before they have gained experience in safe, simulated settings.

Some think that the safety agenda has now gone too far and students in particular are not able to engage in the kinds of interventions with patients—even under close supervision—that were once common in the 3rd and 4th years of a medicine and surgery undergraduate degree. A medical education has long departed from 'see one, do one, teach one,' where it is now a case of 'see many, practice many in safe simulations, do many and then teach.'

Should we then not applaud the fact that, just as this requirement to learn in safety occurs in medical education, so, coincidentally, we have the emergence of the culture of simulation generally? In this new culture, the map now precedes the territory: theme parks recreate the natural world without the smells and uncertainties and package holidays provide the sanitized experience and not the real culture with poverty and sickness? We would offer an unqualified 'yes' if we did not sympathize with the view of Colin Guthrie quoted at the head of this chapter—that there is a disturbing reality gap between simulation in medical education and the hurly burly of real clinical life, which demands spontaneous communication and professional behavior in an uncertain environment. Some proponents of simulation will argue that this is the point of the exercise—to strip back to the technical in conditions of safety and support, so that the skill can be mastered before exposure to the real.

There are, however, good educational reasons to suggest that such claims of the benefits of simulation may be overblown and strenuous attempts to bridge simulation and clinical reality in recognizing that context for learning is central to transfer of that learning. We have already laid the ground for this in our discussion of learning theories in Chaps. 3 and 4, where we discussed 'situated learning' in apprenticeships. It is likely that what is learned in a simulated setting does not transfer readily to a live, work-based setting precisely because in the technical reduction context is stripped out. Worse, it may be that some things learned in a simulated setting have to be *unlearned* before authentic learning can take place in a specific context.

In short, this has led to a second wave of reconceptualization in simulation studies that has cooled from the initial excitement of the first wave that, as we explore later, advertised some misplaced zealotry. Spearheaded by Roger Kneebone and Debra Nestel at Imperial College, London (Kneebone et al. 2005, 2006, 2007, 2010; Kneebone and Baillie 2008; Nestel and Kneebone 2010), this second wave of thinking bridges simulation and the real in hybrid practices. Kneebone calls this 'patient-focused simulation' that offers both 'seamless' and 'distributed' simulation in 'immersive' learning environments. It is an imaginative approach of paradoxical 'authentic simulation' (the context is authentic but the patients are actors), also restoring the human face to simulation by incorporating communication and professionalism in skills learning and assessment of that learning. This addresses some of the objections raised by educationalists about difficulties in transfer of learning. While actors play patients, real clinical teams can be available, while the context can be set on a continuum from low to high complexity. The point is to integrate the technical skill with the human face of delivery to patients in context.

Roger Kneebone and colleagues' approach has face validity in educating for clinical and communication skills where it is especially sensitive to learning in context yet retains the needed element of learning clinical skills without compromising patient safety. However, it also has three other important features. First, through collaborations with experts in performance and television drama (medical soap operas), Kneebone has been able to dramatically improve the quality of simulation by using make-up artists who can faithfully recreate wounds and injuries. These are carried by actor-patients in clinical scenarios that can be scripted, improvised and recreated to educate empathy with a variety of practitioner and patient roles. Clever make up allows, for example, suturing to be carried out on the fake wound without the needle actually touching the actor's skin, as the wound is raised. Second, where simulations cannot be bridged to live clinical contexts, through techniques used in stage management and television staging, simulated clinical settings can be lo-tech and relatively inexpensive, yet retain fidelity, suggesting a death-knell for the previous wave of hi-fidelity, resource-intensive and expensive simulations.

Third and finally, there is a clear conceptual underpinning to learning through this new kind of immersive, distributed and seamless simulation (Kneebone 2009). Kneebone, trained as both a surgeon and general practitioner himself, reminds us that surgeons can be considered performers. Surgeons learn through repeated practice of operations, first assisting then flying solo. However, in practicing, they do not 'rehearse' as performers do. They are always at the 'performance' stage. In many simulations, surgeons (and medical students generally) do not feel as if they are either practicing, rehearsing or performing, but remain suspended in a kind of limbo that we analyze in detail later. Kneebone claims that the more sophisticated forms of context-sensitive simulations that he has devised (and continues to develop) offer the opportunity for learners to inhabit the place between practice and performance that is 'rehearsal'—neither abstracted from performance (as practice can be), nor the real performance itself. It is this place between practice and performance that more sophisticated simulations can occupy.

We might argue that for a trainee surgeon, having already developed some expertise, this makes sense. However, it may not make sense for a medical student who is a novice and is therefore better off learning on isolated bench simulations and manikins in the clinical skills setting. We disagree. Again, context is everything. In the same spirit that leads us to call for a challenge to the Flexnerian hangover of classroom and laboratory first, workplace later, we suggest that safe clinical skills practice can be generated in the work place for students, as early forms of rehearsal prior to real performance, drawing on the kinds of authentic simulations that Kneebone describes. Currently, the 'practice' phase is too long and the jump from practice to performance too abrupt, as junior doctors (interns) consistently report in studies (Illing et al. 2008), where a skill learned in a protected setting may not readily transfer to an unpredictable live setting with a range of patient responses. This also applies to the non-technical skills such as communication and teamwork.

While we have much to say in this chapter then about the shortcomings of learning by simulation and about the possibly inflated claims of the simulation movement, we acknowledge that the future of learning through simulation in medicine

may rest with the power that 'hybrid' learning of the sort described above holds. We say this because 'hybrid' thinking introduces a wider and critical agenda to the table. Beyond the obvious educational potential, hybridized learning offers a moral and political remit in challenging the classic mindset of modernism that is oppositionalism: the view that something is either this, or that. We have repeatedly challenged this kind of thinking in this book, because it so rapidly deteriorates into the oppressive conventions we have been used to in modern times. If something is not white, it must be black: but then the contrast between white/black degenerates into white supremacy; man/woman becomes patriarchy; culture/nature becomes an ecological crisis. We agree with Hardt and Negri (2006, p. 145) that 'Hybridity … is a realized politics of difference.' In other words, hybridity encourages 'this *and* that.' In tolerating 'this' and the 'other,' each term is realized in difference from the other, but neither term subsumes the other. We need difference, or what Hardt and Negri (2006) call 'plural singularities,' but must respect difference. Patient-focused simulation, by combining what could so readily be opposed, then does good moral and political work in supporting democracy in medical education.

Before we look in greater detail at simulation in learning, where we will also discuss another prominent location—the clinical skills laboratory or centre—let us define our terms. Throughout this chapter, we use 'simulation,' 'dissimulation' and 'simulacrum' regularly. Dictionary definitions (*Shorter Oxford English Dictionary*) align simulation and dissimulation, where both are synonymous with 'to pretend … .' In common usage, however, simulation is feigning what one does not have, whereas dissimulation is pretending not to have what one has (Bogard 1996). A 'simulacrum' is a copy of a copy (Durham 1999), or a copy where the original has been lost, or never existed (Baudrillard 1983). Cinderella's castle in the Tokyo Disneyland illustrates this clearly. It is a copy of a palace that never existed except as a film image, built in Florida and replicated still further in Japan.

Theory of Simulation: Classical to Postmodern

In an essay originally published in 1910—'Wild Analysis'—Freud (2002) offers a tip on therapeutic practice: it is not the surface analysis of presenting symptom that offers a cure for neurosis, but the deeper analysis of the resistances that the patient shows to the surface analysis. The surface analysis, says Freud, will 'have about as much impact on neurotic symptoms as distributing menus would have on hunger during a famine.' Learning by simulation carries the same danger as distributing menus, rather than food, to hungry learners.

In *Republic* (Book VII), Plato (2003) describes people in a cave who can only gaze directly ahead at the wall. A fire burns behind them, while outside the cave is a procession of people carrying objects, whose shadows are cast on to the wall of the cave. Plato says that 'the shadows of artifacts would constitute the only reality people in this situation would recognize.' In leaving the cave, the people are at first

dazzled by the light of the sun, failing to trust the reality they now see, but as they adapt to the real world, they recognize the cave as a simulation.

An idealist rather than realist, Plato equates the 'real' world of earthly existence with that of the twilight world of the cave, where we can remain imprisoned, ignorant of the transcendental realm of Ideas. He asks why, once we have tasted this transcendental realm, we would ever want to return to the illusions and shadows of the cave, which he equates with the mortal world. Let us bring Plato down to earth, to medical education's physical, pragmatic work with suffering bodies. The world of simulation can be equated with Plato's cave, where 'the shadows of artifacts' constitute 'reality.' What Lyotard (1984) terms 'the postmodern condition' can be seen as a return to Plato's cave. A mother is pushing her young child in the pram. She meets an acquaintance who has not seen the baby before. The woman peers in to the pram. 'What a beautiful child!' she exclaims. 'Yes, but wait 'til you see the photo's!' exclaims the mother. The copy now takes precedence over the real—the simulation has become a simulacrum (Baudrillard 1983).

Baudrillard (1983, 1990, 1994) describes four levels of simulation that have emerged historically. First, there is the copy that is readily distinguishable from the original (for example, the icon of the medieval/Renaissance period). Second, there is the copy that is indistinguishable from the original and may even come to pervert the original, such as multiple reproductions of a designer object. In this context, Benjamin (1999) inquires into the fate of what he calls the 'aura' (singular presence) of the one-off cultural object such as a painting, in an age of mechanical reproduction. Does the 'original' carry an aura of authenticity? Andy Warhol famously rejected this idea not only by copying the material world of factory-made, multiple, everyday objects such as soup cans, but also by using teams of helpers to produce multiple copies in cheap media such as silk screen prints. Ironically, the originals on which these print runs were based are now invested with the very aura Warhol rejected, and they sell for astronomical sums. Third, there is the copy of the copy, which now bears little resemblance to the real world, offering a hyper-reality, virtual reality or a simulacrum. In this case, the copy comes to precede and determine reality (a central aspect of the postmodern condition) as noted earlier. A potent example of this is that the public's knowledge of emergency medicine has been largely shaped by television medi-soaps or dramas, such as *E.R.*

As simulation replaces the real, we forget what the real was like or how to interact with it and have to learn new ways of responding. This will be familiar to anyone who chooses a Disneyworld, or a theme park, holiday over walking in wilderness. Package holidays come to replace spontaneous adventure, computer games replace play and Internet pornography replaces intimacy. However, reality is not always relished and is hard work. Simulation can so easily spoil our taste for reality because it follows the fast food formula.

Baudrillard's fourth scenario is a future fantasy—what if simulation, as the simulacrum, becomes entirely detached from reality and floats free? This creates a self-referential condition that no longer bridges to a 'real' world. Baudrillard's argument here follows two stages. First, the detached and insulated world that has floated

free, such as Disneyworld, a theme park, computer games and other virtual realities, can be considered as alternatives to a 'real' world. Baudrillard's (2005) second stage of argument is far more radical. Where Disneyworld, for example, is considered as a simulacrum rather than a simulation, then Disneyworld is no longer a bizarre version of the 'real' world, but comes to precede and *form* the 'real' world, where everyday life begins to look and feel like Disneyland. Continuing to treat Disneyworld as a 'fantasy' takes our eye off the pervading 'Disneyfication' of the everyday world that is now a hyper-reality. Television reflects this process: where it once reflected reality, now it offers hyper-real 'nature' programs through careful editing and visual effects of a close-up 'nature' that you will never 'naturally' experience. 'Reality' game shows compound this effect, so that 'celebrity' is generated without talent or practice. What is the relevance of this for medicine and medical education? Again, sections of the public now get their insights into and appreciation of medicine from watching television 'medi-soaps.' This is justified as educational. Watch at the end of any such program and a trailer will say something along the lines of 'if anything in this program has raised issues for you, please contact …' and a helpline number will be given.

A chance remark was made by a very capable and committed UK-based junior doctor (intern) to one of us (AB) in a postgraduate teaching session, where the woman said that she was going to visit Chicago later that year. When asked if she was going for family reasons, or to see the stunning architecture and art galleries, the junior doctor said, with complete lack of irony: 'no—I want to visit the home of 'E.R.'!' The vocation of medicine had, in one sentence, been reconfigured in wholly postmodern terms, through a simulacrum, a medical soap opera defining medicine itself; medicine's spiritual home transferred from ancient Greece to the contemporary world of television at a stroke.

Strengths and Weaknesses of Learning by Simulation

Bodies and Nobodies

Are 'fictional' spaces valid and reliable sites for medical education? Gaba (2004), in his own phrase the father of 'the simulation community' in medical education, describes the goal of simulation as 'seamless immersion' in a simulated clinical environment, where participants are convinced of the 'reality' of the context. Here, the distance between the real and the copy, that concerned both Plato and Freud for different reasons, is cancelled, as the copy comes to overlap and replace the real. Gaba claims that 'The ideal example of full immersion (admittedly fictional) would be the Star Trek "holodeck", in which one literally cannot tell the difference between the simulated experience and real life.' He notes that 'full immersion' can only be grasped as a metaphor (the 'admittedly fictional' 'holodeck' that cannot be grasped 'literally'). This offers a contradiction. If one cannot get the experience as

anything other than metaphor, or as the virtual, then learning remains at the level of the simulacrum and this condition may not readily bridge back to clinical reality.

Clinical skills teaching drawing on simulation, in purpose-built learning environments that transcend the sterility of the classroom and draw on the reality of the clinic, has been established for some time. One of us (JBl) is in a strong position to offer a critical retrospective view, having been instrumental in setting up some of the initial clinical skills units and resource centers for undergraduate medical education at the International Medical College in Malaysia and subsequently at Liverpool (Bligh 1995, 1998; Bradley and Bligh 1999, 2005). Apart from the simulation settings provided by clinical skills units, virtual spaces are now familiar territory for learning medicine, such as virtual learning environments and online communities.

Virtual resources for learning medicine include the (in)famous 'digital cadavers' (van Dijck 2005) of the 'Visible Human Project' (Waldby 2000), the first of which was a body, donated by an American man who was executed by poisoning in Texas in 1993, dissected, photographed and converted into electronic visual data as an anatomical database (there is also now a virtual woman, again an executed prisoner, raising a number of ethical issues that may remain peripheral to the virtual anatomy lessons across medical schools drawing on this resource). This realized a new practice of 'virtual dissection' (van Dijck 2005). This is a remarkable example of a person's body transformed entirely into a portable learning object. What is missing, of course, is everything that made this person human.

Assessment

As discussed earlier, Roger Kneebone and colleagues promote 'patient-focused simulation' because they want to include authentic, context-driven communication and professionalism in the learning process, bringing a human face to learning by simulation. Ironically, it is these human dimensions that are easy to simulate or dissimulate in assessments of clinical skills such as Objective Structured Clinical Examinations (OSCEs) and Integrated Structured Clinical Examinations (ISCEs). Students may simulate 'good' communication and professionalism, acting into the role (ironically, as the actor-patients are also doing); or dissimulate, through conveniently shelving bad habits or usual behavior for the occasion. For example, a habitually sharp, judgmental and sarcastic student may know how to turn on the charm (dissimulating or pretending) for the purposes of the practical examination but will revert to type until the next assessment.

Theory

Of course, most students in simulation settings will neither simulate nor dissimulate learning, but will employ the setting positively. Learning by simulation brings many

benefits and these are detailed in a developing literature (Weller 2004; Wind et al. 2004; Blum et al. 2004; Flanagan et al. 2004; Issenberg et al. 2005), including dedicated journal supplements (Supplement 1 to *Medical Education* November 2003; Supplement 1 to *Quality and Safety in Health Care* October 2004). However, while some authors working within the simulation community have attempted to create a critical distance from their subject (for example, Kneebone 2005), the simulation research literature generally remains more descriptive than critically reflexive. The simulation community in medical education has not developed a scholarship that draws on three rich veins of interdisciplinary work: simulation in cultural studies (Eco 1987; Baudrillard 1983, 1990, 1994, 2005; Bogard 1996; Kroker 2003); contemporary hyper-realist writing that comments on the culture of the simulacrum (Eco 1987; Wallace 1998); and an extensive body of work within education theory on identity construction in a postmodern world, where simulation becomes intimately bound with the formation of self and the management of a professional identity (Bleakley 1999, 2000a, b; Paechter et al. 2001a, b).

Some literature on simulation has called for a theory-based approach (Bradley and Postlethwaite 2003; Kneebone 2005, 2009). For example, Kneebone (2005, p. 551) warns against both seduction and technological fascination, where 'Simulated environments are becoming widespread, and siren voices can be heard when approaching them' and 'simulations are often accepted uncritically, with undue emphasis being placed on technological sophistication at the expense of theory-based design.' However, by 'theory' these authors mean *learning theory*, not *cultural theory of simulation*. Consideration of the latter, for example, as a framework for understanding the difference between learning by simulation and simulation of learning as this affects identity construction, is neglected by the simulation community.

Where learning theory is invoked to explore simulation in clinical education, the emerging body of work on cultural theories of learning, sensitive to issues such as simulation of learning as well as learning by simulation, is not fully exploited (a point also noted implicitly by Bradley and Postlethwaite 2003). As Chap. 4 indicates in particular, learning theorists have recently come to describe learning as a 'cultural practice' (Crook 2002) of meaningful participation and identity construction to recognize that learning itself can be theorized using cultural frameworks (Paechter 2001a, b; Lea and Nicoll 2002). The 'authentic learning' movement in education (Tochon 2000; Stein et al. 2004) provides an alternative to both work-based and simulation approaches where it articulates the internal rules by which a discipline (such as medicine) coheres and 'enminds,' or socializes, learners into a critically reflexive account of the discipline. This approach encourages critique of a discipline from within its own body of legitimate participants, challenging passive socialization for active reconstruction of identity of the discipline itself. Practitioners, as learners, reflexively use the tools of a discipline to think 'against' the discipline, or critically address the body of the discipline in new textual readings, as we have previously described. This guarantees a focus upon knowledge production as well as information reproduction within a community of practice.

Educational models of this sort clearly borrow from cultural theory dealing with reflexive social life, but often fail to clearly articulate such sources. As we have described in earlier chapters, learning theories in general have shifted their foci

away from individual to social learning in an emergent new pedagogy and so revitalized their concerns from within educational theory. However, they do not draw adequately upon other disciplines such as cultural studies and literary theory to offer a more comprehensive scholarship. We suggest that the simulation community could engage with the rich literature on simulation and the culture of the simulacrum that we have already referred to above, as a background against which learning through simulation can be more critically considered.

The simulation community, as Kneebone (2005) warns, seems easily seduced by new technologies, where the focus of interest can switch to those technologies and away from real patients and the transformations in identities of learners. SimMan and SimBaby (at the time of writing there is not yet a SimWoman, although the Glasgow-based artist Christine Borland has created a SimWoman both as an art object and intervention to ask fundamental political and gender questions of the medical simulation community) become, for entirely understandable reasons, object substitutes for the subject that is the real patient, stripped of what that patient may bring in terms of *response in interaction*. The use of actor patients brings its own difficulties, as the *context for response* is stripped of its complexity and uncertainty, unless we follow the hybrid route of 'patient-focused simulation' discussed earlier.

In highly protected simulation settings, proto-professional identity construction of learners such as medical students becomes an important issue, one that has been neglected in the simulation research and scholarship. In the main, we can predict that students will deal adequately with transfer across simulated and real settings, showing flexible management of professional identity according to setting. However, as discussed above, we can also predict that a minority of students will not deal well with transfer from simulation to the real and this may be tied up with an inappropriate identity construction in simulated settings that inadvertently promotes simulation of learning rather than learning by simulation, including unchallenged dissimulation. These controversial areas cry out for detailed research.

A Best Evidence Medical Education (BEME) systematic review of the features and uses of high-fidelity medical simulations, narrowed to 109 relevant articles (Issenberg et al. 2005, p. 27), concludes that 'approximately 80% of the published research findings are equivocal at best and only 20% of the research publications we reviewed report outcomes that are clear and probably true.' The authors call not only for better research in the area, but also for 'scholarship in this sector of medical education.' The review also cautiously concludes that such simulation approaches can facilitate learning 'under the right conditions.' However, the key, formative condition noted was not, as one might expect, the opportunity for repetitive practice of psychomotor skills, nor mastery learning (which is cited as the second most important benefit of simulation on a list of ten such benefits), nor offering a controlled environment where learners can make mistakes without adverse consequences, nor safety-sensitive practices (cited as the seventh best benefit). Rather, the main benefit of learning by simulation was the opportunity for providing 'educational feedback.' However, this does not in itself justify a simulation approach, where feedback can also readily be given in classroom or clinic. The review cautiously concludes that 'simulation-based education complements, but does not duplicate, education involving real patients in genuine settings.'

The BEME review itself does not develop its claim that the simulation litera-ture has failed to provide a body of scholarship and so the reader is not sure what body of scholarship the reviewers may have in mind that could bolster the research agenda of the simulation community. Neither is the reader informed of what ideas might be informing the current trajectory of the simulation culture towards 'total immersion' simulation models (where reality and simulation are inseparable). Such a trajectory certainly appears to be fed by technological fascination. As Bogard (1996, p. 16) suggests, technologies are seductive where they offer control: 'What sells simulation technology today is the seductive claim that any image is observ-able, that any event is programmable, and thus, in a sense, foreseeable.' The absence of self-critique in the simulation community may arise from an absence of concern with theory of simulation as a cultural and historical phenomenon, leading in turn to an inability to address several practical contradictions at the heart of the simulation project. This distancing from theory may be an inherent aspect of simulation learn-ing itself, where skills acquisition may occur in a theoretical vacuum, so that what I do is significantly divorced from what I know.

The Simulation Project: Will a Dialogue Emerge Between Simulation and Work-Based Learning?

We recognize that we may have alienated some readers in the first half of this chap-ter by straying into unfamiliar territory, such as the debate concerning the simu-lacrum that is derived from cultural studies. In the second half of this chapter, we will review our argument diagrammatically and perhaps with greater relevance for medical educators and clinical teachers.

The Project of Simulation

The goal for the simulation community in medical education has been to bridge the classroom and the workplace experiences (illustrated as scenarios 1–3, Figs. 11.1–11.3).
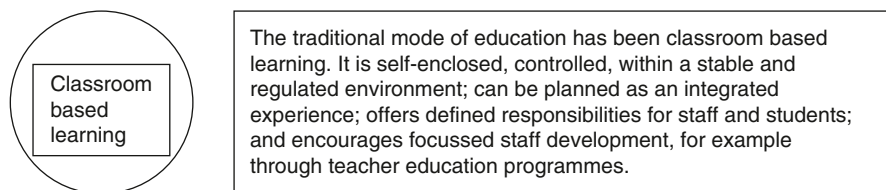
Fig. 11.1 Scenario 1: classroom-based learning

Work based learning is messy, unpredictable, unregulated, fragmented and under-theorised. The environment is often difficult to structure and constitutes a complex system within which learning can be seen as an emergent property of that system. Roles are variable and unclear, and activities often fluid and improvised. Staff development is variable, often patchy, and the research base for understanding this environment is relatively poor, often remaining at the level of description.

Work based learning
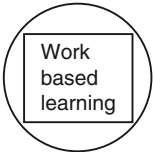
Fig. 11.2 Scenario 2: work-based learning

Fig. 11.3 Scenario 3: potential dialogue between classroom-based and work-based learning—simulation-based learning as the 'third place' between classroom and clinic. The last 10 years have seen enormous growth in simulation—it is now a key part of many 'modern' curricula

Simulation based learning

Classroom based learning

Work based learning
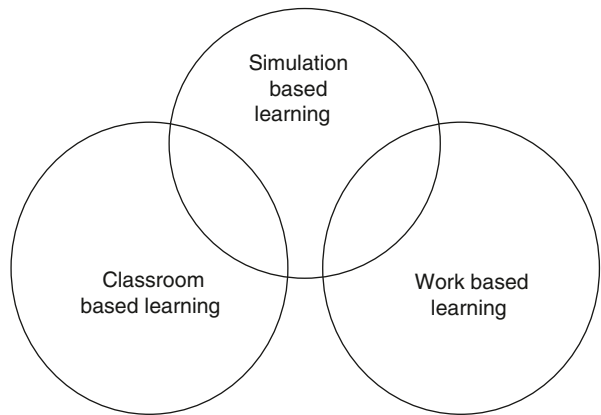
To repeat our argument set out in greater theoretical detail in the first half of this chapter, one of the main responses to bridging classroom-based and work-based learning in medical education has been the development of simulation-based learning (Figs. 11.1, 11.2 and 11.3). Simulation aims to provide safe and supportive environments in which clinical skills in particular can be practiced and developed.

Starting with the initial simulation model (scenario 3), early simulation learning conforms to stage 1 of Baudrillard's model—the copy is easily distinguishable from the original. However, a key aim of the simulation community was always to achieve stage 2 of Baudrillard's model, where simulation and reality are almost indistinguishable ('interactive' simulation replaced by 'total immersion'). Through focus upon high-fidelity approaches, the simulated environment comes to match the real.

In theory this appears to be a laudable goal, offering a safe and supportive learning environment that closely matches reality. However, as described earlier, there are hidden problems in the project of the 'reality' of simulation that can be mapped through Baudrillard's stages 3 and 4 of the history of simulation. In Baudrillard's stage 3, simulation now becomes so effective that it comes to replace the real. We can no longer recognize the original from which the copy derived, as the simulacrum emerges—a copy without an original. Simulation is now governed by its own internal rules.

The simulation community becomes fascinated by the possibilities of technology-driven learning environments (from simpler manikins to SimMan and SimBaby), losing touch with the real environments these simulated settings once copied. A symptom of this movement is the appropriation of real-life events such as interpersonal skills, where the simulation community claims that psychological elements such as clinical teamwork are best learned in simulated settings. Paradoxically, learning of psychomotor skills in such settings is frustrated by difficulties in guaranteeing transfer of learning from the simulated environment to a real-time setting and in the fact that the learning of manual dexterity skills learning is commonly rated as less effective in such settings in comparison with learning social skills and decision making (Blum et al. 2004).

As discussed earlier, at this stage of the emergence of the simulacrum, students may now also learn to simulate effects such as good communication and to dissimulate actual difficulties in real-time communication (using the simulated environment as a smokescreen to pretend that such difficulties do not exist). Learning communication skills can become self parodying, with students expressly over-using eye contact and forward-leaning body posture that is now formulaic and unnatural. More importantly, this may be carried out in an affective vacuum, where it is detached from the realities of a social context and the complex cues that normally come to shape an appropriate social response. Such potential complications in learning may be compounded by assessments in simulated environments, which may come to resemble surveillance instruments rather than support of learning through feedback.

Foucault (1991b) famously describes Jeremy Bentham's idea of the 'panopticon' or 'all seeing eye' as the ultimate absent surveillance instrument for use in an institution such as a prison. If the cells are sited in corridors leading off from a central watchtower, then prisoners will learn that they are under constant surveillance from that watchtower. Eventually, the guard can be removed and prisoners will still behave the same way, now as if under constant surveillance. Dummy speed cameras work in the same way. Under such internalized 'simulation of surveillance' (Bogard 1996), as suggested above, students may shape their responses in ways that they think are desired by the engineered context. This distorts naturalistic and context-sensitive response of the kind they need to develop for real clinical situations. Again, students may be led to simulate and dissimulate in their own behaviors, or to simulate learning rather than learn by simulation. Such an iatrogenic effect of simulation contexts has, as far as we are aware, yet to be systematically investigated in medical education.

Scenarios 4 and 5 (Figs. 11.4 and 11.5) represent the transition between Baudrillard's stages 2 and 3. The copy that is close to the reality (effective simulation) now comes to *precede* and *form* that reality (the stage of the simulacrum). Here, psychological and interpersonal capabilities usually learned in real-time settings, such as context-driven communication, teamwork and decision making, are absorbed into simulations and claimed by the simulation community as capital.

In this, the safest form of learning beyond the classroom, students are insulated from the messy realities of the work place. This is the commonest arrangement

Fig. 11.4 Scenario 4: keeping simulation close to the classroom, and separating clinical skills from work-based practices
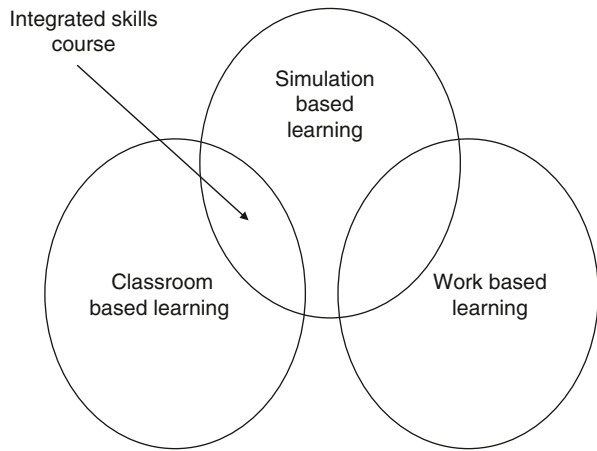
at undergraduate level and has many of the characteristics of classroom learning. In the undergraduate context, work-based experiences are often divorced from simulated clinical skills learning. Educators hope the two will be integrated in the student's mind.
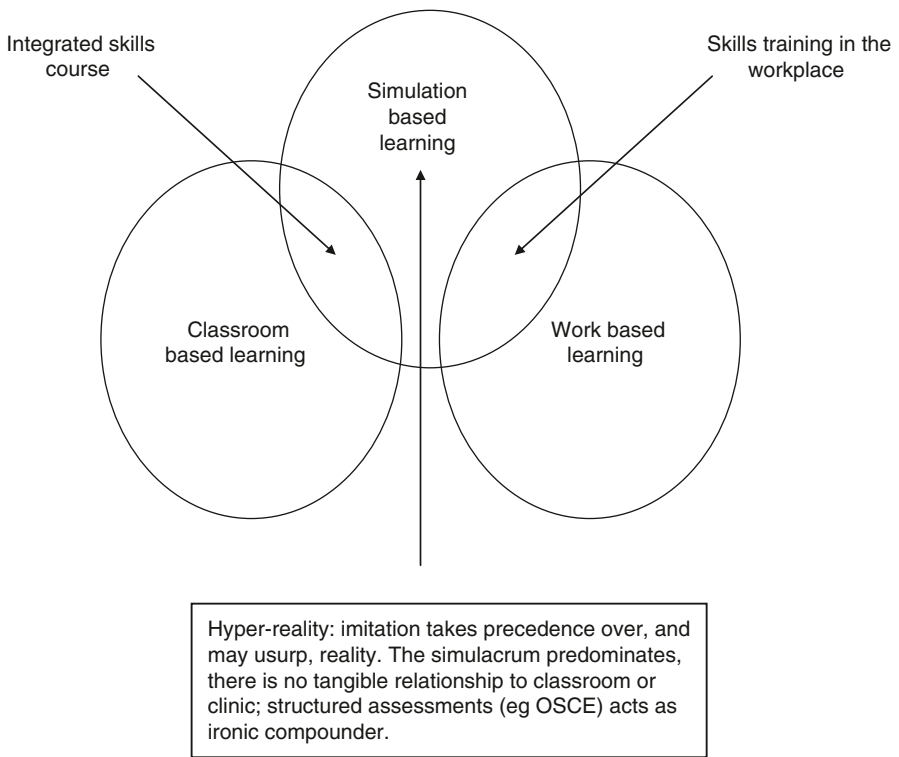
Fig. 11.5 Scenario 5: the dangers of too much, or poorly thought through simulation

Simulation of Learning for Interpersonal Communication

For safety reasons, certain clinical procedures can only be learned through simulation. However, as we note elsewhere, the majority of medical errors do not occur because of problems with manual dexterity, but are grounded in the cognitive and interpersonal—in both systems-based communication and decision-making issues (Kohn et al. 1999). Even for surgeons, a skillfully performed operation is not confined to manual dexterity, but is largely a decision-making process. Learning communication, teamwork and decision making are now no longer considered to be a value-added factor to psychomotor skills acquisition but a central part of the benefit of learning by simulation, because we can save patients' lives this way.

Flanagan and colleagues (Flanagan et al. 2004, p. 58) claim that 'Although the entire spectrum of uses for simulators is valuable, the greatest impact will come from using simulators *to teach things that cannot easily be taught in any other way*, including some aspects of teamwork, communication, stress management, decision-making and task prioritization' (emphasis ours). While it is accepted that the psychological and the psychomotor are intimately bound in skill execution and while simulation offers a safe environment for learning a range of psychomotor skills, is a simulated context necessarily the best for learning the psychological and interpersonal dimensions of medicine? Is 'integration' used as a convenient metaphor to justify the colonizing of social skills learning by simulation? This returns us to Roger Kneebone's argument that communication and professionalism are best learned, exercised and assessed in real clinical contexts, while the functional clinical skill or physical examination can involve simulation through use of models in conjunction with an actor-patient.

In promoting learning of crisis management in clinical teams through simulation settings with 300 anesthetic staff, Blum and colleagues (Blum et al. 2004, p. 50) conclude that 'realism' of the simulation contexts was actually the weakest aspect of the course's quality and that 'communication was … the most important aspect of the simulation training.' Again, the expected claim of simulation—success in learning technical skills—is not fully realized, but the value-added component of learning non-technical skills, such as teamwork, is realized and then promoted as a major benefit of simulation. Again, however, could teamwork have been better learned in the work place, as situated learning models suggest, as long as these experiences are structured to include legitimate participation, feedback and reflection? Such capabilities may not readily transfer from a controlled simulation context to the complex work environment.

Weller (2004, p. 32) describes how participants learning to manage a medical emergency in 'medium fidelity simulators' reported that what they learned best were generic skills—specifically, 'learning to work with a team' and 'applying a systematic approach to a problem' (64% of positive remarks)—rather than technical skills (34% of positive remarks) such as use of medication and oxygen delivery services. Weller suggests that 'These attributes of systematic problem solving and teamwork are hard to address by other methods and simulation may fill a gap in current undergraduate programs' (2004, p. 36). Why these attributes are hard to address

by other methods is not explained and does not fit with the conclusion of Issenberg et al. (2005) systematic review of the literature—that simulation-based education does not duplicate clinical work-based experience with real patients.

Ideally, as the simulation community gets more sophisticated, it begins to take appropriate risks in moving from the relative safety of integrated skills courses in a quasi-classroom setting to integrate the best of skills training in the workplace. The simulation context then draws together classroom and work-based learning, *as it remains grounded in the best qualities of both contexts*.

However, where Baudrillard's stage 3 of the emergence of the simulacrum occurs, such *grounding* in parent contexts may be abandoned. The simulation community grows up and shapes its own culture, but this is self-referential, now in danger of cutting ties with both classroom and work place learning to substitute an insulated simulated context learning experience with a focus on high fidelity and a fascination with technology. Paradoxically, 'fidelity' is increased (total 'immersion' scenarios) in a vacuum because the culture no longer copies either classroom or clinic, but begins to *reproduce itself* in more elaborate forms. The simulacrum, not the real, comes to dictate its own future copies.

It is now a short step to Baudrillard's 4th stage of simulation, in which the simulacrum now becomes entirely self-referential and insulated. Claims are made for its efficacy (such as in communication skills training) only within the parameters of
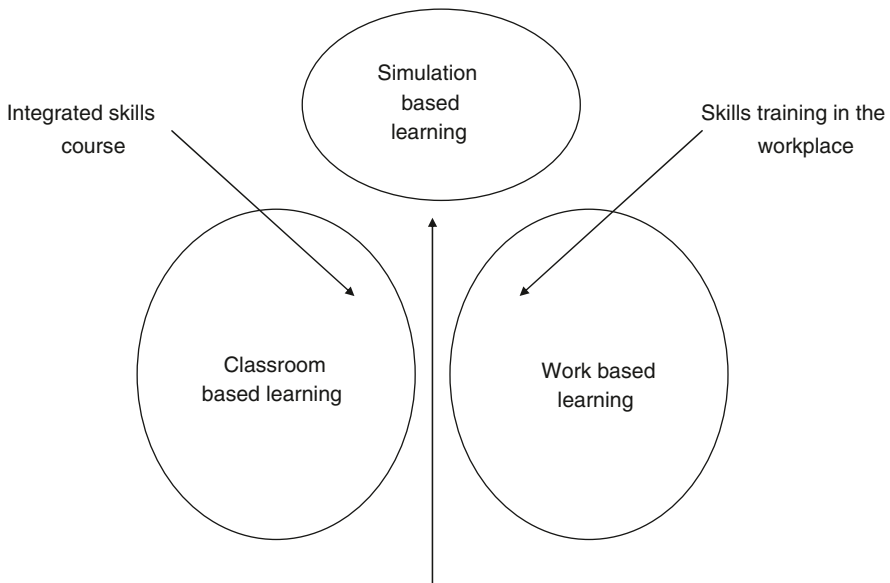
As the simulacrum increasingly takes precedence over the real, simulation based learning can become unhooked from both classroom and work-based learning and floats free becoming self-referential.

Our students may be used to such a condition of hyper-reality, but how will this translate into clinical acumen?

Fig. 11.6 Scenario 6: the simulation community operates as a free state, breaking away from both classroom and clinic. Are we in Plato's cave?

Fig. 11.7 Scenario 7:
reclaiming and recombining
the territories
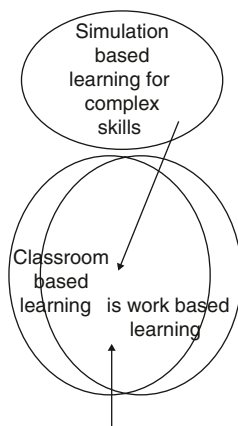
Can we merge 'classroom' and 'workplace' through developing 'live'
contexts such as the Linköping student-run ward for the elderly?

the simulation community and not with reference to real-life evidence, the demands
of context, or the difficulties in transfer of skills. We have inadvertently returned to
Plato's cave.

In this final scenario 7, the value of simulation is recognized, but its claims are
challenged. The value of work-based learning in dynamic, real-time contexts is giv-
en greater profile and classroom learning acts as a resource. The simulation arena
is gradually absorbed back into full integration with classroom and work settings in
contexts such as the real-time student-run ward, developed fully at Linköping medi-
cal school in Sweden (Wahlstrom et al. 1997), and trialed in the United Kingdom
in a modified version (Freeth et al. 2001; Reeves and Freeth 2002). The Linköping
interprofessional model involves a ward for the elderly run by students, from clerk-
ing through to discharge, with 'hands off' supervision provided by senior medical
and nursing staff. This is an excellent context for medical students to experience
longer-term acute care.

The Linköping model offers an ideal for patient-centered, work-based learning
for medical and health care students, but is restricted to senior students and there are
feasibility problems in translation to UK medical school contexts. Medical students
are restricted in the hours that they can work, only a small number of students can be
accommodated at any one time on the ward and there are a number of potential legal
and ethical problems to be overcome before introducing this kind of work-based
experience. Focus upon variety of placements in a wide range of real-time clini-
cal settings with a structured learning, supervision, mentoring and support system
remains the primary focus, for which a Linköping-style clinical setting provides the
icing on the cake. In the face of necessary practice restrictions, wider use of simu-
lated patients in real clinical settings provides a good option for utilizing the best of
simulation and work-based learning.

To get out of Plato's cave and back to the real world, some clinical capabilities
now regularly sited in simulation settings, such as communication skills, may be
returned to the workplace, with the onus on medical educators to devise effective

contexts for learning such as reflection, feedback and utilization of previous experience. Faculty must engage with contemporary insights from learning theory and associated research into learning in dynamic and complex contexts, following the exemplary lead of Kneebone and colleagues' research program. This would guard against the difficulties of non-transfer of learning, the potential drift into simulacra and hyper-realism, the difficulties in identity construction compounded by the temptation for simulation and dissimulation and students succumbing to the 'simulation of surveillance' effect in which they act as if constantly parented rather than allowed to develop and exercise appropriate autonomy and collaboration. This challenges potential simulation of learning.

Responding to the call made by Issenberg et al. (2005) in their BEME systematic review of the literature on purposes and uses of high-fidelity simulation in medical education, an urgent call is made for development of research and scholarship in three areas. First, is the critically reflexive application of the body of cultural theory of simulation referred to above to understand the cultural processes at work in learning by simulation in medical education. Second, developing from the first point, what are the implications of learning through simulation in medical education for professional identity construction and management? And third, can a new dialogue emerge between learning by simulation and work-based learning that is evidence based, rigorously theorized and sensitive to current imperatives such as patient safety and the need for integration of learning across the psychological and psychomotor domains? Again, we urge readers to look at how these questions are being creatively addressed by Roger Kneebone and colleagues' work. The next step in this work will be evaluation of outcomes, to move beyond face validity of the research endeavor.

Simulation has its place and is very valuable in medical education but identifying that place and taking care not to create new educationally redundant spaces is important. Simulation can act as a crucial bridge between structured classroom learning and the emergent issues of the complex clinical learning environment. We see great value in the hybrid model of patient-focused simulation or 'authentic simulation' that takes context for learning seriously (an evidence-based response from research) and offers a parallel focus of simulation for technical psychomotor skill and reality for complex affective learning of communication and professional and moral behavior. We think that it is important to remember that the core of medicine is the relationship between a patient and his or her doctor. No amount of simulated and protected practice can replace the real thing—the sensitive professional relationship. Again, as Guthrie (2002) suggests in the header to this chapter: 'To make a good doctor … (W)e need to provide medical students with that most powerful and dangerous of life forces—reality.' Teaching and learning at the bedside, in the clinic and in the home should remain at the heart of a contemporary medical education, even in the information, 'reality' television, age that cultivates the virtual.

Chapter 12
Global Medical Education—A Post-Colonial Dilemma

Imperialism by the Back Door?

Our final location for medical education in this trio of chapters on matters of place/place matters, offers a paradox. It is both everywhere and nowhere at once. Global, or international, medical education is, we suggest, in danger of being homogenized through virtual (online) programs. More importantly, regardless of the medium of delivery, 'whose' medical education is being delivered? Who decides on the nature of the message? Is the *pedagogy* of a global medical education actually a Western export, offering a neo-imperialism or neo-colonialism by the back door?

Further, as famously described by Said (1993), is Western medical education constructed in a similar way to 'Orientalism'? Said suggests that the 'Orient' is a construction of the Occidental imagination, where the Orient is (mis)represented as an irrational curiosity in opposition to the rational Occident. Thus, the 'developed' 'West' maintains its hegemony, or cultural dominance, over the 'undeveloped' 'East' only by maintaining the fiction of the Orient as an inferior Other. Does Western medical education also illustrate Said's thesis by stereotyping other medical education approaches (for example, that of Japan or China) as 'undeveloped'? Where such an assumption—in our view, a misguided and false one—is made, Western medical educators may move in to 'develop' such perceived under-developed provision. We will give illustrative examples later in this chapter.

It is fitting that we should end this section on locations for medical education with a horizon view—that of the rapid development of global medical education as a key aspect of a 'medical education for the future.' Our chapter, however, is focused on a specific aspect of that horizon. We argue throughout this book for two layers of radical change: democratizing medicine through medical education and democratizing medical education through application of medical education research. What we are cautious about are forms of democratizing through pedagogy—such as small group teaching and learning methods—being introduced to cultures in a way that ignores, rather than respects (and draws on), cultural differences. Both layers of democratizing are, paradoxically, based on an interpersonal issue that we believe the West is poor at modeling: tolerance of (and towards) the Other.

The primary Other for medicine is the patient. We have further suggested that, in clinical teaching and medical education, to teach and to learn how to be in the world of the patient, in acts of hospitality (as the moral dimension to medicine) is the heart of a medical education. We have encouraged a view of education that shifts from being inside oneself (reflective practice) to being 'inside' the Other (the patient or work colleague) and 'inside' the very discourses that lead us to act in the ways that we do, often without questioning our behavior and its informing values (as a form of reflexivity). This shifts us from a limited reflective practice to a limitless reflexive practice. Again, a reflexive approach to medical education demands that we ask what values drive our worlds and our actions and how we might appreciate other points of view and other ways of being, that could even lead to a reformulation of our practices and identities as educators. In this chapter, we shift this kind of thinking on to a big stage—the arena of global medical education. In this arena, we argue, habits tend to stick.

In previous chapters, we have touched on contemporary discussions and perspectives concerning globalization and post-colonialism to make points about the way that one view, or one group of people, can colonize another group and strip them of their own ways and desires in the face of a more powerful or pressing way, or a privileged position. This is a classic description of the quartet of habits that have characterized modern medicine as a profession: (1) paternalism, (2) interrupting and taking over the patient's talk in the consultation, (3) medicalization of the patient's narrative and (4) uniprofessional dominance in multidisciplinary settings. Here, we describe this as a form of imperialism and colonial practice—taking over another's experience and shaping it according to the colonizer's code. In the new era of interprofessional work, collaboration and patient focus, traditional hierarchies and paternalisms are challenged, where research evidence shows that such practices do not benefit patients and ethical citizenry demands that professionals act in a more democratic manner. In this chapter, we ask: what will happen as medical practice is de-colonized? To add to our analysis of the 'crisis' in medicine and medical education that frames this book, we must now add a post-colonial dimension and the demon of neo-colonialism.

The use of the term 'post-colonial' originally referred to a historical period which followed the dismantling, during the late nineteenth and early twentieth centuries, of the huge colonial empires mainly established by European nations—Britain, Portugal and France in particular. Many writers from the former colonies attempted to reclaim and re-forge their identities, writing a history from which they and their cultures had previously been excluded. But although the Western nations believed they had 'granted independence'—a term fiercely resented by some commentators—to the nations they had formerly colonized, it has been argued that a new kind of imperialism swiftly emerged to sweep the world in the form of global capitalism and the Western mass media, aided by new technologies. Theorists and commentators generally identify this new domination as 'neocolonialism' within a general era of 'postcolonialism' (Said 1993; Ashcroft et al. 2004; Loomba 2005; Lazarus 2006; Murphy 2006). (We adopt throughout the hyphenated conventions: post-colonial and neo-colonial).

We believe that we have given, throughout this book, a thorough account of the 'post-colonial' condition of medical education as this applies to *local* contexts, where we use 'post-colonial' liberally, as a way of describing the shift to authentic patient-centered, collaborative practices, displacing traditional forms. We have discussed this, for example, as a de-territorializing process, a crossing of borders between professions based on complex practices of negotiated knotworking around patients. We have argued, in principle, for common ownership of the means of production of health, wellbeing and what Aristotle termed 'human flourishing' and analyzed this emergent condition of collaborative work practice as an interaction between three forms of democracy: assembly (participant), representative and monitory. This has led us to frame medical education as more than clinical teaching, beyond the translation of pedagogic practices in the continuum of the education of doctors as a lifelong process. Rather, we have framed medical education as a cultural process that speaks back to its apparent master: medical practice. This speaking back offers a democratizing of medicine as it aligns with (and mobilizes) the patient's voice.

However, we have not turned our attention to what is happening literally in the emergence of a global medical education as a neo-colonialism in a post-colonial era. This chapter introduces the reader to this key ground. It is new and poorly articulated territory and, as with our thinking about simulation in the previous chapter, can be articulated with greater critical insight through borrowing from other discipline perspectives. There is a thriving industry of post-colonial studies, based in English literature, cultural studies, anthropology, politics, economics, history, geography, linguistics, education and sociology. Imperialism and colonialism are the topics that are studied, with interests as diverse as identity construction, rhetoric and political structures.

The Indian academic Spivak (1994, p. 53) is known for her insightful work into the cultural politics of knowledge—or how knowledge is legitimated culturally, especially in those spaces left by the withdrawal of a colonizing nation, such as post-colonial India. In a commentary on an essay by the North American anthropologist Lingis (1994, pp. 133–150), describing a 'muggy tropical evening' in Bangkok, Spivak acknowledges that even the liberal academic Lingis, normally sensitive to the Other, can write without awareness (reflexivity). Lingis' account, says Spivak, is clearly from one who 'does not live there.' For example, 'It is not a "muggy *tropical* evening" for the normal person in that society. It is a "muggy *evening*".' Let us take this further: imagine a North American anthropologist visiting Mumbai and describing chaotic traffic with little sense of order and a woman walking home oblivious to this chaos, lifted by the smells of cooking near the roadside. This happens on a sultry evening holding a strange fascination for the writer. From the point of view of the woman walking home, perhaps she is exhausted and thinking only of having now to prepare a meal for her family after a day's work and the cooking smells are not exciting her or stimulating her at all, but making her feel nauseous, through anticipation, as she is really too tired to cook. What is 'sultry' about the evening for her? The weather is everyday and possibly experienced as oppressive. And so is the 'chaos,' which is perceived by the woman as perfectly ordinary.

The writer has adopted the frame that Said (2003), in one of the founding texts of contemporary post-colonial studies, called 'Orientalism.' As we described at the beginning of this chapter, the metropolitan Occident or West, for Said, did not discover, or recover, but *constructed* Orientalism and its characteristics—exoticism, intrigue, mystery, a sense of savagery, culturally regressed—forcing disparate cultures into a convenient classification, offering reduction to a monoculture and stereotype. Lingis and our imaginary anthropologist above, should know better than to stereotype Bangkok as exotically 'tropical' and Mumbai life as 'chaotic' and offering 'fascination.' Well, yes, it may be fascinating to the writer, but, again, not to the local woman walking home feeling rather depressed about the prospect of cooking and possibly oppressed by the environment. The writer has orientalized the scene—it is a typical rhetorical strategy of colonizers, who wish, even unconsciously, to fit the Other into their mould and to make up the minds of the local inhabitants for them. Spivak also notes that such writing may be gendered—a male observer with a penetrative 'male glance' turning the 'native' into an object of exoticism, curiosity or fascination, paralleling medicine's well-known 'medical gaze' that can turn persons into 'patients,' patients into 'symptoms' and symptoms into locations ('the stab-wound in cubicle 3'). (Exacerbated by medicine's well-known interest in florid and exotic symptoms).

Spivak's parable and our gloss on it, alerts us to the dangers of a globalizing of medical education as a new imperial gesture—emanating from the 'developed' world and working outwards to occupy the practices and mindsets of less fortunate Others, who may, nevertheless, be cast as exotic. 'Whose' medical education is at stake here? It is important for the reader to note that we are not against the widespread adoption of medical education per se, any more than we are 'against' simulation or learning theories based on the individual. Rather, we are cautious about exporting an homogenized brand of medical education that may frustrate the development of important local practices fit for a local patient population. Also, who is delivering that education? Are they familiar with the issues of neo-imperialism and neo-colonialism that we raise in this chapter? Again, we are asking for greater theoretical sophistication, greater depth of thinking about these issues, before we rush in, albeit often with good intentions. We call, then, for 'thinking' the post-colonial in medical education (Bleakley et al. 2008) so that we might 're-think' educational strategy fit for purpose. Importantly, as local practices flourish, there is no colonial 'we' guiding this process, but the global imperative becomes one of comparison of practices and best fit for a local ecology or context. We encourage readers to by-pass the medical education literature at this point and to explore classic travel texts such as Kapuscinski's (2008) *The Other*.

Comparative Education

The sub-discipline within education that looks at educational practices globally or internationally—comparative education—is a vibrant field with a large literature. For example, sub-fields within education, such as curriculum studies, attract

weighty and intellectually challenging (and rewarding) synoptic texts (Pinar et al. 1995; Pinar 2006) that are increasingly crossing discipline lines, to become interdisciplinary or transdisciplinary education studies (see, for example, Pinar and Reynolds 1992; Jardine et al. 2006). This boundary crossing between disciplines is itself an important reminder that the modernist project of creating such boundaries, a territorialism, is itself being dismantled in a postmodern age of de-territorializing. The interesting points are *how* and *why* such de-territorializing is taking place. Some commentators say that breaking down previously cherished and hard won boundaries is merely leading to an ironing out of what makes differing approaches so interesting—their unique flavors. We are moving, they say, into an unfortunate age of homogenization of education that follows the North American globalization model of Coca Cola, McDonald's, Nike and Disney, to create markets for global products. The proponents of de-territorializing counter this by suggesting that the educational corners of the world have already been homogenized—through historical waves of imperialism and colonialism. For example, the Indian sub-continent already follows the British and American way. What de-territorializing does is to withdraw the colonial impulse and to encourage local innovations to fill the space, thus creating difference and heterogeneity. Interdisciplinary approaches to education follow this heterogeneous impulse, to create diversity.

Comparative medical education has yet to be established as a sub-discipline of medical education. 'Comparative' itself is an interesting descriptor, where comparison looks for things in common, but contrast looks for differences. Should we be using the term 'contrastive education' to better describe an approach based in difference and heterogeneity rather than selfsame and homogeneity? The danger of comparing is that I look for similarities to myself (selfsame) that I can affirm, rather than tolerating the difference of, and from, the Other, through which I can learn. Should a contrastive medical education then begin locally, as we outline above, first with the difference(s) between patients and doctors (we do not assume, of course, that these are homogenous groups) and then the difference(s) between doctors and other health and social care practitioners, who are supposedly 'colleagues'?

Is Western Medical Education Infectious?

Western medicine and medical techniques are being exported to all corners of the world at an increasing rate. Horton (2003) and others, while freely granting the phenomenal success that Western medicine has achieved in the widespread treatment and cure of disease and suffering, have expertly analyzed some of the ethical issues surrounding the export of Western (allopathic) medicine to developing countries. In addition, the ways in which inequalities are perpetuated through the global capitalist market in medical research have been eloquently described as the '90/10 divide,' where under 10% of the world's biomedical research funds are dedicated to addressing problems responsible for 90% of the global burden of disease (Resnik 2004).

Our concern in this chapter, however, is not the spread of Western medicine. We wish to address the issue of the accompanying export of Western medical education,

which too often appears to be seen as part of the package that is Western medicine without enough consideration of its potential impact as a field of theory and practice in its own right. We argue that using ideas drawn from post-colonial theory, medical educators can develop new ways of reflecting on what they are doing when they advocate the spread of Western curricula, educational approaches and teaching technologies.

There are surely few who would not wish to support the worthwhile and ambitious cause of creating a medical education that transcends national and political boundaries and thereby benefits humanity. The benefits of international medical education collaborations in economic, academic and humanitarian terms are undeniable and excellent work is being carried out in diverse locations worldwide to the benefit of whole populations. Many international partnerships and projects are springing up to share and disseminate new knowledge discovered through medical education research with the help and assistance of organizations such as the World Health Organization, the World Medical Association, the World Federation for Medical Education (WFME 2003; Karle 2006), World Organization of Family Doctors (WONCA) and The Network: Towards Unity for Health, to name but a few.

However, the limited body of knowledge in comparative medical education that we have from research studies points to dilemmas within this international picture. Krishnan (1992, p. 42) has described the Indian medical education system as thoroughly steeped in a colonial legacy tending to 'favor the urban elite,' where 'students cannot always communicate with patients in local languages' and 'textbooks often provide medical examples unrelated to India.' Teaching methods consisted mainly of 'lectures and rote learning' and curricula had obvious gaps such as lack of attention to 'community health' issues and to 'teamwork.' In summary: 'The education system is not patient-oriented, but hospital-or disease-oriented.'

Perhaps the international curriculum will challenge these national idiosyncrasies. However, how will such an international text address Krishnan's (1992, p. 42) conclusion that, in India, 'the problems of medical education will not be solved until the political and economic system becomes more responsive to the health needs of the people'? A review by Supe and Burdick (2006, p. 1076) of medical education in India noted that: 'Curriculum reform has been advocated for over 30 years, with calls for greater relevance of the curriculum to the needs of the community,' suggesting that little fundamental structural change had taken place since Krishnan's earlier review. Again, will the curriculum as an international text necessarily address these local concerns, or will it serve to reinforce the colonial legacy?

An anxiety permeates this comparative medical education literature—that national medical schools are not up to scratch if they do not (uncritically) adopt the latest learning approaches engineered in the metropolitan West. For example, Onishi and Yoshida (2004) note that Japanese medical schools must make use of curriculum innovations such as PBL, the OSCE and outcomes-based education, if they are to transcend the historically binding feudal *ikyoku-koza* system of apprenticeship based on strict hierarchy. Yet, according to recent accounts by Rao (2006, p. 41, 2007), the quality of health care in Japan 'assures better outcomes for its citizens compared to those in the US at any number of points along the age spectrum.' Rao,

visiting from America, expresses dismay at the state of medical education in Japan, where 'to an outsider from the USA, like the author, the need [for change] appears…to be not only obvious and essential, but long overdue.' Yet—as the author concedes in the quote above—health care in Japan is consistently better than health care in the USA. Does Rao's tone not also remind us of the very paternalism that we wish to avoid in respecting differences? Rao may say that the feudal apprenticeship system in Japan is the epitome of paternalism, but one would like to allow Japanese medical educators working within that system to review such outside critique first.

Rao (2006, p. 43) reports that 'Japanese medical education pays no more than lip service to the development of clinical skills' and there is no bedside teaching or case study approach. Nevertheless, book knowledge is 'dazzling.' Japanese medical education is criticized for its long-standing cultural habits: students are passive (a 'glaring failing'), where 'to ask a question was a sign of disrespect for their teacher' and feedback should never be offered to teachers; teaching is by lectures 'astonishingly narrow in their focus' and there is 'no concept of small group discussion or PBL.' Despite the latter, the author saw PBL as offering 'the greatest hope for the future of medical education in Japan,' describing how, in the absence of their *sensei* or superiors, the students were able to engage positively in the PBL process, an engagement described as an act of liberation. The closing paragraph of this article is telling. It has a missionary tone, promising to lift the oppression constituted by 'the deeply ingrained and culturally programmed passivity in those young minds, and the contempt and neglect of interactive instruction.' The author concludes: 'It is only if these twin pillars of the current system are brought down simultaneously, that it will be possible to reform the Japanese system of medical education.' The rhetoric is interesting—this is fighting talk rather than a promise of collaborative reform. But who started the war?

Nervousness about not being seen to conform to Western educational imperatives permeates other recent comparative medical education accounts. A review of medical education in Southeast Asia (Amin et al. 2005, p. 829) takes an apologetic stance on the slow adoption of 'student-centered learning approaches, including problem-based learning' and the lack of uptake of 'portfolios and self-and-peer assessments.' Khoo (2003, p. 401) notes perceptively that 'no-one has questioned whether the outcomes expected of the learner in a PBL setting are applicable to students from different cultural upbringings' and concludes that PBL can be successfully implemented in Asian medical schools. However, a closer reading shows that this is only possible through intense re-socialization of learners into metropolitan Western mindsets, at the expense of alternative views. What Khoo does not do is ask, as Krishnan (1992) had previously done in an Indian context, how a particular pedagogy-centered medical education translates into a patient-centered and context-sensitive practice for the doctor. Further, there is an assumption that small group problem-based methods, self and peer assessments and use of portfolios are clearly superior pedagogical techniques. Yet the evidence base does not support such an emphatic conclusion, partly because these large descriptors cover a multitude of sins. 'Small group' learning means nothing if it is literally simply a convened small group without appropriate facilitation, sensitivity to group dynamics,

well-established patterns of peer support and assessment, reflexive accounting for its methods and so forth. Further, where Rao (2006, p. 45) notes that there is no '*concept* of small group discussion or PBL' (our emphasis), how can pedagogic practices be built on a conceptual quicksand, or in a conceptual vacuum?

Importantly, more pressing structural issues may eclipse focus simply on pedagogical technique. For example, the comparatively high dropout rate of medical students in Argentina has been explained as 'inability to adapt to university life' (Centeno 2006, p. 1081). And it is a paradox that, since the collapse of the Soviet Union and its centralist government, the newly independent nation states in Central Asia have attempted to centrally standardize the 'evaluation, structure and content of the curriculum, pedagogy, and leadership development' in medical education (Conaboy et al. 2005, p. 52).

Flaws in the Global Medical Education Vision

There has been a strong drive in recent years to establish an international medical curriculum together with a virtual, global medical school (Harden 2006). These schemes would seem to be the natural outcome of the exciting opportunities offered by new learning technologies and their development has been given additional impetus by the globalizing agenda in higher education as a whole, which can be seen in such initiatives as the Bologna Process (Christensen 2004). There are obvious risks, however, with any global initiative. Not even the most energetic supporters of these universal undertakings would deny that there are dangers in pushing through international initiatives without careful consideration of local perspectives (Schwarz 2001; Horton 2003). Other global initiatives, such as the Declaration of Helsinki, have attracted criticism for their 'ethical imperialism' in attempting to impose Western values on non-Western cultures (Macklin 2001). It would be unfortunate if worthwhile international initiatives in medical education were to fall at the first hurdle because their originators found themselves charged with a similar type of neo-imperialism.

The chief and most obvious concern with developing an international curriculum is that any large-scale consensus agreement will inevitably be a human creation. A curriculum may be developed by many people: but each has vested interests, particular ideologies and value systems which he or she brings to bear when judging whether such a curriculum has global applicability. The Western medical curriculum, seen as an international text, is steeped in a particular set of cultural attitudes that are rarely questioned. How can we be sure that modern global initiatives in medical education, which are largely advocated and funded by those in the 'modern, metropolitan West' (Lazarus 2006), who have the resources and influence to drive them through, are not just another type of domination by the so-called developed nation over the developing nation? When proponents of globalization see only what Lazarus (2006, p. 11) describes as 'the tide, irresistible but beneficial, that would raise all boats,' are they failing to identify this tide as a new wave of imperialism?

Global, Local or 'Glocal'? The Trade in Knowledge as a Commodity

Education has often been framed as a business whose commodity and capital is knowledge. But education is also about values and international education is about comparative values. It is important for medical educators to engage with the wider critical frameworks that underlie post-colonial thought as they go about the business of bringing Western medical education to 'developing' countries, where this means becoming reflexive about, or accounting for, the values that drive their practices. Imperialism is a rhetorical imperative, a desire to persuade an Other into one's own value structure. If the global carries the shadow of neo-colonialism and the local implies turning one's back on valuable progress, is there a hybrid condition that is not a compromise but offers transcendence of the unproductive opposition between global (the primary model being American Empire) and local (the primary model being neo-Islamic fundamentalisms)? Commentators such as Jencks (2007) see 'glocalism' as a defining feature of the postmodern condition, where the benefits of post-industrial progress, such as contemporary medicine, are realized in a locally sustained manner.

We encourage you to read social realist accounts—such as Horton's (2003) *Health Wars: On the Global Front Lines of Modern Medicine* and Orbinski's (2009) *An Imperfect Offering: Dispatches from the medical frontline*—to gauge how difficult it is to insulate medical education from its local political and cultural contexts, as if within a pedagogical bubble. By rarifying in this way, we reproduce the mistakes made by zealots in the simulation culture, who, as we suggested in the previous chapter, became fascinated by technology and cut off from reality. We cannot, as medical educationalists, be overcome by fascination with techniques such as PBL, where these become ideological instruments inspiring a kind of educational zealotry. Horton and Orbinski offer the same rhetoric across their titles: 'front line' thinking is required. In other words, medical educational strategies cannot be cooked up in Universities and then exported. They must be context specific and fit for purpose, formulated in the heat of practice. Interestingly, when Orbinski's book was published in the USA, the subtitle was changed to 'Humanitarian Action for the Twenty-First Century' (rather than 'Dispatches from the medical frontline'), defusing the political implications and (safely) stressing the social. However, what we lose is the radical and paradoxical point of the book as a political discourse about a non-governmental organization that is supposed to be a-political. Of course, the organization's work is about humanitarian action, but not from the operations room—rather, at the coalface of activity and often in the heat of others' conflict.

Anthropological accounts of medicine also help to educate a mindset in which one pauses before rushing in to enlighten the Other with one's own view of what is best. The late Helman (2006), a highly respected doctor and medical anthropologist, was also gripped by the 'coalface' metaphor in his *Suburban Shaman: Tales from Medicine's Front Line* that argued for a relativistic approach to treatment based on cultural context. Helman reminds us that a family doctor in a multi-ethnic urban

setting such as London is regularly faced with the issues of neo-imperialism that we have outlined in this chapter—of failing to read the patient from within the patient's own cultural perspective, but habitually imagining that there is one medicine for all. Helman, a much missed speaker about cultural tensions (he learned medicine in South Africa at the height of apartheid), often referred his audiences to *The Spirit Catches You and You Fall Down: A Hmong Child, her American Doctors, and the Collision of Two Cultures* by Fadiman (1997).

In 1982, Lia Lee, a three-month-old girl and Laotian refugee living in California, was taken to the emergency room of the local hospital. The parents did not speak English and no translator could be found. The doctors diagnosed epilepsy. The parents thought that her soul had left her body so that 'the spirit catches you and you fall down.' Lia's case worsened as the parents adopted traditional healing routines such as herbal remedies and failed to give prescribed medications. The communication gulf was too great and the parents could not understand why, when they did give the child the prescribed Western medication, there were bad side effects. What Fadiman realized and articulates beautifully, is that the Hmong culture cultivates aversion to coercion. The parents could not tolerate the doctors' (and the medical system's) insistence and paternalistic style, thinking of this in itself as bad healing practice. The medical diagnosis was right, but what the Laotian Hmong family saw as a tyrannical approach to acting on that diagnosis caused a tragic rift between the family and the system of care. Here is a cautionary tale of one aspect of neo-imperialism where the hybrid 'glocal' was not achieved. The global product was technically correct and appropriate, but the local reception was completely misjudged. The hiatus was a communication error, not a technical mistake.

Verghese's (2009) internationally applauded novel *Cutting for Stone* advertises the virtue of the hybrid 'glocal.' Verghese, Professor of Medicine at Stanford University, writes factual, 'factional,' social realist and fictional accounts concerning medicine and the characters who inhabit that world. *Cutting for Stone* is set mainly in Addis Ababa, Ethiopia (colonized by the Italians under Mussolini). Verghese himself was born and raised in Ethiopia of Indian parents. Later in the book the action shifts to America—specifically the Bronx, New York and, briefly, an upmarket hospital setting in Boston, Massachusetts. While the novel trades in the universality of values and emotions—trust, compassion, anger, suffering, joy, comfort and despair—values of Western medicine are set against idiosyncratic local issues. Through his characters, Verghese does not oppose these forces, but places them in dialogue. As the protagonist, Marion Stone, trains with an ambition to become a trauma surgeon in America, his internship is served in a hospital catering for a poor, mainly Hispanic, population and the hospital is staffed mainly by non-white, immigrant doctors. Back in Addis Ababa, Marion's twin brother Shiva gains fame as a lay, non-medical, expert on vaginal fistula, becoming 'the genius behind a WHO fistula-prevention campaign that was a "far cry from the usual Western approaches to these issues"' (Verghese 2009, p. 467).

New York, according to one of the Indian doctors working with Marion Stone, is 'Mumbai lite.' Verghese shows that America's globalism is in fact growing within

its own boundaries, as a paradoxical confluence of localisms among the less-well-off immigrant groups. The blue-collar sector is now multicultural and served by a multicultural medical force. American global values are reflected back to their origins and refracted locally through these ethnically diverse cultures, to be reinvented. The Ethiopian restaurants Marion Stone visits to get a taste of home are decorated in an international style (more 'glocalism') derived from Ethiopian Airlines calendars. The most authentic of these restaurants, in Boston, is, true to the rules of Said's 'Orientalism,' called the *Queen of Sheba*.

As we develop an international medicine curriculum, perhaps we cannot help but become 'glocal.' But we would like to see more of the local than the global in this hybrid. This is a question of being sensitive enough to see which values fit and which rub, if we are in the business of exporting values. Recall the Hmong family's dilemma—they could never accept the, albeit correct, diagnosis of the Californian doctors, because it was delivered in the wrong manner, as an imperative rather than an invitation. This, in the American State that invented such phrases as 'Have a nice day!' and 'Enjoy!' But here is the point—these invitations too have become imperatives. You *will* have a nice day! Western post-Enlightenment thinking lays great emphasis on 'essential' or 'core' values, the existence of which assumes that things have an essential quality that makes them different from other things and that their essential nature can be known by establishing what the differences are. So when, for example, Schwarz (2001, p. 534) makes a case for medical educators to improve their understanding of globalization, but concludes by asking 'What kinds of *core* educational experiences and *essentials* are required for…global physicians?,' (our emphases) his very question is grounded in Western essentialist thinking, thereby revealing an unintentional neo-imperialist bias.

The language of the international curriculum is therefore at odds with itself. While proponents of global standards acknowledge the need to respect local differences and celebrate diversity, they are at the same time promoting Western values, expressed in the language of 'core competencies' and the maintenance of equity through standardization. Effort is directed towards establishing common outcomes within competency frameworks as global standards for accreditation (Sefton 2004). At its extreme, this emphasis on standardization risks echoing the homogenizing process of Western-inspired 'McDonaldization.' In this case, however, what is being traded in the global marketplace is knowledge rather than hamburgers.

Initiatives such as the development of global standards and curricula therefore raise the critical question of whose knowledge is at the centre of the enterprise. Again, we are not talking about the knowledge base of medicine itself, but about the way in which medical knowledge is organized and operationalized, as part of a curriculum. To develop a curriculum, medical educators must ask—and must continue to debate—such key questions as: How shall we teach, learn and assess; how do medical students learn to become doctors; and how can we develop a culture of medical education research that will lead to improvements in patient care and safety? Is it therefore either reasonable or wise to suppose, as the development of a virtual global medical school would seem to indicate, that we have an emerging

common vocabulary in medical education that offers a ready-made pedagogical platform?

There is a danger, as the universalizing agenda is pushed forward, that proponents of certain learning methods (particularly problem-based learning) and certain educational frameworks (such as competence) will increasingly see them as essential and unquestioned parts of the curriculum. As this tendency becomes widespread throughout medical education, these key aspects of the Western curriculum will become, like the Big Mac, ubiquitously present—homogenized, commodified, marketed, reduced to 'essentials' and instrumentalized. We then find ourselves regressing to the tired local versus global opposition, rather than the more productive hybrid of the 'glocal'—an ugly neologism, but perhaps a great notion.

From Reinforcing the Colonial Legacy to Challenging the Colonial Gaze

Experts on globalization describe the emergence of a new era ('After Iraq'), in which earlier impulses towards positive multi-cultural exchange have been usurped by 'empire' or widespread interventions promoting conservative American political interests (Hardt and Negri 2001, 2006, 2009; Lazarus 2006). Central to these studies is the 'post-colonial turn,' a reflexivity in which scholars recognize that their own position of comment upon the post-colonial itself offers a neo-colonial problem. For example, there is a strong difference in the ways in which Anglophone and Francophone commentators now reflect upon their respective colonial legacies. A Western Anglophone international medicine curriculum is likely to diverge more from a Francophone example than from, say, a national Kenyan model. This is important where French-speaking Canadian interests in medical education are traditionally strong (Segouin and Hodges 2005).

Furthermore, the 'New World Order,' so long dominated by US foreign policy, is now described as being usurped by a 'new New World Order,' so-named to account for the emergence of China and India as powerful industrial nations (Drezner 2007) and India as a model for representative democracy. Is it appropriate, for example, that the medicine curriculum as an international text has a uniform approach to professionalism and to non-technical skills in clinical practice? How might we embody communication skills, probity, leadership, autonomy and becoming a team player in such a curriculum, while offering equity and equality of opportunity across a range of ethnic and cultural interests?

We argue for greater awareness of, and facility with, contemporary interdisciplinary approaches to the post-colonial problem as we struggle with the notion of an 'international text' for medical education. Contemporary curriculum scholarship looks at curricula rather in the way that cultural critics look at books, films and works of art—as varieties of texts that can be critically examined (Pinar and Reynolds 1992; Castenell and Pinar 1993; Reynolds and Webber 2004). Medical education research could benefit from engaging with this approach as a way of

examining reflectively what we are about when we design a program of education. If educators in the metropolitan West merely look outwards at the rest of the world instead of turning our gaze back upon ourselves as potential colonizers, then we risk continuing the process of colonization despite our good intentions. And yet, as doctors and educators should know perhaps better than most, there is always more to learn: and we can learn most from an equal and respectful sharing with others.

Empire and Forms of Resistance

Hardt and Negri (2001, p. 12) distinguish between older forms of imperialism and newer forms of 'empire': 'In contrast to Imperialism, Empire establishes non-territorial centers of power and does not rely on fixed boundaries or barriers. It is a *decentered* and *deterritorializing* apparatus of rule that progressively incorporates the entire global realm within its open, expanding frontiers.' This describes the global creep of capitalism in multinationals, global companies such as Nike and Microsoft and global ideas such as metropolitan Western education. These forms of neo-imperialism are hard to challenge or counter, because they claim no specific territory.

The status of educational forms that we have discussed throughout this chapter, claimed as enlightened and therefore open to universal consumption, are, as we have said, often still debated in the research literature. We have, for example, challenged in Chaps. 3 and 4 the transparent assumption that how people learn is as individuals, where we bring mediation of learning through the social and through material artifacts into the equation. We suggested that the individualistic approach to learning is both ideological and culture-specific. We also challenged the uncritical acceptance of the notion of 'teams,' pointing to a variety of other ways of conceptualizing how people work collaboratively, also shifting emphasis from content to process. The core of educational practices that now characterize a Western medical school curriculum—PBL, small group activities, the OSCE, learning by simulation, and (new) saws such as 'assessment drives learning'—can all be brought into question and approached critically. This does not mean that they are wrong, or mistaken. Rather, in some cases these educational methods are under-developed (such as mistaking syllabus for curriculum) and in others, not progressed critically (such as learning by simulation). We should then, as this chapter warns, not be too hasty about exporting what may be unproven, under-developed, or ideologically motivated. These educational methods are forms of capital that can become pervasive, promoting an educational Empire.

To return to the beginning of this chapter, neo-colonialism begins at home, where patterns of resistance to educational orthodoxies are on the doorstep. We have already indicated how paradoxical forms of resistance can spring up, through our brief reference to Abraham Verghese's novel *Cutting for Stone*. We noted that, where an immigrant medical workforce is treating a largely non-white community, the North American Empire and globalization agenda is subtly resisted. American

capital, product and values are reflected back and refracted through ethnic communities who retain and reclaim their difference. The value is then recovered as a local flavor—Tex Mex, Spanish Harlem, Cuban Jazz. If the Californian medical system had not been so insistent and coercive, then Lia Lee's case would not have turned into a tragedy as the Laotian family may have responded to, instead of resisting, the diagnosis. The pattern of resistance that is on the doorstep is then to transform the 'big' export values for local consumption as a form of subversion. The two most common tactics for such subversion, explored by Bhabha (2004) in the context of the Indian subcontinent's colonizing, de-colonizing and reclaiming of identity, are 'mimicry' and 'sly civility.' The colonized mimic and satirize the colonizers, but without being overtly rude.

Such sly subversive and resistant dialogue between colonizers and the colonized is common in medical education. For example, educationalists and social scientists often complain about the lack of critical, academic insight displayed by the pragmatic clinical community in clinical teaching. Clinicians are civil with the academics, but, especially where two or more congregate, offer a sly civility, a great deal of leg pulling and polite distrust of the 'pink and fluffy' or 'woolly' offerings of the academics. Senior doctors may think that they offer good role models for medical students, but as often as not will be caricatured behind their backs by students. One of the great rivalries in medicine, so often portrayed on TV medi-soaps, is between management and clinicians, where clinicians turned managers are often described by their colleagues as having gone over to the 'dark side.' Managers try to get clinicians, especially surgeons who are usually fiercely independent, to follow protocols, such as filling in medical incident forms. Surgeons comply by persuading scrub nurses to fill in the forms for them, as a form of sly civility. Finally, patients consistently and persistently engage in what clinicians refer to as 'non-compliance,' especially with drug regimes. This can also be a form of sly civility as patients leave the surgery with their prescriptions, only for a significant minority of these to be flushed away. As a result, we now have traces of anti-depressants in the ground water.

In this chapter, we have suggested that the Western medical curriculum is steeped in a particular set of cultural attitudes that are rarely questioned. We have argued that, from a critical theoretical perspective, the unconsidered enterprise of globalizing the medical curriculum risks coming to represent a new wave of imperialism. We need to develop greater understanding of the relationship between post-colonial studies and medical education if we are to prevent a new wave of imperialism through the unreflecting dissemination of conceptual frameworks and practices that assume 'metropolitan West is best.' In exporting medical education practices, we should be aware that patterns and tactics of resistance will develop, but these are not symptoms only of global exchanges—they can be read as endemic to local medical education, perhaps as mis-placed strategies aiming to maintain an identity.

Part III
Medical Education Research—
A Democratising Force for
Medical Education

Chapter 13
Let's Get Real: Medical Students Learning from, with and About Patients

There should be 'no teaching without the patient for a text,
and the best teaching is that taught by the patient himself.'
William Osler
(quoted in Roter and Hall 2006, p. 135)

Productive Forms of the Medical Encounter

One of the striking features of Stewart's (1995) review of the literature on patient health outcomes as related to quality of doctor–patient interaction is that the most powerful *form* of relationship is neither strong paternalism nor strong patient autonomy, but strong doctor–patient *dialogue*. The optimal 'care formula' for the medical encounter is not just doctor *plus* patient, but doctor *times* patient. While this may seem self-evident, the cumulative research evidence suggests that the majority of doctor–patient interactions do not follow this formula (Roter and Hall 2006).

In this chapter, we build a model of patient-centered teaching and learning particularly for undergraduate medical education, although the principles can be readily applied to the continuum of medical education. Instead of the traditional, paternalistic, model of the doctor exerting power *over* a patient through technical knowledge and social standing as a respected figure of authority, power can be seen to be a product of *difference* between doctor and patient, as two identities forming what can be termed an ecological field. Indeed, power is no longer 'in' the person (the authority figure), but 'in' the system, or local ecology, of relationship. This is an example of horizontal, capillary power displacing traditional forms of sovereign power, as we discussed in Chap. 9.

We can develop this notion a little further. By investing power in either the doctor or the patient, we tend to encourage an opposition between them. The doctor exerts paternalistic power over the patient and the patient, perhaps empowered by an advocate, fights back. A symptom of this authority structure may be the relatively high rates of noncompliance of patients reported in the literature. DiMatteo (2004), in a review of 50 years' work on studying compliance, suggests that compliance

rates were at an average of 62% prior to 1980, but have since 'improved' dramatically, to 75%. Such a combative model can be seen to be unproductive and potentially damaging for patient care. After all, sometimes the doctor exerts legitimate authority; but sometimes the patient has a good reason for not complying. If power operates within a system and can flow either way then perhaps it is more productive to look at power itself as a way of producing new forms of relationship, rather than simply reproducing and reinforcing traditional identities.

Let us now introduce the medical student, or the primary learner, into the doctor–patient pairing. Traditionally, medical students learn from patients under the supervision of senior educator-doctors. However, the role of the supervising doctor can interfere with the potential for learning from the medical student and patient relationship, because it tends to reconfigure that relationship towards the student learning from the senior doctor, rather than learning with, from, and about *patients*. In this chapter, we suggest new forms of educational relationship within this triad that require the supervising doctor to play a facilitative, supportive and clarifying role. We recognize that focus upon a triadic relationship can obscure the reality of students learning within wider settings of clinical teams, of which the supervising doctor-educator is a member or key representative. We also recognize that, where we talk of a triadic relationship of student-patient-supervising doctor, it may be that medical students learn in same profession pairs or triads, or in mixed profession combinations (for example, with students from nursing, physiotherapy, pharmacy, clinical psychology and so forth).

Towards an Authentic Patient-Centered Medical Education

Fifty years ago, at the time of writing, Miller (1999) convened 20 hours of round table discussion between 12 medical faculty members from the University of Buffalo, School of Medicine, where the participants looked critically at the current state of medical education. Their succinct conclusion was that 'teachers may be major obstacles to student learning.' They promoted a now familiar student-centered approach.

It is hardly surprising that Miller's group was critical of medical education as it existed in the late 1950s and it was clear that change was long overdue. The tradition of apprenticeship-based 'medical training,' still current at the time, was largely teacher-centered. The curriculum, such as it existed, was chiefly arranged to suit the interests and priorities of educators in senior posts without systematic regard for the needs of either students or patients. While of course it was always possible for individuals to be inspiring role models and to deliver high-quality education to medical students within the system, there was, nevertheless, a widespread feeling that the needs of the students were being overridden. Institutionalized bullying and marginalization by senior staff, resulting in cynicism and disaffection on the part of the students, were commonly identified problems. It was therefore entirely reasonable for a new approach to be proposed and widely adopted.

The student-centered approach has become widespread and has resulted in many improvements and innovations in medical education, to the benefit of students, teachers and patients alike. Nevertheless, we see around us worrying signs that, in the search for improvements in student-centered education, the patient as a central focus of practice and learning is still being squeezed out.

There is a substantial literature on patient-centered approaches to medicine (for example, Fulford et al. 1995), but it tends to revolve around medical *practice* rather than structured or explicit medical *education*, informed by appropriate learning theory. Where it has involved medical education, research on patient-centeredness has focused largely on the attitudes of medical students towards patients and how this affects their behavior (Krupat et al. 1999; Phillips and Ferguson 1999; Silver-Isenstadt and Ubel 1999; Haidet et al. 2002; Tervo et al. 2002; Dogra and Karnik 2003; Masson and Lester 2003; Walling et al. 2004; Woloschuk et al. 2004). Following this bias in the literature, patient-centeredness tends to be conceived as a set of values and virtues rather than as a practice informed by theory. Once patient-centeredness is seen as an ethical concern, like altruism, sensitivity or integrity, then it is an easy step to conceive of it as part of a group of professional attitudes best learned from senior doctors acting as role models.

We pointed out in the chapters on identity that this approach is characteristic of the 'professionalism' movement in medical education and is highly influenced by values of autonomy and individualism. The purpose of medical education then becomes merely the reinforcement and assessment of these 'patient-centered' attitudes through structured input from medical teachers. But what this means in practice is that, paradoxically, students are learning about patient-centeredness *mainly from other doctors, rather than from patients*. In other words, education of patient-centeredness may be reduced to role modeling on senior doctors, paradoxically by-passing patients.

The literature on patient-centeredness falls rather silent when it comes to the ways in which medical students and patients actually encounter each other in the clinic, classroom and on the wards. This means that we do not know enough about how medical students might learn with, from, and about patients in a way that challenges students' prevailing focus on the clinical teacher as a medical role model and turns their attention more towards reading the patient's condition *in collaboration with the patient*. Since collaborating with patients towards better clinical outcomes is what excellent practitioners do, this is surely something to be developed in medical students from the outset.

Recent studies describing medical students' attitudes towards patients suggest that contemporary undergraduate medical education has been less than successful in its attempts to help students develop positive patient-centered attitudes as they progress through an undergraduate program. Students may, understandably, feel uneasy or under-skilled in their early contacts with patients, even though the patients themselves report that they feel emotionally supported simply by the presence of medical students (Mukohara et al. 2006).

Students may misjudge how sensitive patients can feel in vulnerable situations, such as a sexual health clinic, where women patients are typically less comfortable

with male students, and some patients may even refuse student involvement (Ryder et al. 2005). In addition, a 'hidden' or implicit curriculum has been identified—as students develop professional identity as doctors, they may start to identify so much in their role as doctors that the distance between them and patients actually increases beyond normal professional boundaries (Haidet et al. 2002). For example, as students progress through their studies, they may place less importance on informing patients about their student status than patients would wish, especially in surgical settings (Silver-Isenstadt and Ubel 1999). This is the beginning of the infamous slippery slope to doctors' 'hardening' in the face of increasing volume of patient suffering.

It is only to be expected that first-year medical students sometimes have trouble in demonstrating appropriate values and behavior during their first clinical encounters. This may be a particular problem where they have little prior experience of dealing with certain groups, such as ethnically diverse patients (Dogra and Karnik 2003) and patients with disabilities (Tervo et al. 2002). But there is also worrying evidence that, instead of closing, the gap between patient and student actually widens during medical school. Medical students enter their education full of idealism and compassion, but subsequently have this trained out of them (Kumagai 2008), despite the efforts of dedicated medical educators to encourage professionalism among students and to educate for effective communication, ethical behavior, humanitarian concern and sensitivity.

As they progress through their education, there is evidence that medical students lose faith generally in the value of a socially aware approach to medicine that includes sensitivity to patients' life contexts. For example, medical students have been shown to hold more negative attitudes towards homeless people at the end of their undergraduate course than they do at the beginning (Masson and Lester 2003). In contrast, by the second year, medical students can openly and consistently agree on both the kinds of patients they find difficult to treat (for example, those who are rude, and those who contributed to their own symptoms) and the kinds that they favor (such as patients they find physically and socially attractive and patients with whom they have personal connection) (Walling et al. 2004).

There are consistent, significant differences between male and female medical students in their attitudes towards patients. Women will typically be drawn to community medicine as a career. Women medical students typically show stronger patient-centered values and less erosion of these values over time (Woloschuk et al. 2004), although the widening gap during an undergraduate medical education is still evident. Despite increasing numbers of female students and a strong drive among educators to encourage diversity, male medical students have been shown to harden stereotypical attitudes towards women as they progress through their undergraduate career (Phillips and Ferguson 1999).

Students' attitudes towards patients have been measured using the Patient-Practitioner Orientation Scale (PPOS), a validated instrument that distinguishes between patient-centered attitudes (egalitarian, whole person orientated) and disease- or doctor-centered attitudes (paternalistic, less attuned to psychosocial issues) (Krupat et al. 1999; Haidet et al. 2002). This polarity has also been referred to as a

care-orientated versus cure-orientated approach to medicine (De Valck et al. 2001). While what is 'measured' is conceptually hazy, in these questionnaire studies, again male students have been shown consistently to shift rapidly and significantly from 'patient-centered' to 'doctor-centered' approaches as they progress through medical school. Women students also shift in this doctor-centered direction, but the change is less pronounced and slower. Those students who show a desire for a career in primary care are also less likely to show a significant and rapid shift away from patient-centeredness (Thistlethwaite and Jordan 1999; Howe 2001).

Although it is unfortunate, in some ways increasing cynicism is only to be expected. Many young medical students begin their studies full of ideals, but this optimism erodes as disillusion sets in. A closer acquaintance with medicine reveals it to be fallible. Greater exposure to illness and death obliges students to develop objectivity, but this may also be accompanied by a worrying cynicism. Furthermore, medical students quickly recognize that politicians, management and patient advocacy groups now challenge doctors' traditional autonomy, while the respect that doctors used formerly to expect is now sometimes hard earned. Compounding the problem, however, as a British Medical Association (BMA) (2008) report on patient-centeredness is at pains to point out, is the deeply ingrained paternalistic culture into which students are socialized through the hidden curriculum. This makes it hard for them to challenge—even if they wanted to—traditions such as the way in which some clinicians may refuse to admit to uncertainty in clinical judgment either between themselves or with patients.

Medical Students Learning from Patients, Supported by Clinical Teachers: A New Vintage

Rather than viewing education as an activity that students and clinician-teachers do *around* a largely passive patient, we wish to argue for a new type of patient-centered medical education, where the relationship between the student and the patient becomes much more important and active and the clinician-educator plays a supporting, but not a central role.

Using a series of seven diagrams, each building on its predecessor, we will attempt to show how the fundamental building blocks of medical education—the patterns of doctor-student-patient exchange—have changed over the years. We offer a new way of conceptualizing these patterns of exchange that will lead to (1) a more dynamic and authentic learning environment for the student, (2) a more rewarding and responsible role for the patient and (3) less need for the clinician/educator to control encounters in a paternalistic and authoritarian way. We will then offer a theoretical framework to inform our model, drawn from contemporary work on 'text' in literary studies, cultural studies and philosophy. In the following chapter, we develop this text model drawing on literary theory and conclude with some empirical study outcomes that offer research-generated support for the model (Ashley et al. 2009).

Fig. 13.1 The traditional transmission model
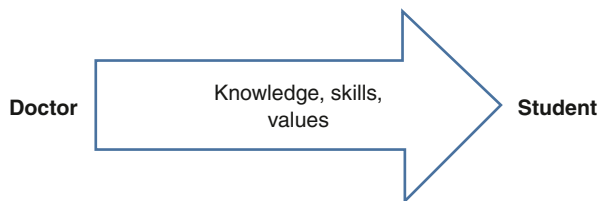
Let us explore the educational model of possible relationships between patient, medical student and supervising doctor-educator or clinical teacher. We will take this step by step, gradually developing the model, and inevitably making it more complex.

The traditional form of medical education is a teaching and transmission/reception model (Fig. 13.1). The doctor is the source of knowledge, information, skills, values, and the role model for expertise in clinical reasoning. The power structure is that of Master/Apprentice and resembles a conventional skills apprenticeship model. In this model, much of what the student learns in the clinical context occurs through immersion and chance. Typically, this model is criticized as lacking a student-centered dimension. It is less often observed that the real deficiency in this model is the lack of a patient-centered dimension.

In Fig. 13.2, the role of the doctor has subtly changed and developed—no longer just a fount of knowledge who teaches, the clinician teacher becomes a facilitator who centers his or her attention on setting up appropriate learning environments for students. The student is much less passive and is now empowered to engage in dialogue with the doctor. Instead of being a submissive recipient of knowledge, the student is encouraged to take a more active role as seeker and interpreter of knowledge. The patient's explicit role in any learning episode is, however, still absent.

This is the model that was advocated by Flexner (1910). He suggested that medical education would be best achieved through two strategies—taking the classroom to the clinic and working with small group learning methods. As Miller (1967) argues for the UK context, Flexner's recommendations were doomed to failure because they placed too heavy a burden upon under-resourced health-care systems. The development of the teaching hospital as a dedicated and sophisticated educational and research space was frustrated in the post-World War II era by the reality of a politics-driven medical education. Students, for economic reasons, had to be taught in large numbers in lecture formats, undoing Flexner's vision of a small group learning revolution. Flexner wanted to take the tutorial system to the clinic but this vision was frustrated by the separation of teaching and clinical spaces. This physical separation led also to a separation in the curriculum. The undergraduate
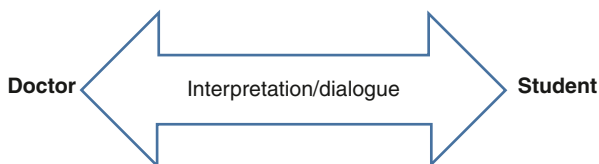
Fig. 13.2 The student-centered but uniprofessional model

curriculum was divided into pre-clinical and clinical phases, but this may have been a misrepresentation of Flexner's suggestion that medical education should offer a solid science education informing clinical practice.

The model in Fig. 13.2 is restricted to a uniprofessional exchange. This is entirely legitimate in constructing an identity of the 'professional' as 'doctor.' However, in the current health-care climate, this model looks rather dated. Medical students must learn to work interprofessionally, or collaboratively, in clinical settings consisting of many health-care professionals. We have described patient-centeredness as learning with, from, and about *patients*. This is borrowed from the common definition of interprofessionalism, as learning with, from and about other health-care professionals.

We have adjusted the model to reflect that changing focus and to include the recognition that every clinician teacher is only one member of a team of professionals and may indeed be a member of several teams, or activities. The education of medical students is now expanded. Although the framework remains student-centered, it now includes the contributions of other health-care professionals (Fig. 13.3). The focus of learning has again shifted slightly. It is now based less on individual students acquiring information from individual teachers and more on collaborative practices. The student learns through accessing distributed knowledge, skills and values.

Learning in interprofessional settings involves accessing information that is distributed across a group of people with common aims (a community of practice) and becoming proficient at working within a team to produce knowledge, dialogue and practices that expand the horizons of that community. Again, the patient in this model is an 'absent presence,' constructed as the object of the interprofessional activity system, but paradoxically excluded from the teaching and learning agenda.

In the last model (Fig. 13.3), the wider clinical or support team does not work in an integrated and mutually empathic way. Strong boundaries are maintained between professions. The medical student is therefore exposed to a *multi-professional*, rather than interprofessional, experience.

An interprofessional team is different from a multi-professional team. Where 'boundary crossing' and 'co-configuration' (Engeström 2004) are achieved, with mutual appreciation of both variation in roles and a strong sense of collaboration, then the clinical team becomes interprofessional (Fig. 13.4). This makes a significant difference to the student's learning experience. But we can see that although
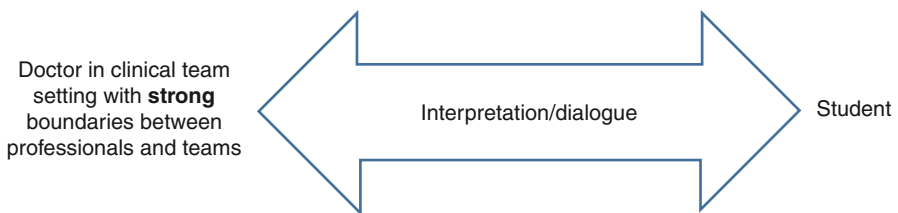
Fig. 13.3 The student-centered and multi-professional model
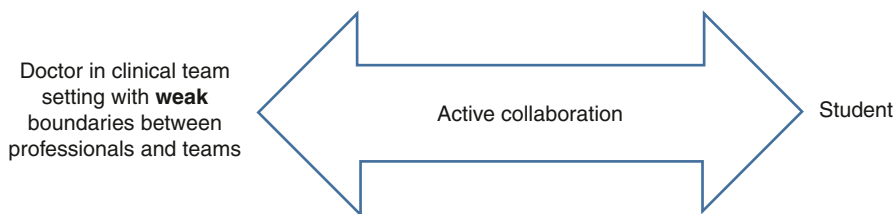
Fig. 13.4 The student-centered and interprofessional model

the focus of learning has expanded considerably to include many more participants and settings than in the first figure—the traditional transmission approach—the patient is still on the sidelines. A further leap towards a more patient-centered approach becomes necessary.

It would, of course, be unfair to say that the preceding four models exclude patients entirely from the clinician–student relationship. After all, the patient is still physically present during clinical teaching sessions and ward rounds (although 'present' only as a 'case' in grand rounds conducted in teaching locations). But while models 1–4 (Figs. 13.1–13.4) clearly do involve patients, this is definitely not their major focus. Educationally speaking, the patient is a secondary concern to the relationship between medical students and their professional educators.

But even if patients are excluded from the dialogue between clinician teacher and student, they are still key figures and exert a powerful, if unacknowledged, influence. de Certeau (1984) argues that the layperson is usually stereotyped as a passive recipient, or consumer, of services. Patients are sometimes seen as passive consumers of the services of medical diagnosis and treatment. But as any clinician knows, passivity and consumption can actually be powerful forces that can be used to manipulate and influence people and situations. Patients can be seen to actively produce complex and important meanings even while they are supposedly passive recipients of health care. So it is important that medical students learn how to mobilize such patient-produced meanings to develop better patient care.

The consequences of not acknowledging the patient's role in the consultation may be serious. A patient who feels that he or she has been denied active participation in his or her diagnosis and treatment may develop a passive resistance. Doctors have characterized this as 'non-compliance.' Such patterns of resistance are, for de Certeau (1984, p. xvi) often turned into everyday, yet sophisticated, linguistic strategies of 'negotiation, and improvisation,' that 'exacerbate and disrupt' our expectations as practitioners, making good clinical care more difficult to achieve.

Again, it is important that students understand what de Certeau (1984, p. xvii) describes as 'the tactics of consumption, the ingenious ways in which the weak make use of the strong' in their relationship to patients. Where students and doctors reject a patient-centered approach, patients may, for example, use 'indirection' (saying one thing and meaning another) as a deliberate tactic for redressing such a power imbalance. Collaborative production of knowledge, in which a patient's potential resistance is utilized (working *with*), rather than exacerbated (working *on*,

Fig. 13.5 Compromised student–patient dialogue

Doctor and others in team

Student
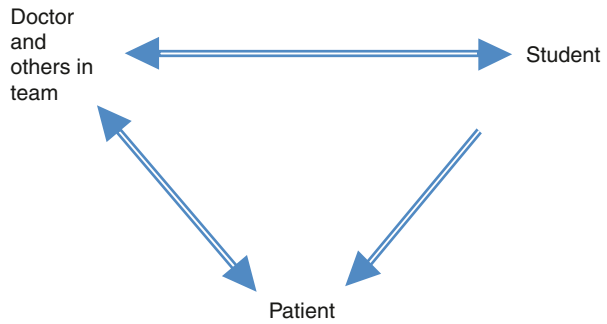
Patient

or *against*), would seem to be the most fruitful form of medical education, since, after all, it is patients more than anybody who wish to know what is 'wrong' with them.

Although Fig. 13.5 is the first model where we have shown patients as being actively involved in medical education, it is clear that the main conversations that take place are (1) between the student and the clinician teacher/health-care team and (2) between the clinician teacher/health-care team and the patient. Communication between student and patient is limited. It tends to be one-way, with the student initiating questions and the patient placed in the passive role of an object of inquiry for students. The medical student learns from the patient, but what he or she learns is largely filtered through and controlled by the clinician teacher and other members of the health-care team.

Figure 13.6 is therefore a considerable improvement on Fig. 13.5. Here, we can see a collaborative process of exchange between doctors, other health-care professionals, medical students and patients. This is aimed at providing a context that can be deliberately structured for learning clinical reasoning, clinical skills, ethical and sensitive practice and management of identity. The process is explicitly based around patients. But there remains a risk. As long as medical and health-care educators are seen as equal partners in the process, there is always a danger that the focus of education will be hi-jacked by these educators. They may, even with the best of intentions, overwhelm the voices of the student or the patient. We therefore argue

Doctor and others in team

Student
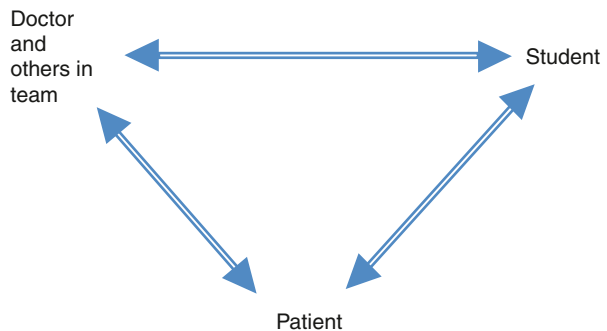
Patient

Fig. 13.6 Weak patient-centered exchange

Fig. 13.7 Strong patient-centered exchange

Doctor and others in team

Student
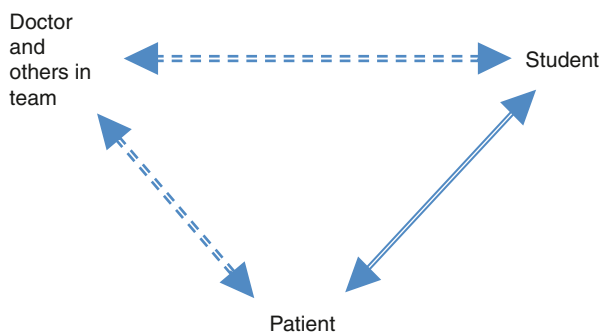
Patient

for a final, profound shift in the power relationships represented by this model, with a move to a truly patient-centered medical education. This is shown in Fig. 13.7.

In this final development of the bedside or consultation medical education triad, the collaborative process of exchange between doctors, other health-care professionals, medical students and patients now shifts its emphasis to promote a knowledge-generating dialogue between patients and medical students. The educators explicitly register their intent to provide a resource rather than to control the dialogue between student and patient; in other words, they support student learning, but they do not shape it. In this way, we can now achieve a fully fledged patient-centered model that is 'authentic' in the sense that it has genuinely (and strenuously) attempted to address deficiencies in previous models.

It is important to register here that we are not talking about delivering the care of the patient entirely into the hands of the student–patient partnership. The health-care team must maintain the responsibility for ensuring that the patient's care is optimal and that the student is not left floundering. But we are talking about making the *education of the student* more explicitly the product of the student–patient collaboration. We should also stress that the doctor as clinical educator is not considered as isolated from a collaborative interprofessional and interdisciplinary setting. For example, if a prescribing issue is being discussed with the patient, a pharmacist can support the doctor as clinical teacher; if a patient with mental health issues is attending a GP's surgery and has consented to be involved in a teaching session, a community mental health nurse or a social worker may be included.

As the student orientates to the patient, supported by the clinical teacher now acting as facilitator, it may be that the student becomes more sensitive to the patient's narrative and less inclined to instantly translate that narrative into a technical problem to be solved. Orientation to the patient also produces the possibility of a new kind of identity construction for the medical student, as we explored in previous chapters—an identity formed out of respect for difference rather than orientation to the 'selfsame.' Identification with the medical community of practice (selfsame) that leads to exclusion of the Other (such as patient or health-care colleague) is unproductive. However, an identity that is realized through respect for the other and celebration of difference is productive as this leads to tolerance and hospitality. It is

in facing the patient as Other that the student sees what is different or absent from his or her own world. Paradoxically, it is in this gap, this silence, that identity is constructed. If medical education perpetuates and reinforces the tradition of identity construction solely by identification with the selfsame community of practice, then we risk reproducing a self-serving, closed professional group.

If we are ever to achieve affective and cognitive contact with another through tolerance—an essential qualification for a medical professional—then we must assist students to construct their identities as doctors through recognizing and valuing difference. A shift from the primacy of the doctor/student relationship to the patient/student relationship is therefore not one of political correctness or educational fashion, but reflects a fundamental shift in how we think about how a professional identity is formed. Too much emphasis on the 'selfsame' may lead to a student doctor never being comfortable with 'difference,' to the detriment of his or her identity as an 'open' professional.

Patient, Medical Student and Doctor Exchanges in Medical Education

The literature on doctor–patient relationships in a medical education context tends either to promote ideal, empathic relationships, or includes descriptive scenarios and anecdotes about what may have gone wrong in the relationship. These are used as guiding models for students (Branch 2001; Inui and Frankel 2006; Klitzman 2006). But these types of model fall short of a truly patient-centered education on two counts. First, the student is learning by proxy, through role modeling, where the doctor shows and the student follows (or tacitly agrees), rather than the doctor acting as a resource to the primary interaction between student and patient. As we discuss above, this doctor-led style of education excludes the patient and reduces the student to a passive recipient of knowledge, neither of which is conducive to good clinical care.

Second, these studies tend to be descriptive and focused on instrumental values—'how to do it.' In this way, they often reduce education within the clinical consultation to formulaic notions concerning education of communication skills, particularly empathy, which is often seen as falling within the area of the curriculum covered by the blanket term 'professionalism.' This approach does not offer sophisticated theoretical frameworks that could help students better understand the clinical consultation when the time comes for them to do it for themselves as independent practitioners.

A Venn diagram (Fig. 13.8) may help us to appreciate the common mental model that may be established between doctors (clinician-teachers), medical students and patients in educational settings as a basis to a patient-centered medical education. What this diagram draws attention to is not so much what is shared in transactions, but what is absent or silent—the potential gaps in knowing.

Patient

1   2

A

Medical
student   Doctor

3
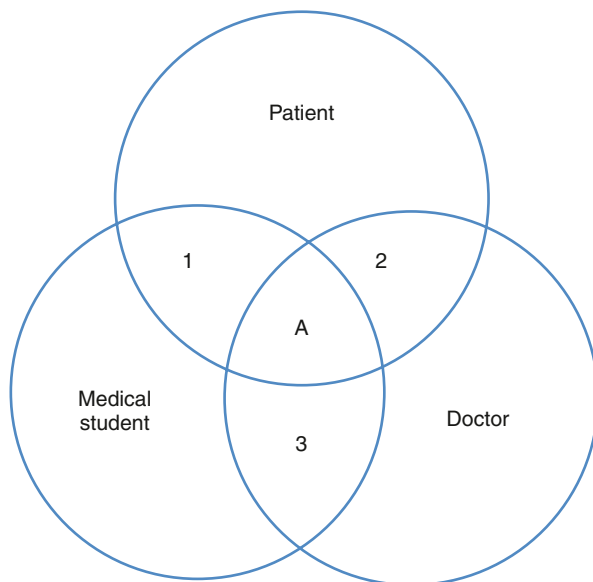
At the core of the exchange is all the knowledge and communication that the doctor, patient and medical student share (A). The area where the patient and medical student overlap (Area 1) contains all the things that the patient shares with the medical student (and that the medical student shares with the patient) but that neither shares with the doctor. These things may include: coproduction of knowledge based on dialogue, shared perceptions of the doctor, ethical concerns about the doctor, shared learning such as communication and intimate details.

Area 2 represents all the things that the doctor shares with the patient (and the patient shares with the doctor) but does not share with the student. These may include: issues addressed by the doctor's expertise, shared perceptions of the student, ethical and technical concerns about the student, intimate details and high-profile patient safety issues.

Area 3 represents all the things that the doctor shares with the medical student (and the student shares with the doctor) but does not share with the patient. These may include medical knowledge and skill, clinical reasoning, professional identity construction and management, resistances to professional identity, uncertainties and lack of knowledge and skill.

For the medical student, what the patient says is mediated through the medical and technical language that, as a student, he or she has already learned to share with the doctor. The patient's experience becomes subject to this technical language (and, paradoxically, both reduced and simplified for instrumental purposes). A patient may, for example, complain about a pain in his elbow, which became worse last week following a slight accident while he was mowing the lawn. He may reveal that he is worried because it is affecting his driving. As diagnosis proceeds, the everyday language of the patient may very rapidly be translated and reduced by the

doctor into the medical language of 'left lateral epicondylitis,' which the student understands and is able to interpret because he or she has already learned about it through his or her studies. The student's identity construction as a professional is thus achieved through a positive alignment (role modeling) with the doctor as expert and the antithetical placing of the patient as Other. In the twin mirrors of doctor as positive role model and the patient as 'Other who is not a medical professional,' the identity of the student as a member of the group known as 'doctors' begins to be constructed.

What is interesting about this diagram is how small the central shared area—area A—actually is. Each of the other areas is defined by the things that are not said and not shared, the things that the student keeps to himself, the things that the doctor and patient understand but do not communicate to the student, the things that only the student and doctor know but do not pass on to the patient and so on. Each of these areas raises questions concerning how effective medical education could be conducted. For example, to what extent should the patient have access to the 'closed' profession-specific content of area 3 above? Will the doctor–patient transaction in area 2 or the 'medicalized' doctor–student transaction in area 3 overshadow the student–patient transaction in area 1? Can the medical student deal with the psychodynamic transference/countertransference and resistance/counter-resistance issues raised in transaction 1 in the absence of the 'expert other'—the doctor or healthcare professional?

By 'transference' we mean inappropriate things patients say to, and do with, doctors, that are motivated by unacknowledged or unconscious process. Such process distorts behavior, and may be grounded in a history of unresolved psychological issues. Transference is usually positive, in the form of over-idealization of the doctor, distorting the reality of the limits of the doctor's knowledge and skill. Negative transference involves an irrational projection or displacement of fear, hatred or dislike onto the doctor. Or, in the case of an erotic transference, invites the doctor into inappropriate intimacy.

By 'countertransference,' we mean the doctor 'acting out' unresolved psychological issues in the same way as patients transferring their unresolved issues on to the doctor. Positive countertransference can offer a distorted picture of the patient such as an idealization. Negative countertransference can lead to an irrational disliking, hatred or fear and erotic countertransference can lead to seduction and inappropriate intimacy. Now professionals are supposed to expect, understand, manage and even utilize transference from their patients. However, psychologically naïve or unsophisticated doctors, especially where education and supervision in professional relationships is not taken up, will literalize and believe idealization from patients, for example, reading negative transference as personal criticism, instead of mobilizing this to create the necessary 'space' between themselves and patients to prevent identification and maintain professional distance without losing warmth. Such doctors may then idealize patients, act out erotic countertransference by initiating an inappropriate intimacy (such as abusing the professional privilege of intimate examination), or by responding to a patient's erotic transference intimate approaches. Or, they may abuse patients in a negative countertransference of open distaste,

mistrust or manipulation. Such countertransference may be to an idealized group of patients—for example, a doctor who overprescribes to heroin addicts motivated by an idealization of their common social plight.

By resistance, we mean patients not being receptive to a doctor's intentionally genuine suggestions and prescriptions, offered to help the patient. Such resistance is motivated and such motivations may become clear to the doctor. This may lead to what is classically known as patient 'non-compliance,' or 'reduced adherence,' for example to prescribed medication, or advice concerning lifestyle. By counter-resistance, we mean doctors showing resistance to patients' well-intentioned or well-researched suggestions. Such counter-resistance may be motivated by the desire not to lose authority or status in the relationship, or by stereotyping patients as 'awkward' or 'political.' Resistance and counter-resistance dynamics are often grounded in power (authority) issues, issues of identity, particularly gender differences and issues of location (patients will often behave differently in their homes than in clinics, hospitals and surgeries).

Such psychodynamics are rarely taught to medical students as core curriculum in communication skills. They are subject to what Thomas and Monaghan (2007, p. 2), in the standard *Oxford Handbook of Clinical Examination and Practical Skills*, refer to as 'for the hardened students of communication only,' a throwaway remark that betrays a black hole in the clinical communication curriculum. We do not follow this line. How will students be prepared for the range of patients they will meet in a career if they are not exposed 'live' to the communication issues that arise, for example, with intimate clinical examination, working with children and patients with learning difficulties and learning from differences across styles of life, ethnicity and gender?

Caring and insightful responses to patients are grounded not simply in technical confidence but also in close noticing and witnessing—attention to what patients say and do, or narrative engagement, accompanied by a moral sensibility. This includes sensitivity to the absent—what is not said, may be being withheld, or is too sensitive to reveal. Sensitivity to the absent may seem like a contradiction in terms, but, of course, it is not, where we all 'second guess' what a person is saying in everyday conversation. We 'read' people like a text, as if reading a novel and indeed, as we have argued throughout, gaining a literary sensibility is a worthwhile addition to medical expertise. Time after time, as medical educators since William Osler have pointed out, the diagnosis is revealed through the patient's narrative. As we quote at the head of this chapter, Osler said that there is 'no teaching without the patient for a text, and the best teaching is that taught by the patient himself.' But first, the doctor has to pay close attention 'listening for' absences as well as presences!

Chapter 14
Texts, Authoring and Reading in Medical Education

The Patient as Text

Despite William Osler's referring, over a century ago, to the patient as a 'text' and key work since (Daniel 1986, 1990; Leder 1990), the notion may be new to some medical educators and needs to be carefully explained and explored. At first sight, the word 'text' may seem a demeaning or reductive way to describe a patient's presence, but doctors are familiar with descriptions of patients as 'cases,' presented in various ways with colleagues, such as grand rounds. A case is one form of a text. We should then not baulk at the notion of patient as text and the activities of talking with and writing about the patient as *textual practices*, since doctors already speak informally about reading the patient's symptoms, body language or social background in the consultation. Although they may sometimes do this unsystematically and instinctively, this 'close reading' is a key skill within the consultation and enables doctors to relate to the patient better, to exchange information in a way that will ensure its reception, and ultimately to arrive at a diagnosis and treatment plan for the patient's illness. We have also shown earlier how it is possible to 'read' educational relationships between patients, students and medical and health-care experts in various theoretical lights.

In order to read in this way, we need to have a text. A text need not be a piece of writing such as a book or a poem (Elkins 2008). In fact, text is a word that can be applied to any person or object that demands a reading. Experts can read the landscape to point out the differences between natural and man-made features, or read the weather directly from cloud types or from synoptic charts of wind systems, to predict. Art historians can read a painting and astronomers can interpret images of distant galaxies. Psychologists can read non-verbal signs in communication to tell what a person is feeling, even if their outward verbal communication masks that feeling; and doctors in visual specialties such as dermatology, radiology and histopathology can readily read subtle differences between symptom presentations and come up with a differential diagnosis or interpretation. These can all be seen as educated acts of appreciation and discrimination, informed by expertise and keen sensibility and sensitivity. These educated acts are sometimes called acts of connoisseurship. Reading the patient can be thought of as an aesthetic activity (Eisner

1979; Barone 2000), the potential or intensity of which increases with experience and the gaining of expertise.

We might think of the doctor as the expert reading symptoms of the patient as a text, but just as important in a consultation is when the doctor communicates back to the patient what has (or has not) been found and what needs to be done next. This communication from the doctor then becomes a new text, where this time the doctor is the author.

Traditionally, authorship gives special privileges. It was common in English literature studies at one time to try to work out precisely what the author meant or intended by a text. English literature students spent many hours in largely fruitless attempts to get at a single, definitive and encompassing interpretation. The French cultural critic Roland Barthes notoriously challenged this view in an essay entitled *The Death of the Author* (1977) in which he announced 'the birth of the reader.' Barthes argued that texts gained meanings from the point of view of how they were received and interpreted by readers. He argued that the emphasis should be shifted away from the author as producer of the text to the reader as consumer.

In the doctor–patient relationship, the doctor may be seen as the author of the authoritative or professional reading of the patient's symptoms, but it is the patient, as reader of the doctor's medical text, who gives it meaning in Barthes' sense. Barthes (1977, p. 148) suggests that a text always has multiple meanings because the author of the text cannot be isolated from a cultural and historical context. Further, 'there is one place where this multiplicity is focused and that place is the reader, not, as was hitherto said, the author,' since 'a text's unity lies not in its origin but in its destination.' Where emphasis is placed on the patient as reader of the text authored by the doctor, then we have a new vision of what patient-centeredness means in practice.

The notion of text can be widened to include all interactions—written, spoken and performed (non-verbal). For McGann (1991), any social act, set of social practices and associated materials or artifacts (for example, computers, books, telephones, buildings, furnishings and clothes) can be treated as a text, to be interpreted. We have mentioned several times that a curriculum is treated as a text by those who call themselves 'curriculum reconceptualists' (Marsh and Willis 2003; Pinar 2004). The curriculum is, by turns, a political, ethnic, gendered, ethical, institutional, historical, economic, aesthetic, spiritual and instrumental text. In fact, the very world as it presents itself can be read as a text. But if anything and everything is a text, does not this make the word itself effectively meaningless? No: because we can talk of varieties of text, but, more importantly, varieties of ways to read texts. For example, Kress and van Leeuwen (1996, pp. 378–379) talk of 'literary and artistic texts' rather than 'mass media texts,' that are received differently according to context. A sociologist studying the lyrics of popular songs to gauge their influence on pre-teens is taking a mass media text seriously, as an artistic text, but only because of the important context within which the text is studied. X-ray, CT scan or MRI scan images are read as texts quite differently by a radiologist than they would be by a visual artist. Individuals within these two groups would link pattern, meaning and information quite differently (Elkins 2008). For the radiologist, the image is a text to be read chiefly because it carries information and can aid diagnosis of disease. An

artist might find the image visually fascinating, but the information it carries could be that of a lung tumor or other pathology, which would lead into the ethically and artistically complex realm of the terrible as beautiful. Those whose central work is reading visual texts, such as paintings, can help doctors to read informational texts with a different eye (Bleakley et al. 2003a, b; Bleakley 2004).

Thus, it is valid to speak of any social phenomenon as a text to be read or *interpreted*. Such social texts come in many forms, such as a novel, a scientific paper, a painting, graffiti, body piercing, the patterning of a skin disease, what is heard in auscultation or felt in percussion and palpation, the dress code of an intern (junior doctor), scars left from self-harming, the layout of an operating theater, a handwritten prescription or a referral letter from general practitioner to an attending (consultant). Culler (2006, p. 99) refers to this wide range of possible texts as 'translinguistic,' because they go beyond the traditional sense of text as a book. But simply *describing* a variety of texts will not get us far—we need to know what a text *does*.

Culler says that texts are primarily *productive*. They do not have fixed meanings, but evolve as we negotiate meanings through practices. Thus, the patient has no prior meaning—a person presents with symptoms and the doctor reads the symptoms. But then comes a second stage, where the text is interpreted or given meaning. Importantly, as doctor and patient talk, meanings are renegotiated or new meanings emerge. The text is now a dynamic process.

Culler (2006, p. 104) suggests that a text does three things:

1. It indicates a phenomenon that is *produced* (for example, out of talk) and then asks 'how is the phenomenon produced?' Thus, to treat either a patient or the doctor's response to the patient as text is to indicate the 'production' of the patient through the talk between, say, doctor and patient.
2. To use the word 'text' marks the phenomenon as *problematic*, to be investigated further. Patients as texts are not closed books with single readings and a doctor's response to the patient is not, as we suggested earlier, an authoritative and closed authorship—rather the reader's (patient's) response is central to the quality of the clinical encounter.
3. The readers of texts are obliged to make their readings explicit or transparent. The patient needs to know how the doctor came to read his or her symptoms to arrive at a diagnosis; in turn, the doctor needs to know what the patient thinks is happening and why.

Culler (2006, p. 111) has no hesitation in saying that 'what I call a "text" implies all the structures called "the real," "economic," "historical," socio-institutional, in short: all possible referents.' However, we must dwell on this a little more, for, while saying what a text is may suddenly seem obvious, *reading* a text is a very different matter. For doctors, as for Culler, '*text*' is 'one of the most complex theoretical constructions' that we can draw on.

Let us return to our primary concern in this chapter, which is to discuss how we can read the *patient* as text and to remind ourselves that by speaking in this way, we are actually talking about how patients present themselves to medical staff in various complex ways—visually, verbally, through writing, through interaction and so

forth. In addition to questioning how patients present themselves as texts and how they interpret their interactions with doctors, we might also ask ourselves how a patient might read a medical student as a text? What if the patient's, medical student's and doctor's readings were compared and combined? Further, what is the role of the patient as reader of the text produced by the doctor? How does the patient interpret the doctor's text—the medical diagnosis and treatment plan?

Readings of texts are neither straightforward nor transparent. The novice dermatologist will not read subtle color changes around a skin lesion in the way that an expert may. But experts may disagree where there is ambiguity in the presenting symptom. A French linguist, Pecheux (1983), gave a group of his students a politically middle-of-the-road textbook on economics to read. He split the students into two groups. One group was told that the textbook was left wing in its views. The other group was told that the text was right wing in its views. He then looked at students' written comments on the text and found a significant difference between them. Each group had read the text and interpreted it to fit in with the expectation provided by the political framing. No matter what the author's intentions, readers will always provide a biased reading. Also, as discussed earlier, the idea of getting as close as possible to what the author intended, for so long a popular idea in literary studies has now largely been abandoned.

We like to feel an affinity with writers whose work we love, and it is therefore sad and frustrating to have to accept that we can never really know what they meant when they set out to write that favorite book or play. But how can we possibly recover definitively what Shakespeare really meant when writing *Romeo and Juliet* when over four hundred years have passed and innumerable historical, social and cultural changes have taken and are still taking place? More importantly, authors of texts are not always themselves sure of what they mean. Ambiguities, paradoxes and contradictions are part and parcel of writing. This is particularly true for speaking, where, whatever we intend, communication is often not straightforward. We are often formulating ideas as we speak, testing things out and saying things that are appropriate for the context and the people with whom we are conversing.

Students of literature or culture learn to read literary texts (such as novels) and cultural texts (such as the kind of music that is piped in supermarkets) through various theoretical lenses, such as Marxism, feminism, psychoanalysis, historical criticism, deconstruction, New Criticism, Reader Response criticism and so forth (Lynn 1998). Doctors do not read patients in quite the same way, but there are similarities. For example, in listening to a patient's story or narrative, medicine is already in the world of the literary as well as the scientific. You might, for example, read the patient's story as one of struggle and hardship in the face of an oppressive social structure that is divisive, or favors the rich rather than the poor. Now you are reading a narrative in a specific genre, inhabited by characters, perhaps with a plot. Perhaps this patient is seeing you in a public clinic rather than in private practice because he or she cannot afford private medicine; and you are aware that these symptoms are probably the result of diet and habits intimately connected with poverty and class structure. If so, you are reading the patient's presentation as a Marxist text.

Perhaps you hear and see the story of a young, anorectic self-harmer. The traces of her story are literally written in the scars on her arms. You might think of the

undue pressure placed upon teenagers by images of fashion; you might see her struggling with the transition to womanhood as her binge-purge cycles have now led to cessation of menstruation. As you hear her story, you may feel critical of the way that young women are expected to grow up to please men, or are treated as primarily sexual objects rather than persons and become manipulated by the cultural world of fashion. If so, you are probably beginning to read her from a feminist standpoint.

You may perhaps listen to a single, 35-year-old man talking about his depression and asking for some relief. Underneath this, you capture hints of a man dominated by his mother and unable to shake off her caustic judgments, who is now afraid to enter into a relationship with a woman. If so, you are reading the person psychoanalytically.

When the person becomes a 'patient' and his or her case is written up in the traditional medical case history form, then sociologists of medicine talk of the person being medicalized. The person has become a case, an illness, a presentation, a set of symptoms, objectified as a number on the operating theater list. Even these apparently impersonal and sometimes reductive ways of viewing patients are varieties of text, and represent ways of 'reading' the person. However, it is not enough to suggest that by simply considering the patient as a text we will get any closer to the notion of 'patient-centeredness.' To do this, we need to develop the idea of 'rich' and 'close' readings, sophisticated and innovative readings and most importantly, *collaborative* readings.

We have had plenty to say about 'theory' throughout this book. Perspectives such as feminism, Marxism, psychoanalysis and so forth are large theoretical structures that inform and give meaning. Text is the presentation, and theory is the representation. As a patient talks so we receive a text. In medicine we might call this a formal history. But how we read this text and through which theoretical lens we read it, are critical. It is not enough to say that doctors read cases through scientific lenses, or through diagnostic lenses. Like the two groups of students in Pecheux's experiment who interpreted economics texts in predictable ways, doctors come with particular mindsets and read patients accordingly. It is imperative that they are able to be reflexive about these ways of reading patients, or capture the values that drive such readings. We have already discussed the call for the end of paternalism in medicine that has been a traditional way of reading patients.

Where Culler (2006, p. 14) accepts that any social phenomenon can act as text, he warns against the 'imperialism of the literary,' where the act of reading a novel may give us a snobbish type of superiority or provide a privileged position. We are not arguing that doctors should start studying metaphysical poetry (unless they want to!) and do not expect that doctors will necessarily become better practitioners through the study of allegory or Romanticism. We do, however, think that it is important that medical educators help doctors to understand some key ideas in textual appreciation so that they can apply these to their daily medical practice.

There is, for example, an important difference between 'poetics' and 'interpretation.' Poetics can be defined the way in which we appreciate and respond to a text aesthetically as we read it; and it actually comes before we start to interpret and explain what we have read.

We can then readily make a claim for an aesthetics of medicine as well as an instrumental or technical practice and an ethical practice (Bleakley et al. 2006b). 'Aesthetics' at root means 'sense impression' and is formally about increasing the power of the senses in order to better discriminate between features. This is central to pattern recognition in clinical judgment (Bleakley et al. 2003a, b; Bleakley 2004). Doctors have to first appreciate the presentation of the patient prior to interpretation as a matter of courtesy or respect for another in suffering; then they have to educate their senses in order to notice. How can a doctor interpret a patient's presenting skin condition unless he or she first gives full attention to that person and his or her symptoms?

The field of inquiry that is the practice and theory of interpretation is known as 'hermeneutics.' We have argued that hermeneutics is central to the activity of diagnosis, where the patient is 'read' (and subsequently interpreted) as a text. Daniel (1986, 1990) reminds us that reading the patient as text often invokes secondary readings—of test results, of X-rays or other images, of sense data through physical examinations. As the patient acquires a 'record' (patient notes), this in itself becomes a complex text for analysis and interpretation. Just as Pecheux's students read the same text in different ways, so doctors from differing medical specialties will read patient notes with inherent bias. Indeed, as Lorelei Lingard (Lingard et al. 2004) has shown, the texts of referral letters show rhetorical features that reflect the interests of the specialist and set out to persuade the reader into his or her expressed views. It is interesting to speculate what a patient's notes might look like written by the patient, or a family member, or a close friend, where the medical is stripped out. Of course, the notes would probably then be meaningless scientifically but would gain great meaning existentially.

The wider rhetorical strategies common to medicine (arguing from the point of view of practical knowledge applied to the individual patient on one hand and evidence-based frameworks on the other) shape the interpretations doctors make. Hunter (1991) identifies the 'house style' of the medical profession as one of sleuthing—putting together cues and clues within the genre of the detective story. The master of the detective story—Arthur Conan Doyle—was first a doctor. The house style is a particular kind of science because it is not based on universal laws but on highly situated, or contextually constrained, knowledge; in other words, the focus of interest is on *this* person, rather than on *all* persons.

Leder (1990) distinguishes between four kinds of text that make up the overall 'holistic' text of the person-as-patient: experiential, narrative, physical and instrumental. The experiential text starts with how the person has addressed the symptoms in the first instance. For example, does she make sense of them, have an explanation for them and to what extent has she already self-medicated or treated symptoms? Leder (1990, p. 12) refers to 'hermeneutical incompletion' where the person is not fully able to interpret what is going on and cannot complete the hermeneutic circle. At this point, the person seeks medical help and becomes a patient. A narrative text, or clinical history begins to take shape. This text is now narrated by the body and mind of the patient, but is also shaped by the doctor's intervention. At this point, the doctor translates the text into a medical case, through standard textual conventions.

The physical text is the doctor's immediate reading of the patient's body. Traditionally, it is the responsibility of the doctor to interpret the text hermeneutically. But it is here that the doctor (or medical student) can so readily engage and teach the patient and the patient can engage and teach in return. A collaborative reading can then occur. Finally, the 'instrumental text' augments the physical text through diagnostic tests and imaging. Doctor and patient are then both author and reader, returning us to the point made at the beginning of this chapter.

The hermeneutical model we developed in the previous chapter—implying patient, medical student and doctor-educator in a triangular relationship of varying intensities, embedded ideally in a wider interprofessional team setting—multiplies up the possibilities of mutual or collaborative readings and then of the absences or gaps of what is *not said* in these readings. Just as you must 'mind the gap' as you step from train to platform, so it is in these multiple gaps between (and across) hermeneutical readings, or interpretations, that new knowledge is born. A difference of opinion (especially between experts or specialists) opens up valuable debate, for it is in the difference that new insights may occur. The positive educational strategy is to not allow differences of opinion to fester as acrimonious debates, or entrenched divisions, but to generate insight and create new knowledge out of such differences.

One obvious objection to describing the patient as text is that a text such as a book does not change, where patients present ill-structured, dynamic presentations. However, our wide view of what constitutes a text also *demands* that text is dynamic and historical, that texts are open to a variety of readings and that readings themselves are dynamic. To pursue the idea of text as something that changes through time and then requires reading on one's feet, recall Culler's (2006, p. 100) view that above all a text is *productive*. In other words, reading the patient as text does not lead to static diagnosis or closed meaning. Rather, it opens up the possibility of a running dialogue.

This makes sense particularly with knowing patients over time, as in community practice. The doctor–patient relationship is always re-produced, with new meaning, on each encounter. For Culler (2006, p. 104) a text presents a phenomenon that is in production and the reader must not only come to know the text, but also its means of production and its trajectory of production. (Where did this symptom come from, at this time in this person's life context and where will it lead the person?) A text also marks a phenomenon as problematic, in need of interpretation. Reading a text demands that the reader's methods, or process of analysis, are made explicit as the process of analysis is bound to influence the (necessarily unstable) text *in process*. There will be multiple possible readings of a text, although there may be agreement about central features, where the author's intentions are not even known to the author. Meaning comes out of the reader's response as this is compared and contrasted with the author's first reading. Textuality is then a collaborative or mutual venture. What is most open to close reading is what is taken for granted, naturalized, most obvious, habitual and transparent. Finally, what collaborative readings of text produce are *identities*—for example, a particular kind of doctor and a particular kind of patient.

Kinds of Text in Reading Patients: A Summary Model

We have taken up Culler's (2006, p. 116) challenge, that textual work is open to 'a wide range of fields.' By reframing patient-centeredness as a textual intervention, we reinforce the view of narrative-based medicine that patient presentations are literary works, narratives and dramatic episodes. Hence, while a scientific eye is necessary, it is not a sufficient component of patient-centered practice. But we also recognize that medical students are not studying bodies of literature, but bodies of persons in suffering or distress and our call is then for knowledgeable medical educators to translate across from the detail of interdisciplinary research and ideas to medical practices such as close reading of patients and listening through to wider meanings in patient's narratives, beyond the constituent elements of the medical case.

At this point, we will summarize our model graphically (Fig. 14.1). For example, where the patient is the text, as well as reader and interpreter of the doctor's diagnostic text and the medical student is second reader and interpreter, a collaborative reading ensues. This is an *intertext* (Orr 2003)—two (or more) readings meeting and producing a further position. This happens in a variety of *contexts*, or locations—both physical (such as clinical contexts, patients' homes, community settings, care settings, schools and so forth) and socio-psychological (patients' and students' lifeworlds). We can ask: in what situation is a history received? What is known about the patient's life circumstance? What influences are acting upon the doctor?

Running alongside the textual encounter are a variety of *subtexts* and *paratexts*. These are usually absences in the medical encounter, but strong forces in shaping that encounter. They include immediate issues such as silences, indirections and
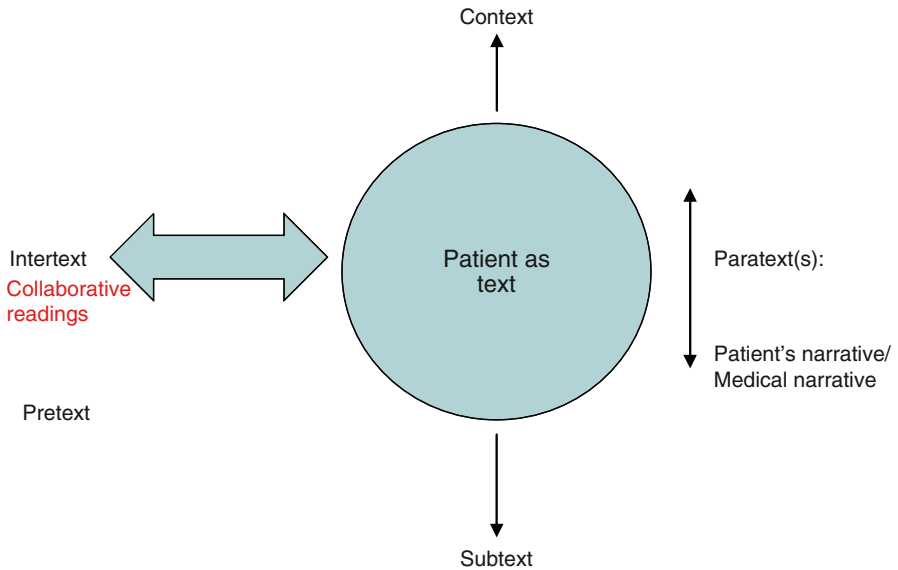
Fig. 14.1 Aspects of text in the medical encounter

misdirections in the encounter. For example, a subtext may be a prejudice on the part of the patient towards the doctor, or vice-versa; or a deeply held belief on the part of the patient that only complementary medicine will 'work' and the encounter with the doctor is secondary to the encounter with the homeopath. Patients arrive at the medical encounter with a *pretext*, usually a legitimate claim to medical care based on a presenting symptom. But the pretext may be confused, or confusing. Patients often present to general practitioners with non-specific psychosomatic symptoms, or that they simply 'feel unwell,' or with a generalized, fuzzy, depression or anxiety. Finally, the medical encounter is often now converted into *hypertext*, as patients come armed with information they have found on the Internet for better or worse.

Text Is Not an Answer, but a Question

While describing the patient as a text to be read is becoming more common in medical education, is it fair to the patient? For example, does it reduce, objectify or disembody the patient? We do not think so and in fact, we argue the opposite. If the patient is a text, then close reading on the part of the reader (who may be a doctor, student or other health-care practitioner) is absolutely essential to get the best from that text. As contemporary literary theory suggests, the text is always greater than both its author and reader. This means that there is always a bit left over—a 'surplus' that remains beyond interpretation and the text is always in the process of being written and rewritten. This places the reader, such as the medical student or doctor, in a position of uncertainty that has to be tolerated, involving a level of 'unknowing.' Students must then develop what the poet John Keats (himself a former medical student) referred to as 'negative capability' (2004, p. 57)—they have to learn how to suspend the desire to master the text and to be able to tolerate the ambiguity of not knowing everything about it.

Literary theorists understand that texts have a life of their own. When we are considering the patient as a text, this statement may appear blindingly obvious because it is, of course, literally true. But a book may be said to have a life of its own as well. That is to say, a literary text is more than just a means by which an author communicates information or a story to a reader. There is no single, definitive way to read a book and every reader finds something different within it. Not only that, but meanings change over time, so that no matter how hard we try, we are no longer capable of reading, say, a text such as *Winnie the Pooh* as we would have done when we were children, nor as its first readers would have done in 1926 when it was first published. In this way, we can see that the reader plays an active part in creating meanings. He or she 'collaborates' with the author to produce new meaning from the text.

While close, critical readings of texts are then part of the collaborative process of production of the text, Macherey (2006), a psychoanalyst who subsequently turned his attention to literature, went even further. He suggested that close reading might

be informed by psychoanalytic method. Since a text does not speak directly for itself, but requires a reader to collaborate to produce its meanings, it cannot be understood as transparent. In this way, texts can be read for their absences—what they unconsciously avoid, miss out, repress, deny, remain silent over or where they internally contradict themselves while claiming to offer a reasoned argument or case. A literary text is always part of a network of production of ideology and contributes to this production through its rhetorical devices. At the same time, the text reveals, through a close reading, contradictions, inconsistencies, limits and absences within that ideology. A text can thus work against its apparent intentions.

Terry Eagleton (in his foreword to Macherey 2006, p. x), offers a powerful simile to better understand this aspect of Macherey's work: where the text claims transparency and unity, he says, it is like a 'neatly embroidered tapestry…in which there is not a thread out of place.' However, when we turn the tapestry over (or reveal the contradictions, silences, gaps and limits in the text), we 'expose the untidy sprawl of stitches which went into its making.' This is a metaphor we drew on earlier to describe the two faces of medical education—outwardly stable and developing, but disguising an, as yet, unformed and unfulfilled potential.

Most clinicians, reading this view of the nature of text, will be able to see immediately how a patient can be like a book. Through close reading of the patient, the doctor attempts to collaborate with the patient to produce meaning, but those meanings are often shifting, contradictory and unclear. And a great deal is left unsaid and unknown. This is an important point to remember when we consider how patients can be labeled as 'non compliant.' Problems arise when doctors act as if the patient is transparent. When this happens it is all too easy to seek premature closure and to work to banish uncertainty. But what we are doing when we rush a patient or text to a hasty conclusion is to reproduce only what we already know, instead of working towards possible production of the new knowledge that is latent in the interpretation of the symptoms of this specific person in this specific context. Medical students need to develop literacy in these areas, challenging the current emphasis upon individuals to account for shared and distributed practices centered on patients. We need to develop what Virno (2004) calls 'a grammar of the multitude.'

Problem-Based Learning or Patient-Based Learning?

As we mentioned earlier, Hunter (1991) sees the doctor's focus on diagnosis as akin to a sub-genre of the detective story; getting the correct diagnosis is both necessary and satisfying. It is hardly surprising and indeed it is entirely right, that doctors lay heavy emphasis on clinical diagnosis. This stress on getting to the right conclusion is reflected in medical schools worldwide. Its symptoms may be seen everywhere as problem-based learning—rational, systematic, outcomes-based and evidence-based—spreads and is adopted. There are many good reasons why this should be so. From the medical point of view, this form of the case study offers a necessary focus for diagnosis.

However, as we have argued, where the power balance in the consultation is in favor of the doctor rather than the patient, the practitioner who is too focused on eliminating uncertainty may come to exploit, rather than redress, a patient's ignorance of technical language. Medical students are rapidly socialized into stereotypical case study forms and may unwittingly imitate and perpetuate doctor-based attitudes. A challenge then emerges for medical education: how might students, with patients, coproduce knowledge that satisfies the need for learning clinical reasoning, while at the same time more explicitly including the patient as author and cocreator of his or her own text?

As we detailed in Chap. 13, we believe that focusing medical education on the patient–student dialogue, with the doctor as expert support, offers the best conditions for a collaborative production of knowledge. In this environment, the student is able to read the patient as text in a more holistic manner, within which a specific clinical narrative is embedded. Applying this argument, a 'problem' based learning curriculum could become a 'patient' based learning curriculum. Students learn simultaneously to read the patient's narrative both clinically and in lay terms, also moving between author and reader positions: patient, family members, carers, doctors and so forth, to coproduce composite and complex narratives. Students no longer construct their identities as doctors solely through identification with seniors. Role modeling gives way to identity production in the mirror of patients, where sustained early patient contact offers a basis for accelerating the forming of tacit knowledge (scripts, pattern recognition, encapsulated knowledge) as the basis to clinical expertise (Dornan et al. 2006).

Evidence for the Value of a Triadic Model

We have developed a rigorous theoretical framework for a triadic model of medical education—involving an intensive and ethically sensitive encounter between a medical student and patient in which collaborative reading of the patient as text is established—presented in the previous chapter. Tim Dornan (now Professor at Maastricht University) and colleagues (Ashley et al. 2009) at the University of Manchester medical school (UK) have independently developed and empirically tested a triadic model with the same basic architecture and we have been able to compare models, to mutual benefit. Key to the success of such a model is the role of the expert doctor-educator, who may brief the student (and the patient), initiate contact, but then plays a supportive, facilitative and clarifying role during the patient/medical student encounter and a structured educational role in the discussion after the patient encounter, where that encounter is debriefed.

It is in debriefing that complex issues such as the 'absent' elements of the encounter are revealed (what is not said, what remains tacit, what was dropped as a 'bomb' during the close of the encounter, what is hinted at, where indirection or misdirection occurs, where there is simulation and dissimulation and so forth). As we have indicated, this facilitative role can readily be distorted or abused, where the

senior doctor-educator takes the reins of the encounter and effectively denies the student a learning experience.

The research of Ashley et al. (2009, p. e24) provides good evidence for the value of the triadic model, where students worked in pairs with a patient and an attendant, supportive clinical supervisor. The data show that the model offers an effective learning experience for medical students, as well as satisfying patients and provides a context in which supervising doctor-educators can shape a more supportive and facilitative role. The study aimed to optimize learning in ambulatory (outpatient and general practice) consultations. Patients and students (end of Year 3) were interviewed separately after 25 triadic consultations. In the most effective examples, where learning was maximized, 'doctors promoted a level of participation that realized patients' and students' mutual sense of responsibility by orientating them to one another, creating conditions for them to interact, promoting and regulating discourse, helping students perform practical tasks and debriefing them after the consultations.' However, there was still a strong element of patients playing passive, deferential roles even with medical students and medical students fearing that they would not perform well, or show lack of knowledge and skill. Importantly, the authors note that 'The educational value of consultations was determined by doctors' ability to promote effective interaction between student and patient.'

Again, the learning triad's success depends upon supervising doctor-educators exhibiting a range of intervention skills driven by subtle shaping and knowing when not to intervene, but simply support or clarify and when to intervene, for example, in helping with practical tasks. Thus, 'the doctor's role was now reframed as a leader who helped patients and students find ways of relating to one another effectively rather than conveyor of subject matter. The most effective teachers turned students' fear of demonstrating inadequacy in front of them into active participation to the advantage of patients' (Ashley et al. 2009 p. e29).

Also, students are 'ripe' for such experiences at the end of Year 3, having experienced some work-based placement, but still being relative novices to medical practice. However, a note of caution must be introduced. Ashley et al. (2009, p. e29) describe 'client-centered clinical education' as a 'complex adaptive system,' echoing our sympathies with complexity outlook throughout this book. Part of this complex system is the relationship of the student's workplace learning experiences to their University-based classroom experiences. Lingard and colleagues (Lingard et al. 2003a) describe a 'genre tension' between 'school' and 'workplace' in clerkship case presentations, where students are taught to present in a formal and traditional way in the school setting that may conflict with expectations for case presentations in the workplace. Students in the school setting expect to be able to present without interruption, where, in the work setting, faculty expect to interrupt and ask questions in order to establish a professional dialogue. Students must learn to tolerate a variety of kinds of case presentation.

In terms of the triad of identity, location and power that informs our account, power is now allowed to emerge from the system, rather than exerted as authority, sometimes motivated by compulsive desire for control. Identities are re-fashioned and students gain confidence as collaborative readers of the patient as text; patients

gain confidence as primary authors and readers and supervising doctor-educators learn to inhibit their trained impulses to shape, control and explain, in order to allow greater facility in support, presence and timing of interventions. Educational priorities shift from role modeling to the potential for learning of mutuality. The important research of Ashley et al. (2009) described above promotes the value of Lave and Wenger's (1991) model of authentic participation by an apprentice in a community of practice in a work-based setting, with the added educational value of a structured learning experience (brief/supported activity/debrief). What the authors do not note—and what cries out for empirical study—is not the triadic relationship of 'presence' (what patient, medical student and supervising doctor exhibit), but the triad of 'absence' (how the unspoken subtly shapes and affects the medical encounter).

We encourage researchers to map the effects of the absent through close study of videotaped medical encounters. To return to a metaphor we have already employed with reference to Terry Eagleton's work on text, if patient narratives and medical narratives interweave to produce a tapestry, researchers can be seduced into believing that they have a coherent picture of the medical encounter as they track the making of this tapestry, or unpick some of its component weave. What will such research make of the unseen side of the tapestry, as we turn it over to reveal a mess of threads?

We should not be dispirited by such issues, but take them up as necessary challenges in our deepening understanding of the doctor/patient encounter, in which habitual approaches to understanding and researching this encounter—such as role modeling, personality issues, unreflective use of descriptors such as 'empathy' and 'relationship' cast as an issue of instrumentality or skills training—are destabilized to open up new perspectives. As Jullien (2007, pp. 120–121) suggests, in a book comparing 'European' habits of thought with those of Chinese tradition, unless we question received wisdom, 'when we pull up our nets, we find nothing in them but known species…ideas with which we are already familiar.'

Chapter 15
Lack, Trajectories and Ruptures in Medical Education Research

Medical Education Research at a Crossroads

In a roundup of 'what the educators are saying' in the *British Medical Journal*, Lough (2006, p. 1450) commented on a 'rare editorial on medical education' in the *Lancet* (Davis and Ponnamperuma 2006), also referred to in Chap. 1. The editorial, by Davis and Ponnamperuma, suggests that medical education research is 'at a crossroads' as it 'struggles for recognition.' In summarizing this 'shaky position,' Lough points to a need to overhaul such research in a dog-eat-dog culture of 'chronic underfunding.' Individual studies, he argues, need to be abandoned for multi-center collaborations to establish a critical mass. Best evidence education needs to be promoted by medical schools otherwise the research outcomes simply fall into a practice vacuum, with no benefit for patients. Finally, there is a chronic need for education programs for researchers to improve their skills and understanding in the field. Importantly, it is through collaboration, rather than multiplying up competition for resources, that research may progress. We see an important implication of this trajectory for medical education research—paradoxically, in a field that is increasingly competitive, the funded research process can act as a democratizing force for medical education because it can promote collaboration.

We have argued that medical education serves to democratize the practice of medicine by transforming vertical hierarchy into horizontal collaboration and by converting monological talk into dialogue. In turn, medical education research serves to democratize medical education by changing potentially oppressive habitual structures, based on anecdote and opinion, into evidence-based activity. This exercise of democracy is largely one of constituent or participative democracy emerging within medical practice. Medical education research serves as a monitory democracy for that practice. Both arenas attract representative democracy as leadership emerges that is appropriate to context. The democratizing force of potential collaborative research opportunity adds a further layer.

Aristotle, in his *Poetics*, described a condition in which 'a sudden reversal of circumstances swiftly turns a routine sequence of events into a story' (in Bruner 2002, p. 5). This is *peripeteia*, or 'trouble.' Medical education research is at the point of such positively troubling change, where a new and intriguing story will unfold—the

route now taken offering deeper challenges. Medical education research can be seen to have offered, up to now, a routine sequence of events, without much of a story, or headline news. Medical education research leaders are calling to change this state of affairs in three ways, based around rigor, systematic and programmatic research.

First, as far as rigor is concerned, the call is for an improved quality of design in both scientific and narrative-based research in medical education, moving beyond local, descriptive studies to multi-site, collaborative and well-designed research. While qualitative research is still gaining a foothold in medical education, as we note throughout this chapter, such research is also often designed and executed poorly, with little attention to either underpinning theory or theory gain. An example is the field of narrative studies in medical education, where basic concepts, such as the distinction between 'thinking *about* a story' and 'thinking *with* a story,' are still blatantly ignored (Bleakley 2005). Design of research is a particular weakness. Where retrospective accounting for weaknesses in research studies is expected in published articles, in qualitative studies such accounting often disclose an alarming lack of forethought or design.

Second, research in medical education tends to be unsystematic. Rather, it is usually piecemeal and isolated, unrelated to previous work. There is an urgent need for research to build on previous research, either through replication studies, extending scope or meta-analyses of the literature.

Third, research in medical education tends to be unprogrammatic, local and idiosyncratic, often suffering from lack of generalizability of results, however exciting these may be for the local context. There is an urgent need for larger, collaborative programs of study, multiplying up expertise and size of participant cohorts.

In this chapter, we review how to address a commonly perceived *lack* in medical education research, of the kind that we have just outlined and we look at *trajectories* and *ruptures* in the historical development of such research. By 'trajectories,' we mean lines of development, such as cumulative sophistication in research design. By 'ruptures,' we mean sudden and deep changes in the way that research is carried out and theorized, as part of a larger paradigm shift in medical education. Our aim is not to provide a primer on how to do research in the field (related fields such as general educational research are awash with such publications), but to provide a diagnostic and critical overview of the health of the field. Again, medical education is our patient, subject to diagnosis, symptom description and possible symptom management strategies. On this occasion, it is the complex body of medical education research over which we cast a diagnostic eye.

Cook et al. (2008, p. 129) are typical of commentators who describe the medical education research community as lacking in certain areas of expertise (and, indeed, lagging behind other research cultures). They are skeptical about whether current medical education research, lacking in 'a scientific approach,' truly informs practice and 'advances the science.' An assumption is made that medical education research *should* be scientific, a point of contention that we discuss later. In developing 'a framework for classifying the purposes of research in medical education,' the authors suggest that, unlike other scientific communities, the medical education research culture fails to follow the most basic principles of theory development

and prediction and of maintaining cycles of research by building on previous, dependable, results. In short, there is a failure to systematize research. The field, they suggest, needs to be advanced moving from weaker 'descriptive studies' to stronger 'justification studies' and 'clarification studies,' in order to establish a 'best evidence' culture of practice.

Descriptive studies remain at the level of observation, making no comparison between study groups. Justification studies are far more stringently designed, where one method, or educational intervention, is compared with another to answer the question 'does it work?' This design, however, while it may use randomized controlled trial (RCT) methods, fails to develop models and predictions and thus may have limited application. In contrast, clarification studies employ a more rigorous scientific method through a purposive cycle: building on previous research in an observation stage; developing predictive models; testing predictions; modifying models and then returning to the first step on a new cycle. Cook et al. (2008) surveyed six medical education journals for 2003–2004 and showed that out of 185 reported experimental studies, 72% were justification studies, 16% description studies and only 12% clarification studies. Moreover, the clarification studies were overwhelmingly concentrated in one area of research—evaluation of assessment methods.

The call for greater sophistication in medical education research, particularly use of theory and conceptual frameworks, had already been made a decade before Cook, Bordage and Schmidt's article (Bligh and Parsell 1999; Prideaux and Bligh 2002). One can then readily understand the frustration of key, seasoned, commentators in the field in the face of inertia in the culture and why they tend to speak in metaphors of urgency and crisis. In the following section, we look at some of the reasons for the perceived lag in the medical education research culture, such as lack of a body of up-to-date research expertise amongst clinician researchers, lack of development of multi-site programs (often due to shortfalls in funding) and tensions between academic communities who hold research expertise and clinical communities who host research that has practical application and is focused on patient benefit.

We demonstrate throughout this chapter that, despite the call for more rigorous experimental research design using scientific approaches, some of the most interesting insights for the medical education culture are, paradoxically, derived from descriptive and speculative studies, using qualitative methods such as thematic analysis of expert group discussion. Future development of medical education research is perhaps best not focused upon the relative merits of a science *versus* humanities approach, often an expression of a quantitative/qualitative divide. Instead, the focus should be on improving rigor, and developing systematic and programmatic research using mixed methods.

Jason (2000, p. 9) suggests that the establishment of a best evidence medical education, where 'trustable research findings begin replacing personal opinions as a basis for decision-making in the education of health professionals,' is overdue. His use of the word 'overdue' chimes with the theme of 'urgency' that we have already noted. It is as if the medical education community is ready to leap from adolescence to adulthood. But the weasel word in Jason's account is 'trustable.' Once one enters the labyrinth of research design, one find divisive conceptual argument over what

constitutes 'validity' of evidence (Scheurich 1997) and, indeed, what constitutes 'evidence' itself. As the debate about what counts as evidence is still continuing, it is not straightforward to decide on what can be considered to be best evidence. Sometimes, it seems, evidence is not necessarily provided by objective data, but by a good story (Bleakley 2005).

In clinical trials, we trust that best evidence is derived from the 'gold standard' of the RCT design, only to find that such trials are sometimes flawed because, for example, they are gender biased towards a male sample. In a warning shot across the bows of those clinical researchers who might wish to colonize the field of medical *education* research, Norman (2003, p. 582) suggests that the RCT method is actually inappropriate for educational research. The territory of educational research intervention is simply too complex and uncertain to gain benefit from attempts to control highly labile dependent variables, that are, paradoxically *interdependent*. 'RCT,' suggests Norman provocatively, can equal 'results confounded and trivial.' Most importantly, effects measured are likely to be minimal. Norman calls rather for accumulation of knowledge from series of 'small, tightly controlled studies, occurring in many labs, with many replications and with systematic variation of the factors in the interventions, driven by theories of the process.' This is a clear example of systematizing research; but it still situates research in the laboratory and not in the workplace, which in turn leads to problems of demonstrating that the results are transferable and generalizable.

Such research is also prone to being driven by a bias towards particular 'theories of the process.' For example, tightly controlled laboratory studies of clinical reasoning characteristically study individual cognition (supported by constructivist theory) and not group or distributed cognition (supported by theories of embodied cognition) as well as failing to study cognition in the wild. While the research may be immaculate, the picture that emerges of clinical reasoning in the workplace is necessarily flawed.

Origins of Medical Education Research

While medical education celebrates a century since the landmark Flexner Report (1910), the research arm's landmark study was conducted only a half century ago. Norman (2002, p. 1560) states that, 'The specialty of research in medical education began just over three decades ago with a small group of clinicians and educational researchers at the medical school in Buffalo, New York.' In fact, Miller's (1999) expert group was first convened in Buffalo in 1956, over five decades ago. What they came up with, methodologically and educationally, is in many respects as fresh today as it was then, reminding us that we must retain a sense of history and lineage in the field.

The value of the historical perspective can be illustrated in our tale of two Millers (George and Henry), below. These are landmark statements that act as exemplars of a continuum of reflection on medical education that has 'research' at one end and

'scholarship' at the other. George Miller's *Adventure in Pedagogy* was published in the *Journal of the American Medical Association* (*JAMA*) in 1956 and Henry Miller's (then Dean of Medicine at the University of Newcastle in the UK) 'In Sickness and in Health: A Doctor's View of Medicine in Britain' was published in the UK in 1967 in the literary journal *Encounter* (pp. 10–21) addressing a literate general audience.

We reinforce the historical perspective throughout this book, reminding readers that such a perspective is sadly neglected in medical education research, with notable exceptions such as the work of Hodges (2005) on the 'paradigm wars' in medical education—a term first imported into medical education by Bligh (2003). In an article published over a half century ago and reprinted in 1998, Hughes (1955, 1998) casts an anthropological eye over medical education. Hughes notes how medical education can be read as a process of construction of identity, not simply as an accumulation of knowledge and skills. Further, here is a startling line: 'Some question the time-honored custom of having students learn anatomy from cadavers rather than from demonstrations with living persons (1955, p. 21).' Without reference to Hughes' remark, this topic has recently been elaborated by McLachlan and colleagues (McLachlan et al. 2004, p. 418) who claim that 'exposure to cadavers is generally seen as essential to anatomy learning around the world. Few voices dissenting from these propositions can be identified. …virtually all previous papers on this topic have concluded that use of cadavers is essential to medical learning.' Again, the long perspective is important. Hughes recognized 'dissenting voices' 50 years ago. The medical education research culture is young, yet some of its history is almost certainly already being eroded or excluded.

To return to our tale of two Millers—while George Miller's 1956 article is patently academic, involves qualitative data collection and analysis and has theoretical reflection, Henry Miller's 1967 article is journalistic, albeit top-drawer—where derived points of argument are not referenced and assertions are not evidenced. For example, Miller states that the UK is suffering from a medical 'brain drain' to North America. Sennet (2008, p. 47), discussing the state of the UK National Health Service in the early twenty-first century, suggests that after World War II, 'few' doctors 'departed for better-paying jobs in America,' contradicting Henry Miller's view. Actually, neither offers evidence for his assertions, which then remain at the level of anecdote. Henry Miller's article could certainly not be described as research, but rather as informed opinion—a good story—yet it has great value and insight. Miller (1967, p. 19) was, in fact, an early advocate of evidence-based medicine. In the article in question, he says that 'traditional beliefs' of medicine should be investigated by 'controlled experimental evaluation.'

We can understand some of the idiosyncrasies of George Miller's American-based 1956 article only in retrospect. For example, gender is not considered to be an issue. The medical education culture Miller describes is male dominated—his research group is all male and issues are identified by the male voice. When this article was republished in 1999 in *Education for Health*, the journal's editor remarked: 'Although some of the verbal constructions and the exclusively male gender references date this piece, try disregarding these factors and reflect on whether George's

critiques of the training process in medicine are relevant to the setting in which you work.' (Jason 1999, p. 285) The editor suggests that you will find Miller's remarks eerily contemporary.

George Miller's research methodology, typical of the rather rough and ready standards of the time, involved convening an expert group who engaged in 20 hours of unstructured discussion. Using notes, these discussions were drawn together by an expert educationalist identifying main themes. The prominent theme that emerged, which does appear so contemporary, is that teaching may be counterproductive to learning—learners must be provided with supportive contexts for self-directed activity.

Bearing in mind the call made by key commentators for greater depth and rigor in the research of the medical education community, as it establishes an evidence-based culture, we should not dismiss the importance of scholarship and expert opinion. Indeed, ironically, medical education's birth in the work of George Miller's research in the 1950s is grounded in an expert group opinion method. The methodology is hardly scientific, being a thematic analysis by a lone educationalist taking notes at the unstructured brainstorming sessions. Some of the most interesting contemporary thematic overviews of the state of medical education research, such as that of Regehr (2004), discussed later, are also based on solicited expert opinion, following Miller's broadly unstructured methodology. However, their yield is rich. Regehr took the direct voice as data, through recorded telephone interviews, developed as conversations and subjected these to thematic analysis.

Again, good scholarship by experts can also yield valuable insights, because it forces the audience must become critical readers, just as they would with good journalism and literature. We sometimes forget that 'research,' even where it claims positivistic grounding and objectivity, is still a complicated conversation between article authors and journal readers. Henry Miller's opinion article reminds us that medicine and medical education are, historically, bound with (uncannily familiar) wider political decisions.

Henry Miller's article raises a number of issues pertinent to current medical work. First, politicians often make major decisions about medicine and medical education through interest in economic issues rather than health issues. (Governing organizations are increasingly prompting doctors to gain fluency in health economics and to engage proactively with debate about resource limitations and equity in distribution of resources for health care). Second, healthcare is connected with the physical environment and so must involve the input of architects and planners. Third, medical education and medical staffing are intimately tied to wider issues such as the legacy of post-colonialism. Fourth is the view that, at the time Henry Miller is writing (1967), the Flexnerian revolution is seen to have never happened—there simply had not been enough investment in medical education to carry through the full extent of Flexner's agenda. Fifth, postgraduate education in the UK is poorly organized and badly supported by the Royal Colleges. (The 2008 Tooke Report on 'Modernizing Medical Careers' shows that this is a recurrent problem, pointing to a historical, structural problem with postgraduate education that 'modernization' has not solved.) Sixth, both medical and medical education research are seriously under-

funded and the Health Service has failed both, leading to a brain drain to North America. Seventh, general practice has declined, where the GP feels uncertain about his or her place in the emerging technologically driven medicine of tomorrow and needs radical reorganization. Eighth, is the paradox of the prevailing view that we know a great deal about disease and virtually nothing about health. Finally, ninth, medical education must involve more collaboration between basic scientists and their research world, doctors and medical students, with specific areas of development such as 'academic units…in the specialties.' This point is central to our discussion below about continuing tensions between academic and clinical communities' needs and perspectives concerning the purpose of medical education research.

Henry Miller's article contains four key ideas, still on today's agenda 40 years later:

- General Practices should be housed in generic 'Health Centers' (a failure at the time because of 'capital starvation').
- In cities, 'polyclinics' could be developed.
- Undergraduate 'Medical education can certainly be improved, perhaps especially by obliterating that sharp definition between its pre-clinical and clinical phases.'
- The consultant (attending) 'is merely one member of a highly specialized team…. Except as members of the team we are worth nothing, but to work in such a team is as stimulating and rewarding as to play an instrument in an orchestra.'

Miller's faint prejudice shows through in his railing against the less-than-scientific approach of psychiatry (remember, he was writing in 1967, and the 'anti-psychiatry' movement, inspired by Frantz Fanon and Michel Foucault and spearheaded by Thomas Szasz, Ronald Laing, David Cooper, Gregory Bateson, Felix Guattari and others was in full flow). Also, he has little patience for the social sciences, where 'it will be a bad day for the patient when the latest fashions in sociology and psychology displace the solid background of basic science in the training of his doctor' (Miller 1967, p. 20).

For a piece of journalism born of experience, rather than research, this is then a perceptive article. We discuss it also to remind ourselves about the importance of history. In the emergence of a best evidence medical education, again we must allow room for scholarship and expert commentary. However, we recognize that there is also a good deal of poor educational practice based on received, untested (and perhaps untestable) notions, such as 'adult learning theory' that we have discussed previously. In this chapter, we do not set out to argue for the value of particular research approaches, but instead we call for high standards and clear justifications across the range of approaches to research and scholarship.

Given the half-century of practice since George Miller convened his expert group to look at the state of play in medical education, how is medical education research now organizing itself as a culture and community of practice? What values dominate such a research culture? In the following chapter, we set out a typology for considering the various landscapes of medical education research—as a function of cultures, contexts and concepts. This is developed as a way of treating a symptom

that appears persistently within the culture: the unhelpful opposition between quali-
tative and quantitative approaches to research.

Returning to the opening to this chapter, half a century separates George Miller's
groundbreaking article and the editorial in the *Lancet* by Davis and Ponnamperuma
(2006) outlining a need for a new approach to medical education research. Medical
education research is still a small fish in a big pond, competing for resources and
struggling for recognition amongst major players from clinical and health services
research. It is characteristically seen as lacking rigor, even at the most basic level
of researchers failing to carry out good literature reviews. There are good reasons
for this lag—for example, medical education research has, historically, been chroni-
cally under-funded (Anderson and Styles 2000). However, such reasons can also be
used as an excuse for inertia and the time is ripe for proactive strategies. Indeed,
we have a clear agenda, which we set out briefly here, with some precautionary
remarks.

A Five-Point Agenda for Improving Medical Education Research

1. *Framing conceptual questions and deciding what counts as evidence*
   If medical education is to become an evidence-based practice, there is conceptual
   work to be carried out around what constitutes quality research and the nature of
   evidence. Issues commonly debated in wider education research—such as how
   we judge the quality of qualitative research (Seale 1999)—are often overlooked
   in medical education research. We have already shown that there is much value
   and insight generated from non-scientific studies such as themed expert opinion,
   even though such methods are also open to criticism and guaranteeing the edu-
   cational expertise in medical education 'expert opinion' is problematic.
   Usually, there is prior qualitative (theoretical) work to be done before investigat-
   ing any phenomenon quantitatively in medical education. Broadly, we need to
   identify and articulate the phenomenon under study, for example, by placing it
   in a historical context so that we do make assumptions about it or take it as a
   self-evidently observable fact. How can we experimentally study, say, emotional
   intelligence before we have articulated a concept and a construct (Lewis et al.
   2005)? This also applies to complex concepts such as self-assessment. How can
   we study and generate instruments for self-assessment before we have articu-
   lated what we mean by 'self' (Bleakley 2000a, b)? This is a strongly contested
   notion, as our earlier chapters on identity demonstrate. We are in danger of con-
   structing our *object* of inquiry through our *method* of inquiry.
   Also, there is work of clarification to be carried out. For example, in provid-
   ing an evidence base for practice, should medical education research, as many
   clinicians educated in scientific method would claim, be grounded in positivis-
   tic science? Social scientists involved in medical education research, and espe-
   cially psychologists, may be familiar with experimental method and the burden

of proof backed by statistical methods. However, they will also claim value for well-informed, carefully designed and reflexive qualitative and descriptive (narrative) approaches to research and will return to the central conceptual questions: what counts as research and what counts as evidence?

From its publications profile, Bligh and Brice (2008, p. 653) suggest that medical education owes more to the scientific paradigm than to the social sciences. Further, as Watt (2005, p. 32) suggests, 'where health services research has led, medical education may follow,' using outcomes-based research focused upon improving patient care, where 'Our primary concern must be to demonstrate the value of medical education research to those who commission and use our work, in ways that they can understand.' Wolf's (2004) survey suggests that orthodox quantitative studies far outweigh qualitative studies in medical education research. Medical education researchers, then, do tend to follow the traditional positivist, scientific, empirical route.

However, as Montgomery (2006) suggests, medicine is a *science-using* practice that also relies on narrative intelligence, so it is important that the medical education research culture's view of what constitutes an appropriate evidence base for practice includes the best of both scientific and narrative approaches. Evidence-based medical *education* has a different look and feel from evidence-based pure science practice: and science-oriented practitioners may look with skepticism, or even disdain, upon what medical educationalists count as valid and reliable evidence (Norman 2004). These points are part of a broader issue—as we have already noted, there is a need for attention to mixed methods in research, with appropriate methods matched to the nature of the research questions.

2. *Building programmatic and systematic research*

   As Regehr (2004) suggests, research needs to be both programmatic and systematic. This will require effort—to shift from local, individual or idiosyncratic, studies to carefully planned and evaluated multi-site collaborations to form a critical mass of research. We have noted Norman's (2003) liberating suggestion that multi-site collaborations need not be based on the RCT method, but that good results may be obtained from cumulative data derived from well-run, small studies focused on replication, echoing classic laboratory science.

   Norman (2002) observes that a lesson drawn from 'three decades of progress' in medical educational research is that such research cannot imitate the conventions of clinical research. An educational intervention is not like a drug intervention, so outcomes cannot be measured in the same way. A curriculum is complex and we are never quite sure what aspects of teaching and learning lead to what results. An educational strategy may not be reflected in outcome, where highly motivated students compensate for and are not blinded to interventions. Further, there may be a long time lapse between an educational intervention and a result, so that early measures fail to capture an effect. Importantly, again, effect sizes may be small.

3. *Developing outcomes-based research*

   Despite Norman's (2002) reservations above, Chen et al. (2004) insist that medical education needs to be *outcomes based*, and this is reflected by many

commentators (Bligh and Brice 2008). There is currently a gap between much research and its implications for quality of patient care. Chen et al. (2004) call for direct relationships to be made between medical education and patient-level outcomes and challenge the tradition to focus on educational, rather than clinical, outcomes. The authors are able to cite only a handful of papers that have successfully linked a medical education curriculum or learning intervention with identified improvement in patient outcomes or patient benefit. This is partly understandable, where educational interventions are usually complex, but can be overcome through basic design of research such as comparison of sites or longitudinal measures from a baseline.

In light of the call for outcomes-based research that leads to better patient care, can we say that Norman's (2002) claim for three areas of 'progress'—medical expertise (clinical reasoning), problem-based learning (PBL) and performance assessment at both undergraduate and continuing education levels—in three decades of medical education research is justified?

For example, research on clinical reasoning suffers from conceptual narrowness in its view of what constitutes 'medical expertise' (Quirk 2006). We are back in the territory of power and legitimacy, where a dominant, but limited, model (such as Daniel Goleman's notion of 'emotional intelligence') marginalizes alternatives. As noted earlier, research on medical expertise has a narrow conceptual focus on individual, cognitive strategies that may be explained in psychological terms. It tends to avoid studies performed in more ecologically valid, naturalistic settings with affective components, such as reasoning in real-time collaborative contexts such as clinical teams (Gao and Bleakley 2008; Higgs et al. 2008). Indeed, much of the laboratory-based research that Norman refers to has been carried out on undergraduate students (often studying psychology) and then generalized to clinical contexts. Furthermore, an emphasis on medical reasoning (Norman et al. 2007) has overshadowed the study of more complex health reasoning (Higgs et al. 2008); while an interest in individual cognition has pushed study of important issues such as shared cognition in multiprofessional settings to the margins.

The issue of whether PBL works has been a predominant theme in medical education research for decades. Researchers of the 'success' of PBL have focused on output (performance) at the expense of input (enrichment of the educational environment). Further, the focus on output has been almost exclusively on student outcomes and of those, only exam performance and student satisfaction have been closely studied. PBL research also suffers from poor design, where, returning to Cook et al.'s framework discussed above, a review of PBL studies shows 64% description studies, 29% justification studies and only 7% clarification studies.

As far as performance assessment is concerned, culminating in studies of the Objective Structured Clinical Examination (OSCE), there are undoubted successes. However, Hodges (2003) spots bias in this body of research, where over-emphasis upon psychometrics has led to under-researching the OSCE as a social performance.

This account seems to paint a rather gloomy picture, indicating how far away the medical education research community is from an outcomes-based research program, unlike, say, health services research, which has transformed its perspectives, methods and skills base. The current state of medical education research has been compared to the unformed state of health services research only two decades ago. There is a plea for medical education research to develop rapidly, using the transformation of health services research as a template (Watt 2005). However, we should pause to consider some of the gains derived from well-conducted research that challenges the ideal of the RCT with its focus on output and outcome.

Both research and evaluation studies are subject to ethics approval and other forms of governance and often involve peer review at the proposal stage. There are often expert steering committees for guidance and the study populations such as practitioners and patients, are often involved in design and evaluation of studies. In action research, they even become researchers of their own practices. So we could put greater emphasis than we do on the quality of research *input*—such as the design of studies to include the input of those who are 'studied.' If this is of high quality, then we should expect that, even where testing the significance of an educational intervention in comparison with another, or no similar, intervention, then participants certainly will not suffer, but should actually find that their work is enhanced. Input also offers theory building and modeling that is important even where results are inconclusive, or do not show statistical significance. Related to the above remarks, there is also a current mood in clinical education research to switch focus from the desire to *prove* (outcomes, evidence) to how we might *improve* education.

4. *Building expertise*
   The medical education research culture needs to build a critical mass of expertise in a range of research methods. However, commentators point to a dearth of expertise in both quantitative (Wolf 2004) and qualitative (Britten 2005) research within the medical education community. Wolf (2004) and Norman (2002, 2007) call for use of better and more appropriate statistical techniques. As we say above, educationalists in general are keen to explore 'mixed methods' (Cresswell 2008) and to create conversations between traditional qualitative and quantitative approaches to challenge this—often unfruitful—divide. In the following chapter, we offer a typology of research approaches that transcends the quantitative/qualitative opposition.

5. *Creating productive dialogue between the academic and clinical communities*
   Albert et al. (2007) discuss a key problem in furthering medical education research beyond the 'shall we use scientific method?' debate, that of unproductive tension between university-based academics and clinical practitioners. Academics generally seek depth of inquiry, longitudinal knowledge and theoretical sophistication in research, where clinically based practitioners want pragmatic solutions in a hurry.
   Having set out an agenda for improving medical education research, in the following chapter we consider how to implement it.

Chapter 16
A Framework for Medical Education Research: Cultures, Contexts and Concepts

In this chapter, in cutting through the unproductive opposition of quantitative *versus* qualitative approaches, we suggest the value not only of mixed methods approaches, but also of reconceptualizing research approaches through a new framework. Developing Denzin and Lincoln's (2003) metaphor of 'landscapes' of research, we formulate a three-part framework for medical education research—'cultures, contexts and concepts.' Each of these terms provides a focus for research, while in interaction they form a powerful, informing framework. Good research should be culturally and historically aware—in the sense of positioning itself within research discourse, sensitive to the context(s) in which research is carried out—and conceptually rigorous, not only drawing on ideas and theory (reproductive of what is already there), but formulating new ideas and renewing theory (productive of new knowledge).

The triad of cultures-contexts-concepts can be nested within our now familiar triad of identity-power-location, which is the major framework for our reconceptualization of medical education for the future. This may seem to be over-egging the pudding, saddling you, the reader, with two informing triadic frameworks at the same time, but we argue that this nesting offers a useful conceptual model. Medical education research can approach each of our proposed areas of concern within the broader field of medical education theory and practice—issues of identity, issues of power and issues of location—from the point of view of cultures, contexts and/or concepts.

This generates a useful grid of approaches to medical education research for which we offer suggested research foci:

	Identity	Power	Location
Cultures	Researching identity construction within differing medical specialties	Researching patterns of resistance by nurses to medical dominance	Researching patterns of socialization of junior doctors (interns) into hospitals as opposed to community practices
Contexts	Researching how the identity of the junior doctor (intern) is formed differently by local contexts	Researching the influence of the patient's input into care in large teaching hospitals as opposed to small community hospitals	Researching health outcomes in purpose-built pediatric units compared with adapted units

	Identity	Power	Location
Concepts	Researching what is meant by 'self' when we utilize 'self-assessment' methods in medical training	Researching how definitions of sovereign power and capillary power might be honed in a doctor-led focus group	Researching interactions between the exercise of sovereign power and the emergence of capillary power in an emergency medicine setting

Identity, Power and Location Revisited

Is medical education research in such poor shape as Davis and Ponnamperuma (2006), among other commentators, suggest? Can we delineate a 'culture' of such research, or a 'community' of researchers and if so how might such a culture and community develop? An editorial by Norman (2007) entitled 'How Bad is Medical Education Research Anyway?' is optimistic. Norman claims that there is much that is innovative in medical education research, but despite this, there is still some fundamental groundwork to be completed.

Using our framework of the relations between identity, power and location, we suggest that the questions below need to be addressed in carrying out medical education research:

Questions of *identity*:

- Who is best equipped to carry out this research?
- If doing research constructs an identity—that of the 'medical education researcher'—is there a range of disparate identities as medical education researcher; and how will we research the development, management of and resistance to identities of the medical education researcher?
- Can medical education research be carried out collaboratively with those who do not view themselves as, or seek to become researchers; such as patients and health-care practitioners?
- Will collaborative research with patients produce an identity of researcher for those patients?

Questions of *power*:

- What (and who) defines the 'field' that we call 'medical education research'?
- What factors have formed the field, how have certain positions become legitimate and dominant and how are such positions resisted?
- What kinds of research are established? Are these challenged, as new forms and methods of research emerge?
- Do researchers exercise unnecessary sovereign power over the researched?
- How do research participants answer back? What are the common forms of resistance as an effect of capillary power?
- If research acts to democratize medical education, why is the default model of research not one of democratic participation, such as collaborative inquiry?

- How should research be governed fairly, as an effect of monitory democracy?
- Do research ethics rules protect the universal rights of participants and frame the responsibilities of researchers or are they culture-specific?

Questions of *location*:

- Where is medical education research best carried out—in the clinic, in patients' homes, in the classroom, in the laboratory?
- Does location *form* research method—for example, do clinical contexts cry out for analysis of videotaped practice to ensure ecological validity?

Landscapes of Research: Cultures, Contexts and Concepts

To address such questions, we need to stand back and survey what Denzin and Lincoln (2003) have termed the 'landscapes' of research inquiry. While Denzin and Lincoln *describe* or *catalog* such landscapes—as varieties of research methods in the qualitative realm—we wish to go beyond description, to engage with process and action. We have disaggregated the notion of 'landscapes' to three perspectives: concerns with cultures, concerns with contexts and concerns with concepts. These three perspectives allow us to see how mixtures of landscape positions (from the 'up close' to the hilltop 'overview') of medical education research are best *inhabited,* again moving us beyond the familiar—but sometimes unproductive—quantitative/ qualitative research divide.

Cultures

The category of 'cultures' offers the long view, putting medical education research into a historical perspective and treating it as a discourse—a set of practices, guiding ideas, talk and texts that are subject to change historically, that legitimate activities (what can and cannot be done) and that construct identities (for example, as a legitimate 'practitioner-researcher' or 'academic-researcher'). Cultures form and reform through systematic activities and through production of knowledge (developing a culture) rather than reproduction of information (confirming a culture).

An illustrative example of the power of cultures is given in the previous chapter, where we discussed the formative influence of Miller's 1956 expert group on medical education research. A notable characteristic of that discourse is that it is gendered male. What would George Miller's group have made, in particular, of contemporary feminist research?

For example, Letherby (2007) explores health practice from a traditional emancipatory feminist perspective. Politically inspired feminism came to prominence in the 1960s and sought equality in a male-dominated world and emancipation from

oppression. Feminists more interested in gendered language and symbols accepted that men could be feminist in their theoretical orientation. Gay and lesbian studies questioned the simplistic opposition of male and female. Poststructuralist feminists rejected reducing the 'femaleness' of feminism to biology only (a position often referred to as 'essentialism') and maintained an interest in cultural production and reproduction of gender, for example, through the conventions of gendered language. Interests in gendered forms of language in medicine and medical education include asking, for example, why the scientific study, which is generally seen as 'masculine,' (being literal, rational, objective, and 'hygienic') is preferred over narrative, literary and experimental writing, which tends to be viewed as more feminine in nature.

For example, Cixous (1991) suggests that 'masculine,' or 'logocentric,' writing, characterized by reason or logic, dominates the Academy. Such writing, especially in research circles, is admired where it is not grounded in the body or person, but is 'objective,' or disembodied. Partly in a pun on its characteristic stiffness, such writing has been termed 'phallic,' leading to the complicated descriptor 'phallogocentric'—centered on a masculine logic. 'Feminine' writing, suggests Cixous and other poststructuralist feminists such as Catherine Clément (Cixous and Clément 1986) and Irigaray (2004), is embodied rather than disembodied (Cixous talks about 'writing with mother's milk,' a metaphor for *écriture feminine*—'feminine writing') and has flexibility and a loose feel, rather than stiffness (Irigaray describes a 'liquid' writing). These writers call for a *poetics* of research accounts. We have echoed this call in our running theme of bringing a literary sensibility to bear on medical education writing.

Letherby (2007) describes the traditionally male position as involving assumptions around value-free research, calling for 'objectivity,' 'truth' and 'fact' claims that also marginalize emotional response. The notion of 'objectivity,' so valued by scientific research, is seen as a value-laden, rather than value-free, position that brackets out the 'subjectivities' of those concerned in research and, in research on persons, turns the 'subjects' of research into 'objects' of inquiry. If the subject of research is already an oppressed or marginalized voice—that Kristeva (1982, 1989) refers to as the 'abject' (rather than 'subject' and 'object,' both marginalized and objectified subject)—how will research help that person to gain a voice? Such political motives are again bracketed out from 'objective' research. Further, how is an identity as a researcher achieved if research cancels out subjectivity? Is a dedicated researcher, whose methods are sidelined or outlawed as too progressive or transgressive, able to take on the identity of the 'abject'?

Feminist research suggests that the research product cannot be separated from the conditions of its production. Research cannot be neutral or value-free and objectivity is a fiction. Better to cultivate an aware subjectivity. Letherby takes the example of the survey method on the one hand and the in-depth interview or life history approach on the other, as exemplars of masculinist and feminist methods, respectively. Feminist research methods set out to change practices and to include 'subjects' as participants. This is achieved most clearly in action research and collaborative inquiry models. Masculinist methods set out to describe at a distance

(potentially objectifying subjects), not to involve or inscribe (affirming and deepening identities as a central aspect of research).

Importantly, it is not necessarily the research methodology that is gendered, but the way it is used. Feminists should be able to draw on a variety of methodologies and shape them according to a feminist framework. Feminist research emphasizes an ethic of involvement rather than detachment, bringing some equality to the researcher–researched relationship. Subjectivities of both researcher and researched are freely discussed within this ethic, as critical dimensions to the research process. As women now constitute the majority of medical school intake, will feminist research approaches become more commonly adopted?

A second illustrative example of research specifically addressing 'culture' issues has been referred to previously. Hodges (2003) asks perceptive questions about the dominance of research into the Objective Structured Clinical Examination (OSCE) that draws on the culture of psychometrics, rather than the culture of dramatic performance. In focusing all of our resources upon finer and finer detail in the psychometrics of the OSCE, we have forgotten that the OSCE can be seen as a piece of theater in which roles are scripted. We can then analyze the OSCE sociologically for its performative, rather than psychometric, dimensions and this reveals some uncomfortable possibilities, such as medical students 'faking it.'

In using actor–patients and tight scripts in simulated settings, the dramatic or performative aspect of the OSCE is important to recognize. Sociological theories, especially the symbolic interactionism of George Herbert Mead and the dramaturgical perspective of Erving Goffman, describe everyday encounters in performative terms. For Goffman, there is no real activity that is not scripted. The point of the dramaturgical perspective is that all social behavior is highly ordered and regulated through normative behaviors and personality is better seen as 'role related to context.' Script does not rule out spontaneity and bargaining, as actors know and theater audiences recognize.

In fine-tuning the psychometrics of the OSCE, Hodges (2003, p. 1134) points out that 'the social nature of the interaction between the role-playing doctors, patients, family members and health professionals' is ignored or devalued. Then, 'confining OSCE research to measurement issues is like reducing Shakespeare's poetry to iambic pentameter.' The assessment of clinical performance through the OSCE presents problems. It is assumed that OSCEs offer measurable, simulations that are an approximation of a definable external reality, that are then extrapolated back to the real clinical world. Hodges argues, however, that as simulations become more common as an educational context, the 'real' world of clinical experience comes to be defined by the simulation; we explored this phenomenon in more detail in Chap. 11. The result is that OSCEs produce a range of new and sometimes undesirable or inauthentic professional behaviors that may be re-created in the clinical world, such as 'empty' or rehearsed empathy in communication (Bligh and Bleakley 2006; Marshall and Bleakley 2009). Arguing from a social constructionist perspective, Hodges suggests that the OSCE does not approximate some real or ideal doctor–patient encounter. Rather and counter-intuitively, it is through historically and culturally mediated activities, such as

the OSCE, that the anatomy of the 'typical' doctor–patient encounter is socially constructed and reconstructed.

Hodges (2003, p. 1137) suggests that medical education forms roles and identities that come to frame 'the performance of certain professional behaviors, including patient-centered interviewing, cross-cultural competence and interprofessional communication.' For example, through 'impression management' (Goffman's term), a merely competent medical student and doctor can appear to be very good. Goffman's 'overt speech acts' are readily learned scripts that, for example, show a medical student in a good light by asking the questions that correspond to the OSCE checklist. 'Ungovernable acts' are more difficult to learn, but these are critical to impression formation and management, as these fine-tune the overt speech acts. An example would be a student carrying out a patient examination with obvious sincerity. Ironically, given the emphasis that medicine places upon individualism, the OSCE, argues Hodges, produces 'homogenization.' Of course, one aim of an assessment process is to provide fairness through standardization, but the irony of this in the context of the OSCE is that it also produces a bland uniformity of response.

Hodges' article finally calls for a research *program*, systematically examining the OSCE as a social context, as a 'sophisticated sociological investigation.' This would involve moving away from quantitative research on the psychometrics of the test to focus on qualitative questions such as: how are 'ideal' doctor–patient interactions constructed by the OSCE, especially where such interactions increasingly involve communications between differing cultural groups and interests; and how does the OSCE contribute to professional socialization and identity construction? The research program that Hodges advocates would be faced with some interesting conceptual issues in this postmodern era in which authenticity has lost its currency and the public come to know medicine through television medical soap operas, even while integrity and probity are regularly quoted as key, desired attributes for medical professionals.

Contexts

That medical practice and medical education occur in a variety of contexts is given—but how such locations shape practices is contested, as we discussed in Chap. 10. Medical education research is also subject to being shaped by context or place. Where a culture of research is a larger discourse, contexts describe where and how that culture is realized in activity and the specific environments within which medical education research happens. For example, what institutional or organizational structures act to help or hinder research? How might we develop institutional and organizational contexts, such as the 'learning organization,' that support and nourish medical education research and help to consolidate identities as researchers? A learning organization is an institution that reflects positively upon its own process and makes changes accordingly.

At the risk of burdening the reader with more geography metaphors, learning organizations such as medical schools generate *climates*: for students, faculty and

research (Genn 2001). A climate may be thought of as a local habitat. We have commented on how Pauli et al. (2000a, b) describe medical education itself as an ecosystem, a local ecology, understood biologically. The root of 'eco-logy' is the Greek *oikos*, 'household.' A learning organization gets its house in order. Medical education research cultures can be thought of as habitats that are complex, adaptive systems. We have already presented an argument for thinking about medical education as an adaptive, non-linear system working best at maximum complexity without falling into chaos (Prigogene and Stengers 1985; Waldrop 1992; Kauffman 1995; Bleakley 2010b; Mennin 2010).

Hemlin et al. (2004) describe the 'creative knowledge environment' (CKE) as an *intentional* organizational environment in which innovation in research can flourish. These environments can be macro, meso or micro. They focus upon productive knowledge (innovation), rather than reproductive knowledge (replication) through interdisciplinary collaboration. Micro-level CKEs work well if a number of factors are in place such as creative leadership, good will, common vision, adequate resources, good project management, tolerance for the wilder side of innovation, commitment to interdisciplinarity rather than multidisciplinarity, good interpersonal relations and strong collaboration with supplementary groups outside the CKE. CKEs are good examples of complex, adaptive systems—dynamic and necessarily unstable, but productive of new knowledge through emergent properties of the system (Bleakley 2010b; Mennin 2010). The main constraints in establishing CKEs include:

- Lack of funding, especially core funding, leading to good researchers perceiving themselves as failures where projects 'fail' if they are not funded within a highly competitive market.
- Poor or weak leadership.
- Limited time.
- Too few researchers with too little expertise or too many other tasks.
- Focus in the research program is either too narrow or too wide.
- Lack of genuine interdisciplinarity, transdisciplinarity or circumdisciplinarity (Dalke et al. 2004).
- Excessive evaluation and other accountability measures, read as mistrust of capability and control, rather than as helpful quality assurance.

A certain level of discord or tension is necessary in CKEs as a springboard to change and positive tensions include: young researchers vying with established researchers and ambition in tension with stress or overload. Leaders at the micro level of a CKE must be aware of the meso and macro levels: for example, what are the employment prospects for PhD students? What larger economic and political forces are at play that will trickle down to the micro level of CKE? Importantly, how can members of local CKEs become players in the national and international field, guiding policy?

Medical education research units can then ask themselves:

- In what sense do we produce rather than reproduce knowledge?
- What is our track record for innovation and impact as innovators?
- How are we perceived and received by other, similar units?

- Do we have both interdisciplinary capability and will?
- Do we set a climate that stimulates innovation?
- Do we have strong leadership?
- What are our recruitment and staff development policies?
- How do we set up and utilize an appropriate level of creative tension?
- Do we understand the dynamics that link micro, meso and macro levels of the CKE?
- Have we set up stimulating external collaboration?
- Do we turn quality assurance into quality 'control'?
- Are we reflexive—able to evaluate our own performance—as well as open to external advice and guidance?

How might a medical education unit organize itself as a creative learning environment? Cees van der Vleuten (van der Vleuten et al. 2004) and colleagues at the University of Maastricht have described this process up to 2004 in their own institution, summarizing 30 years' worth of institutional development. Let us briefly remind ourselves about this remarkable institution's achievements in the field of medical education. For example, as Cate (2007) reports:

> a survey of the 2006 volumes of nine medical education journals was conducted, which counted the number of articles with a first author from these same five countries. If these are related to the number of medical schools, the Netherlands appears to be the most productive country in medical education research…. There is no doubt that Maastricht University weighs heavily in this calculation; specifically van der Vleuten, who is probably the most productive medical education (co-)author worldwide. (p. 755)

To return to the article by the prolific author van der Vleuten et al. (2004) describing the establishment and maintenance of a medical education research unit, this provides an excellent case study for younger medical education units bent on promoting research, as it shows how a unit weathers its formative stages and how it can be maintained in the face of adversity. Moving beyond provision of educational services and support, the unit pioneered scientific medical education research that would develop into a coherent program and provide academic status for educationalists. At 2004, the medical unit had four main activities:

- Evaluation of programs.
- A research program including supervision of PhD students.
- A teaching program (Masters in Health Professions Education).
- An international consultancy/networking process.

Importantly, the unit had established areas of expertise, particularly in assessment of learning. Establishment of the unit depended upon educationalists arguing for the value of education and education research to the Faculty of Medicine. Although the Faculty had called for educational innovation in 1974, it was not until 1977 that the Department of Educational Development and Research was established. It was not until 1982 that the university granted the mandate for the education research program. Thus, it took nearly a decade to establish the infrastructure for a medical education research unit.

The authors see two organizational prerequisites for success of such a unit: 'academic status for educationalists and a recognized research program.' The research program informs the local medicine curriculum, offers staff development and drives educational innovation and reform internationally. Having established a viable unit, this nevertheless sits precariously within the Faculty of Medicine, meeting (at the time of publication) only three of the five criteria used for deciding the viability of a research program. The unit has a good publications profile and success in PhD completions (with a strong international program), but has a small critical mass of staff and difficulty in attracting external funding. These are familiar problems for the medical education culture internationally. The success of the research program rests with its ability to link theory and practice, and this is enhanced through the balance of clinicians and social science-based researchers working collaboratively. By tracking the history of this unit and other successful medical education centers such as the Wilson Centre in Toronto, to draw out their successful features, medical education units and their research intentions can be *designed*.

Our focus upon context as institutional has led us away from the most obvious context for research—*that of the influence of the researcher him- or her-self*, whether of personality, identity or role. This links strongly with our running theme of the identity constructions of the medical educator and the medical education researcher.

An illustrative example of this within health care is Chesney's (2001) research as both a feminist and supporter of action research models such as collaborative inquiry, where research is not conducted on persons (as 'subjects') but with them, as co-participants. Chesney argues not for suspension of the self as a confounding issue in objective research (subjective bias), but in favor of using the self as a *resource*, as a form of method. Chesney is a midwife and researcher in women's health care. She spent many years on field trips—from the UK to Pakistan—to research birth practices, utilizing an ethnographic approach. This returns us to our earlier points concerning feminist challenges to dominant masculinist research models and methods, the latter marginalizing views such as Chesney's where such views taint the scientific model. Where funding follows central rather than peripheral models of research, however exciting or innovative the latter, researchers and units will capitulate and seek legitimacy rather than breaking new ground.

Briefly, let us remind ourselves of the fundamental principle of scientific inquiry—suspension of the interests, values and biases of the subject in order to observe a phenomenon (such as cross-cultural comparison of birth practices in Chesney's work) objectively, even where that phenomenon involves other persons. Critics of this approach point to its intrinsic contradiction. How can the subject be 'bracketed out' when science is based on *educated* or trained empirical observation, or imaginative (sometimes inspired) use of the senses? Of course, the scientific method depends upon checks—repeated observations, triangulation with other sources of data, use of instrumentation, observations under differing contexts and so forth.

Objectivity, however, is not an agreed external fact; it is a cultural practice with a history (Daston and Galison 2007). How things are observed and recorded is culturally and historically constructed and therefore it is never value-free. Lorraine Daston and Peter Galison describe three historical phases in the Western method

of 'objectivity.' The eighteenth- to mid-nineteenth-century form of seeing was to bias observation towards an ideal form. Every example of nature was seen as a degeneration of the ideal type or archetype and so what was recorded was the ideal type, as if the observed object was forgiven for its slippage and returned to its glory. The late nineteenth- to mid-twentieth-century form of seeing was to use instrumentation, particularly the photograph, to capture reality. The scientist, as expert but potentially subjective, was subordinated to the instrument (as objective). From the mid-twentieth century, 'seeing' was restored to the eye of the expert, as 'judgment.' The photographic example suffers because it cannot capture a typical example except in presenting a range of photographs of idiosyncratic examples. For example, a photograph in an anatomical atlas will not correspond exactly with the individual variation in front of a surgeon when he opens up the individual patient. Hence, what is seen is restored to the senses of the expert, as idiosyncratic judgment. 'Self' is now constituted as a *method*, where it is not suspended, as in the older ideal of objective science. Ironically, Chesney's use of self as method in her midwifery research resonates with the new objectivity described by Daston and Galison.

In the social sciences, the established alternative to challenging the suspension or bracketing out of self to achieve objectivity in research is another kind of objectivity, that of being 'subjectively objective' or the application of *reflexivity* (Alvesson and Skoldberg 2000; Taylor and White 2000; Finlay and Gough 2003). Reflexivity can be read as turning the scientific method onto subjectivity itself, so that we allow for and even encourage the subjective view, but this is constantly *relativized* through reflective activity. This includes articulating a value position and considering alternatives. It also encourages us to move from assumptions that we are being merely descriptive in our data analyses to checking whether or not we are 'inscribing' (constructing or producing) our subjects of research, rather than objectively describing them.

Chesney then argues for the value of including the 'self,' or subjectivity, as a methodological *resource*, a benefit rather than a hindrance, particularly in ethnographic observation in health-care research within an Other culture. As a midwife from the UK exploring the culture of the birth process in Pakistan, Chesney utilizes reflexivity to interrogate the personal values that she brings to the research process. Rather than following the advice of traditional ethnographers and anthropologists, who warn against 'going native' and engaging with subjects in a supposedly 'authentic' manner, but advocate instead treating them scientifically as objects of study, Chesney prefers to explore a considered involvement with the members of the culture she observes, as co-participants in research, for example, without assuming that she can 'go native.' For her, this is an *ethical* choice in research.

Chesney's work then challenges Norman's plea for generalization in research against the particular or idiosyncratic. We can generalize Chesney's *method* of reflexive involvement and reflexive accounting (in subsequent written accounts), but not her findings, which remain local. In postmodern ethnography, the accent on the local, rich account is becoming the norm, stimulated by pioneer anthropologists such as Geertz (1977, 1992), who recommends 'thick description' in research narratives, where the researcher does not engage in personal-confessional writing,

but does position him- or her-self within the narrative in a reflexive manner. Typically, this results in a close or confined, multi-layered case study. This should be of particular interest to doctors, faced with the dilemma of treatment informed by an evidence base form large research studies balanced against the n = 1 'study' that is this particular patient 'case' in this particular context, with the idiosyncratic nature of the particular chemistry of the interaction with this particular doctor.

The feminist research model exemplified by Gail Letherby, discussed earlier in this chapter, is reinforced by Chesney's model. Both would agree that the way we do research is conceptually or theoretically driven, but that such theory has been driven by what Alfred Adler (in Hillman 1994) termed the 'masculine protest' and has since been described as 'masculinist' research for first-wave feminists and 'phallogocentric' research for poststructuralist feminists. Those who follow objectivity unthinkingly are characterized as having naturalized a 'masculine' research method that focuses upon *epistemological* issues (theory of knowledge), at the expense of *ontological* issues (questions of 'being' and personhood) and *axiological* awareness (the values basis to research—for example, explicitly challenging a masculine-gendered tradition through a feminist account).

Feminists then refer to such historically- and culturally defined conditions as *political* structures, because the status of knowledge (for example, what counts as legitimate evidence) is now intimately connected with power. To return to the relationship between identity, power and location, the identity of the 'researcher' is legitimated as he or she adopts the normative or dominant discourse of research (objectivity, achieved through experiment, leading to the discovery of truth, regularity, law or principle). Such research is seen as legitimate only where it occurs in valid (regulated and governed) locations or contexts such as laboratories, clinical workplaces and institutional units. In addition, the 'researcher' is formed and legitimated through conforming to research funding systems, ethical procedures and reporting through publications, all of which reinforce and perpetuate traditional methods of inquiry.

Concepts

Throughout this book we have emphasized how important rigorous theoretical frameworks are for the future development of medical education and medical education research. If there is one area that can be pinpointed as the cause of a 'crisis' and 'crossroads' in medical education and its research wing, it is theory. In Chaps. 1 and 2 we suggested that an anti-theory bias migrated from medicine to medical education and then to medical education research, where the clinical community has historically privileged a hands-on or pragmatic approach. We noted that a bridge could be built between academic and clinical communities through an emphasis upon work-based learning. However, we also noted how resistance might be shown to the more complex, sophisticated and challenging wave of thinking about work-based learning offered by the new social learning theories. Further, we have set a

challenge—to improve the quality of theory in medical education through interdisciplinary approaches, borrowing in particular from literary studies, where notions such as 'text' can readily be translated into clinical contexts.

There is widespread agreement that medical education research needs more sophisticated and imaginative theory to develop the field or culture of inquiry (Regehr 2004). We must encourage a 'complicated conversation' (Applebee 1996) between practice and concept, where activity and theory work together as 'praxis.' Sometimes we develop ideas into more sophisticated theory inductively. Sometimes we test ideas deductively, as in testing a hypothesis. Sometimes ideas are embedded in the ways we look at things, already acting tacitly because we live in a culture with embedded rules and habitual ways of doing and saying things. Theory frames and informs practice. Theory is a word that can be used to describe a questioning mindset that makes the familiar strange—in order to re-examine the familiar, or to challenge assumptions. This notion goes beyond the restrictive mindset that theory only refers to hypothesis testing (Norman 2004). Culler (1997, p. 3) provocatively describes 'theory' as 'more than a hypothesis: it can't be obvious; it involves complex relations of a systematic kind among a number of factors; and it is not easily confirmed or disproved.'

We will say no more about the value of theory here—our point has been made throughout the book—except to urge readers to put the author index to good use.

Landscape

To return briefly to the unifying notion, or metaphor, of *landscape*, this is offered as a descriptor of not only what we do in medical education research, but how we do it, with whom and where. 'Landscape(s) of research' is an established metaphor in the field of qualitative inquiry, introduced by Denzin and Lincoln (2003) in a synoptic text *The Landscape of Qualitative Research*. Cultures, contexts and concepts together form landscapes of and for inquiry. Researchers inhabit, but also make, these landscapes. Landscape metaphors are not unfamiliar—we readily use phrases such as 'field of inquiry,' or 'goes with the territory.' Good academic writing (nonfiction) has style and draws on literary effects such as use of metaphor, plot and characterization (Culler 1997). Landscape is another literary trope—or tool—central to our understanding of clinical educational research. A dictionary definition of landscape is: 'a portion of natural scenery, usually extensive, that may be seen from some special viewpoint.' We inhabit landscapes and we form and reform landscapes over time, but always 'from some special viewpoint.' Landscape has also been used as a metaphor by Barone (2000) to describe the contours of curriculum.

Landscape is a helpful metaphor to understand the dialogue between objective scientific research and the openly subjective methods of interpretation used in ethnography and narrative studies, for example. The philosopher Thomas Nagel cleverly described scientific objectivity as 'the view from nowhere' (1986). Describing qualitative research, Dalke et al. (2004) talk rather about 'the view from

everywhere,' that is 'personal, experiential and contextual,' a view that sees good quality research as immersive, involved.

This is an apt metaphor upon which to conclude this chapter—the notion of engagement with a landscape of inquiry with a view from everywhere. We have argued in this book so far that medical education can act as a democratizing force for the practice of medicine, a practice that habitually retains unproductive activities, such as poor systems of communication, that hinder patient benefit. The democratizing of medicine promises improvement of patient care and safety, as well as improvement of work morale and satisfaction for practitioners. We have also argued that shifts to new work patterns, resulting in changing identity constructions, demand that doctors account for their work to a wider audience, including patients, in a reflexive manner. This is something new for medicine that has cherished, but sometimes abused, professional autonomy. Medicine is now open to new levels of monitory democracy as quality assurance. In a second layer of argument, we propose that medical education itself is democratized by medical education research, in moving from a largely intuitive and idiosyncratic practice to one informed by research evidence. While the legitimacies of forms of evidence are properly contested, the fact that we look for evidence for a conceptual position or a practice means that we are reflexively monitoring our work, or acting democratically through research.

While the medical education research culture is a relatively new and unformed agent for change, we indicate ways in which development of the culture of medical education research can be enhanced, indeed accelerated or hot-housed. Where the forms of democracy that allow medical education to reformulate medical practice are mainly assembly (participant and constituent) and representative democracy, medical education research acts largely as a monitory democracy in informing medical education practices—again, assuring quality through reliable and valid evidence. Once again, critical awareness—acting as a monitory democracy—leads us to ask just what is meant by 'validity' and 'reliability' in research (Scheurich 1997). Monitory forms of democracy—ensuring quality through evaluation, feedback and reflexivity—offer forms of shaping medical education ethically and morally through provision of evidence for its practices, where, again, the nature of 'evidence' is constantly appraised.

Part IV
A Medical Education for the Future

Chapter 17
Identities, Powers and Locations: What Does the Future Hold for Medical Education?

In the final two chapters, we summarize our argument for a new approach to medical education and move beyond our concerns with pedagogy to engage with policy. In setting out what the future may hold for medical education, we describe in the following chapter the ground—provided by academies—upon which pedagogy and policy can engage in creative dialogue. We argue that medical education can and should be constructed differently than it is at present. Certain critical changes are already in the air, but we believe that more can be done to shape a responsive and socially responsible medical education for the future, while unproductive habits from the past persist and need to be challenged.

A Focus on Pedagogy

Our focus up to this point has been on pedagogy rather than policy. In particular, we have shown how a medical education for the future can benefit from application of contemporary socio-cultural learning theories and their common interest in identity construction. New identity constructions—of the clinician-educator, the scholarly teacher, the scholar of teaching and the clinical education researcher—follow from these new forms of learning as a consequence of the effect of power across locations for learning. Such locations are changing as the divide between hospital provision for acute care and general practices for community-based chronic care lessens, with services such as polyclinics occupying the ground between and a variety of health-care practitioners taking up some of the work traditionally carried out by doctors. Location for learning medicine is also extended to the international stage with the globalization of medical education, which brings with it the associated danger of a new wave of colonialism. We have discussed expression of power as this affects medical education in terms of the potential for development of democracies at the micro-level—in clinical team settings and in professional relationships with patients.

Forms of relationships with patients follow from the kinds of learning that are adopted in medical education and we have shown how these are necessarily ideological. Further, we have suggested an agenda for the future of medical education, again using the framework of the relationships between identity, power and location.

We extended this model to suggest that a future medical education research agenda would not benefit from the current sharp division between quantitative and qualitative approaches. Rather, one could view the future of medical education research differently—in terms of the interplay between cultures, concepts and contexts.

Where medical education research has taken on the burden of proof for the widespread adoption of certain educational practices such as problem-based learning, it has become increasingly clear that we might benefit from a focus not on proving, but improving, medical education provision. This has led to an interest in developing the once gray area between pure research and pure teaching practice in terms of scholarly teaching and the scholarship of teaching (Boyer 1990; Fincher and Work 2006; McKinney 2004). Rather than place undue emphasis upon clinical teachers becoming expert researchers and possibly exacerbating tensions between the clinical community and the academic, non-clinical research community (Albert 2004; Albert et al. 2007), the future of medical education research may rest in the explicit development of the identities of scholarly teachers and scholars of teaching. This may take a weight of expectation off the shoulders of busy clinical teachers who do not have the time or inclination to become dedicated researchers.

Crisis and Crossroads Redux and Some Notes on Method

Our title—*Medical Education for the Future*—at first glance may be read as an exercise in crystal gazing. However, in Chap. 1, we heeded the challenge issued by Kevin Eva to resist predicting the future of medical education, since we agree that such prediction may leave us with egg on our faces. Eva (2008) sensibly warns that the prophet is more often embarrassed than celebrated by how events actually unfold.

Our approach to how medical education may proceed has been to map out what the late English novelist J. G. Ballard called the 'near future' (Ballard 1994)—that which is unfolding as we speak and to whose embryonic forms we might develop an acute sensitivity. One way to articulate the near future is to map current habitual practices and orthodoxies that are plainly unproductive and that already command unreasonable resistance when challenged.

We have argued for a radical future agenda for medical education, including:

- Articulation of the ideological issues that frame choice of theories informing pedagogical practices.
- Addressing the troubled relationship between the workplace and the academy.
- Managing plural identities in a runaway world of medicine that refuses single interpretation.
- Mobilizing the power of both a cultural-critical and a literary sensibility in medical education.
- Addressing the paradoxical refusal of democracy in medical practices and the democratizing powers of both medical education and medical education research.
- Addressing the unacknowledged imperialism of dominant forms of medical education and articulating a number of patterns of interplay between identity, power and location.

In setting out this agenda, rather than crystal gazing we took our lead from John Seely Brown's and Paul Duguid's seemingly paradoxical suggestion that the 'way forward' is not to look ahead, but to 'look around,' again sensitizing to a near future (Brown and Duguid 2000). By gauging what is not working and what is habitual and unproductive, we do not need idle prophecy. In some matters of medical education—such as the future of anatomy teaching and learning, the fate of knowledge-focused lectures and knowledge-only examinations, the timing of transition from classroom to clinic learning, the balance between hospital and community experience and forms of bedside teaching that centrally involves patients—change is plainly necessary, or the writing is on the wall. Indeed, in the more progressive medical schools, change in these areas is already well underway.

However, we also noted in Chap. 1 Michel Foucault's observation that, as we try to conduct a 'history of the present'—a mapping of the near future by determining the conditions of possibility for its unfolding—what is obvious in hindsight is not always obvious at the time. For example, what is absent is just as important as what is present. Here, the writing is not on the wall—rather the signs are more subtle and harder to detect. Doctors, as diagnosticians, are aware of this in any case. Making difficult diagnoses always requires the practitioner to grapple with absences or mere hints. Throughout this book, we have attempted to bring some of those unseen absences to awareness, into presence, for consideration. Chief among these are what patients do not say in consultations but may be inferred from what is said; and learning to access shared clinical reasoning expertise in team settings where such shared expertise is not explicitly articulated but held as distributed cognition and affect.

Our historical method in articulating the near future of medical education is borrowed from the eighteenth-century German philosopher Immanuel Kant via the twentieth-century French psychologist Michel Foucault. Kant suggested that no object can be perceived raw, but is filtered through a conceptual apparatus of categories such as time and space. Foucault described such categories as cultural discourses—ways of seeing, talking about and practicing in the world that change historically. The problem that Foucault poses is how and why certain phenomena, such as madness, forms of discipline and punishment, sexuality and self-identity, appear at all within a particular culture. His significant contribution was to illustrate the 'conditions of possibility' (a Kantian idea) for the appearance and legitimization of such phenomena. These conditions of possibility are formed by the interaction of existing discourses. We can trace these conditions of possibility quite readily in retrospect to see how discourses produce the objects of which they speak, such as madness, sexuality and self-identity.

Let us give an example of how a discourse is currently being established in medicine—that of 'patient safety.' The discourse comprises ways of talking and acting (safety practices such as hand washing) within a governance framework (protocols such as a surgical safety checklist) around a core issue (in this case, quality of communication in systems such as clinical teams, based on dialogue). In retrospect, it is easy to see how the conditions of possibility for the emergence of the discourse of patient safety have been established. First, 'safety' in all high-risk cultures is produced as an object through reflection on unacceptable levels of risk resulting in high-profile accidents such as aircraft crashes, train crashes and oil spills.

It took around 15 years for the modern airline industry to move from being a 'high-risk' industry to becoming a 'safety critical' or 'high reliability' culture. The outcome of this is well evidenced—it is now very safe to fly. The oil, nuclear and rail industries have undergone a similar safety revolution. At the same time, it is perceived that there is still an unacceptably high level of risk associated with medicine, surgery and hospital stays (Amalberti and Auroy 2005). Medicine remains a high-risk activity because it has not yet assimilated the necessary values to maintain safety practices.

The complex discourse of medical education does not revolve around the same issues as the patient safety discourse in medicine, although of course the patient safety issue is ultimately one of improving education in that field. Our point is that medical education as a discourse is still averse to developing a fundamental shift in values and practices that would transform the culture.

We have used Foucault's historical method to articulate some of the conditions of possibility for the emergence of a discourse, such as a new way, or a new wave, of educating doctors. We suggested in Chap. 1 that these conditions can be spotted as trends. Where a confluence of significant conditions, or a set of trends, meets, a new discourse emerges—a new set of practices, informed by and informing a new mindset. We have given a number of examples of this emergence of a new discourse throughout this book.

Medical education can be seen as the construction of a number of related discourses—medicine, education, science and public health, for example. As these discourses fluctuate, so medical education will change. However, where elements of discourses remain relatively stable, the object itself remains stable. We will show how this produces a paradox for the history of medical education in which, among a number of peripheral changes, perhaps nothing changes at the heart of the practice of medical education where the beat remains the same. This is our considered observation. Of course, what we are proposing in this book is radical change for medical education, but we recognize first that there is considerable resistance to change within the field and second that 'change' is sometimes claimed where no change has actually happened. For example, we see current claims for 'patient-centeredness' to be somewhat hollow, not actually returning to the patient as the heart of the matter at all.

The More Things Change, the More They Remain the Same

We have cited evidence for eight major fault lines in current medical education that must be addressed:

- The uncritical acceptance of instrumental models that privilege training of competencies over education of capabilities.
- The lack of design in the medicine undergraduate curriculum for meaningful early clinical experience. This includes the erosion of opportunity for medical

students to learn directly from patients; the lack of continuity of patient encounters that also masks insight into the social contexts in which illness develops; and the erosion of dialogue with patients through emphasis upon doctor-led activity.
- The undue emphasis upon the individual in an emergent era of teamwork that has a knock-on effect of masking the importance of issues of patient safety resulting from systems-based miscommunication.
- The growing divide between learning by simulation and real-time learning at the bedside, in the clinic and in the community; and the knock-on effect of this divide for ecological validity in related assessments of clinical competencies including communication skills.
- The desire to 'prove' rather than 'improve,' which is so strong a feature of medical education research, leading to evidence-based sterility.

But are these fault lines active enough to constitute a collective crisis in current medical education? The reader has every right to think that the crises and crossroads of the sort that we noted in Chap. 1—appearing in contemporary medical education literature across the spectrum of provision—do not necessarily signify a paradigm shift. Following Nietzsche's notion of the 'eternal return,' we might think that crises in medical education recur as cyclical movements, or indeed, that medical education is in a permanent state of crisis. The fact that a culture is in crisis may not lead to responsive culture change—rather the culture can stumble on, suffering its symptoms.

In a key 1969 article in *Academic Medicine*, Joseph Martire already reports a 'crisis' in American medical education. In 1967, the Student American Medical Association (SAMA) charged the Standing Committee on Medical Education to address 'General and basic inadequacies in medical education as seen by the student' (Martire 1969, p. 1070). Martire concludes:

> If the crisis of American medical education is to be resolved, medical educators must: develop and implement a new curriculum which is flexible, creative, relevant, and coordinated…(to) make needed changes in testing, grading, and methods of instruction to complement curriculum innovation; and create new programs and opportunities…in both research and medical education. (Martire 1969, p. 1075)

Our inclination is to see the crisis that Martire notes (along with other commentators as we have noted throughout the book) not in terms of an acute condition but as part of a chronic symptom. Not a genuine 'crisis' at all, but a general or episodic disease whose main symptoms are paralysis, oppositional defiance, a sense of inferiority and generalized depression and anxiety. Certainly medical education cannot have been in a state of acute crisis lasting 100 years since Flexner! Rather, medical educators may be idealists who are never satisfied with the speed of progress and because they lack any sense of history they live like some amnesiacs with short-term memory problems—with a permanent ominous feeling that there is something that they have lost or should be doing and the sense that the longed for progress they desire is impossible and even a delusion. So, perhaps the major symptom of medical education is its lack of historical perspective—an irony given that 'taking a history' from a patient is central to medical work.

Our response to this is to say that we are fed up with this folk tale of recurrent crisis and the eternal return to pretty much the same crossroads (but at a different point in history and from differing directions) and wish to do something about it. Such a tale masks the low self-esteem of medical education, which we suggest can be addressed through a 'medical education for the future.'

Consider the three voices below—William Osler towards the end of the nineteenth century, Abraham Flexner in 1910 and Molly Cooke and colleagues in 2010—and the remarkable similarity of the symptom in medical education that they address. William Osler (1849–1919), the father of physician-led medical education, said this about the state of medical education:

> How can we make the work of the student in the third and fourth year as practical as it is in the first and second? I take it for granted we all feel that it should be. The answer is, take him from the lecture-room, take him from the amphitheatre-put him in the outpatient department-put him on the wards. (Bean 1950, pp. 38–39)

Two decades later, Abraham Flexner (1866–1959), the father of academic-led medical education, concluded his fieldwork and summarized the state of medical education in one curt sentence: 'Each day, students were subjected to interminable lectures and recitations.' Bemoaning the lack of hands-on experiential learning, Flexner further wrote: 'An education in medicine involves both learning and learning how; the student cannot effectively know, unless he knows how' (Flexner 1910, p. 53). In other words, take the student from the lecture theater and put him or her in front of patients.

A century after Flexner's major Carnegie Foundation report, Irby et al. (2010), commissioned by Carnegie to produce a report on the state of North American medical education for the Flexner centenary, summarize their findings as follows, in what is in effect a damning report:

> *Medical training is inflexible, overly long, and not learner-centered. Clinical education for both students and residents excessively emphasizes mastery of facts, inpatient clinical experience, teaching by residents, supervision by clinical faculty who have less and less time to teach, and hospitals with marginal capacity or willingness to support the teaching mission.* We observed poor connections between formal knowledge and experiential learning and inadequate attention to patient populations, health care delivery, patient safety, and quality improvement. *Learners lack a holistic view of patient experience and poorly understand the broader civic and advocacy roles of physicians. Finally, the pace and commercial nature of health care often impede the inculcation of fundamental values of the profession.* (Irby et al. 2010, p. 223) (our emphasis)

We have highlighted the central and worrying point about poor connections between formal knowledge and learning derived from workplace practice. Something is wrong. The same thing is wrong that both Osler and Flexner described—the symptom recurs, or was never treated effectively. Martire (1969, p. 1072), whom we quoted earlier, acting as a bridge between the 1910 and 2010 Carnegie Foundation reports on the state of medical education, says that where 'In general, the classical lecture framework is still the predominant feature of teaching methodology in medical schools' then 'the typical lecture series must yield to innovation.'

It would not then appear cynical to suppose that medical education is returning to the same fundamental issues, albeit refracted through the cultural lens of the time. Although medicine itself has changed radically, how we educate doctors has not changed fundamentally in well over a century: *plus ça change, plus c'est la même chose*—the more things change the more they stay the same.

Is this a fair observation? Surely we have seen some remarkable changes in medical education across the trajectory of provision? In particular, the widespread adoption of problem-based learning; the introduction of a spiral curriculum and options in undergraduate medicine; practicing clinical skills safely through simulation; a range of new assessment processes including the OSCE; progress testing, criterion-based assessment and competency frameworks; the overhaul of postgraduate education including the establishment of a Foundation Program; the information revolution's contribution to teaching and learning; revalidation; and so forth? Of course, we recognize such changes, many of which are incremental. However, returning to the three quotes above from Osler, Flexner and Cooke and colleagues, in the undergraduate curriculum there is still the binding (and blinding) legacy of the $2+2(2+3)$ Flexnerian model, *where the power and meaning of workplace learning or new cognitive apprenticeship pedagogies has yet to be tapped*.

Why do medical students have to learn theory before practice—why the abstract before the applied? Why is an early medical school education dominated by a scientific mentality and not by an applied clinical outlook? Why is there still such a disjunction between the identity of the medical student and that of the junior doctor?

Let us, again, invoke Foucault (2005, p. 9), recalling his description of the point of emergence of a new discourse quoted in Chap. 1: 'It seems to me that the stake, the challenge for any history of thought, is precisely that of grasping when a cultural phenomenon of a determinate scale actually constitutes…a decisive moment.' Whether an effect of enough small cumulative changes to constitute a head of steam, or whether a powerful disjunction and expressive effect—a sudden shift in the fault lines—has occurred, we stick to our argument that a medical education for the future must finally break the most persistent current habit—the irrational separation of classroom and clinic linked with the erosion of authentic patient-centered practice.

This need for change echoes the view of Ludmerer (1999) in his influential work on the history of North American medical education, discussed in our opening chapters. We do not think that either European or Pacific Rim medical education has risen above critiques such as those of Osler and the American Carnegie studies of 1910 and 2010.

We have amplified the claim for treating medical education as a culture in deep transition through phrases and metaphors such as sea change, identity crisis and tipping point. We have argued, however, that such a sea change is healthy—if consciously noted and guided—and heralds the emergence of a vital medical education for the future. The 'noting' and 'guidance,' or the shaping, of the emergent culture depends upon a meta-activity—articulating the conditions of possibility for the emergence of a new discourse of medical education. This is what we set out to

achieve with this book, where such conditions are described in terms of various levels of interplay between identity, power and location. Further, we have called for a new literacy to understand the dynamics and meanings of such levels of interplay. Our contribution has been to flesh out this literacy.

Recall our discussion of emergent forms of understanding how medicine may be learned, especially in the work setting, including the particular contributions of complexity science and socio-cultural learning theories. These approaches fundamentally challenge traditions of autonomy, personality cults and virtue ethics in medical education. In the new era of interprofessional teamwork around patients, emphasis upon care of chronic patients in the community and preventive medicine, we need, for example, to develop collaborative practices and their informing literacies in models of distributed cognition.

In grasping what we have termed the 'runaway' world of medicine, students must learn what the Carnegie study referred to above describes as 'habits' of the mind and heart. It seems at first that we argue in this book for what is blindingly obvious—that students should learn with, from and about patients. However, medical education has in our view systematically denied students this opportunity for authentic, sustained patient contact with patients. In learning clinical skills, we recognize that there are proper legal and ethical constraints that have led to a revolution in simulating learning. While we applaud much of the good work that has followed the simulation revolution, we fear that the culture of learning by simulation has itself, paradoxically, become somewhat detached from reality. One of our contributions is to provide a thorough critique of this field and here again we have called for a new literacy as we borrow heavily from literary and cultural studies.

Again, at the heart of our argument throughout the book is a dialogue between identity, power and location, centered on improving patient care. In this, we have extended and refined the summary diagram (Fig. 1.1) first encountered in Chap. 1 to Fig. 17.1.

Let us imagine medicine, medical education and medical education research as overlapping fields that share a common concern—patient care and patient safety. Central to our argument has been the interplay between two forms of power working across these three fields. First is the explicit or sovereign power interplay
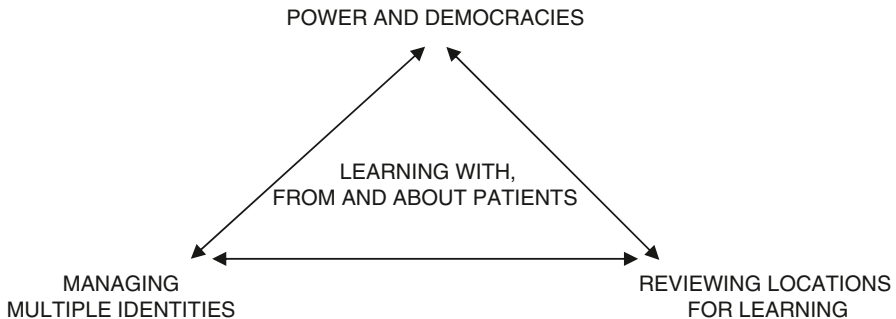
Fig. 17.1 Medical education for the future (extended)

between traditional hierarchies and forms of democracy. Evidence shows that democratic structures in medicine improve patient care. However, the question remains—how will clinical work be democratized? Our argument in this book has been that medical education—as forms of assembly (participatory) and representative democracies—can act as a democratizing force for medicine. In turn, medical education research—as a form of monitory democracy or quality assurance—can act as a democratizing force for medical education, providing an evidence base that recognizes both scientific and narrative practices. Second are the implicit, subtle effects of capillary power. We alert readers to a variety of ways in which new forms of medical education and its research arm may emerge as patterns of resistance to aspects of the dominant discourse of medical education, such as the emergence of feminist research in response to what is perceived as a dominant (masculine) gendered tradition.

We have shown how the exercise of various forms of power leads to the construction of identities. Our contribution here has been twofold—for example, the contemporary (and emergent) condition of managing multiple identity constructions ('student,' 'doctor,' 'interprofessional teamworker,' 'academic,' 'scholarly teacher,' 'scholar of teaching,' 'clinical educator,' 'academic medical educator') in a 'runaway' world that emphasizes and naturalizes the 'poly-' (polyclinics), the 'inter-' (interprofessionalism, interdisciplinary) and the 'multi-' (multiprofessional, multidisciplinary). These are signs of an interest in complexity, where the relations between factors are more important than the factors themselves (Mennin 2010; Bleakley 2010a). Identity and power meet in the emergent globalizing of medical education. What does it mean to be a medical educator who may unwittingly be colonizing an Other with patently Western ideals and practices, a rhetorical tactic that serves also to construct the identity of the colonizer?

Finally, we have contributed to thinking about how location is intimately tied to power and identity. Not just in the sense of a global imperative, but at the local level, in discussion about where medical education occurs—in laboratory, skills centers, live clinics and/or the community. What, for example, is the future of the hospital and the related work of medical education at the bedside at a time when clinicians are heavily constrained by service pressures? Certainly, the traditional, brutalist modernist hospital design sends out a series of messages about the quality of hospital-based practices, with its explicit lack of hospitality. Moore (2010, p. 31) describes these hospitals as:

> silos for the sick…vast unwindowed complexes linked by bewildering networks of corridors. You might have thought that some decency and dignity would be suited to places where people are born and die, but the makers of these hospitals didn't seem to agree.

Not only the patients in them, but such hospitals themselves are sick, or symptomize. Architects and designers have been swayed by research demonstrating that hospital design is a factor in patient outcomes. New designs, such as the Circle hospital in Bath, UK (Moore 2010), not only bring a kind of democracy through erasing clear divisions between clinical and public spaces, but even bring daylight to the operating theater, reconceptualizing how a hospital can be built to improve

the quality of care and staff satisfaction. This is achieved using natural materials and natural light without a strain on the budget or the eye. Humane location can go hand in hand with humane healthcare. The health of people and the health of the planet can be a common concern. The same spirit of change can also inspire a new medical education and invigorate its research arm. We must not only return hospitals to their original mission in providing hospitality for patients, but all locations for medical care must offer such hospitality.

In looking to the future of medical education, the subtitle of this book—identity, power and location—must now be considered in the plural. Medical educators now and in the future must manage multiple identities and work with multiple forms of power in multiple locations. However, in the future they will be expected to confidently employ an educational literacy that reflects such pluralities. Importantly, *the management of plurality is also the management of uncertainty*. We saw from Chaps. 1–3 in particular that key writers on medical education such as Kathryn Montgomery Hunter and Kenneth Ludmerer insist that in the shift to a new culture of medical education, tolerance of ambiguity and management of uncertainty will be at the heart of practice and a nettle will be grasped that, at this point, still fails to be fully addressed within medical practice.

We opened this book with the line: 'The purpose of medical education is to benefit patients by improving the work of doctors.' This would be the case for any period of time in medical education's history. But, again, what are the conditions of possibility for this goal to be achieved now and in the future? Our discussion will now extend to the role of policy in dialogue with pedagogy.

Chapter 18
From Pedagogy to Policy: A Regulatory Framework for Medical Education

Developing a Creative Dialogue Between Pedagogy and Policy

We have described how the current perceived crisis in medical education and in medical education research could also be seen as the cyclic or eternal return of a symptom, where medical education is in perpetual crisis because the underlying malaise is not treated.

In 1980, the International Federation of Medical Students' Associations (IFMSA) (International Federation of Medical Students' Associations 2008) 'Policy Declaration on Medical Education' stated that 'As the future doctors of the world, *we view with great concern* the present state of our medical education' (our emphasis), where 'Medical education today is largely based on traditional models and employs inadequate methods that are not conducive to the achievement of professional excellence.' This message was posted again as recently as 2008 and its text promises a critique that remains as meaningful now as it did three decades ago. In this sense, the more things change, the more they remain the same. That a student-led initiative might inform policy is welcome, but must be balanced against the views of other stakeholders—the public (patients), clinicians, academics and politicians. Further analysis of this statement, however, will lead us to some key insights concerning the place of policy in general in medical education, to develop a creative dialogue between policy and pedagogy.

The IFMSA policy statement (www.ifsma.org) says:

> Medical schools must clearly define the goals of their educational activities. Educational goals must reflect the health needs of the population for which the doctors are trained. Educational goals must be defined jointly by health-care planners, who are aware of health needs, medical school educators and representatives of populations.

Where this is an authoritative directive rather than a facilitative request—'must do' rather than 'could think about doing'—it suggests confidence in the process of implementation that is the curriculum framework, its content and its process (pedagogy). However, the curriculum's pedagogical process is not spelled out. The policy directs, but does not inform. As the IFMSA policy suggests, a school can

state that it works on behalf of a patient population, but the educational process by which this is achieved may not be properly thought through by that school, or by the policy makers themselves, making the policy unworkable. The implied patient-centeredness ('representatives of populations') of the policy statement is not spelt out in practical terms of forms of *pedagogical* engagement with patients—learning with, from and about patients.

As we have pointed out throughout this book, the key underlying dis-ease within medical education since Flexner is the paradoxical relegation of the patient to a secondary position in curriculum design and then in the subsequent teaching and learning process. Patients are practically absent or virtual in many medical school curricula in the traditional 'pre-clinical' phase and learning medicine in the clinical phase, as we outlined particularly in Chap. 13, may be advertised as patient-centered but is actually played out as a student–teacher interaction around patients as 'cases' and 'symptoms.' Here, the teacher–student dialogue (in the worse case scenario, actually a teacher monologue) is privileged over the patient–student dialogue supported by the teacher. This in turn may be a result of a long-standing structural issue—the unhealthy division between classroom and clinic that prevents early, sustained contact by medical students with patients in a supportive and carefully designed learning environment.

It is this Flexnerian structure that the Carnegie report (Cooke et al. 2010)—discussed in Chaps. 1 and 2—challenges, suggesting, amongst other reforms, the introduction of 'patient panels' for students from day one of medical school. Here, students follow a panel of patients for a long period, to gain professional relationship, continuity of care and deeper understanding of the social contexts for such care. We echo the value of such approaches and provide a theoretical rationale based on the latest research in work-based learning. We also highlight the importance of understanding construction of identity.

The symptoms of this underlying malaise include medical education research's traditional foci on pedagogical principles, such as the intricacies of problem-based learning (PBL), rather than on planning work-based learning experiences throughout the curriculum. Ironically, PBL studies, for example, are often researched through controlled experiments with undergraduate students from other disciplines such as psychology. The argument for this is that principles of learning can be scientifically established and then generalized—translated into the context of learning medicine. Theories of practical reasoning (Chaps. 2 and 3) and situated learning (Chap. 4) challenge this view, pointing to the value of designed and structured work-based experience followed by work-based debriefing, where science learning is fully integrated with that work experience. The key theoretical driver here is that while students must learn knowledge and skills, they are also learning values and constructing an identity (Chaps. 5 and 6).

Returning to the IFMSA's policy statement, we suggest that policy makers need to understand pedagogical issues such as curriculum design and evaluation, including processes of teaching and learning, that embrace the new wave of work-based learning (Ainley and Rainbird 1999), often termed 'cognitive apprenticeship' or

learning how to 'think' work as well as 'do' work; and how an identity of the professional (in our case the doctor) is formed.

From this brief discussion of the IFMSA's policy statement, a student-led initiative, we can glean four main *recommendations* for a medical education of the future:

1. Medical educators must continue to critically address (and redress) the primary historical symptom of the Flexner legacy—the disjunction between the pre-clinical and clinical years, reflected in the outdated notions that theory must precede practice and the abstract must precede the applied. Rather, we call for early and intensive patient contact with integrated theory and practice informed by contemporary socio-cultural learning theory centered on workplace practice.
2. Policy makers and medical educators must be in mutually critical and creative dialogue. It is no longer acceptable, for example, to see policy documents that recommend use of 'adult learning theory.'
3. Policy must be related to cultural context. Guided by policy, medical educators must respond to changing health population needs at the local level to respect and maintain difference in medical education, avoiding bland uniformity.
4. The patient should be at the heart of medical education and the public must be involved in policy-driven medical education.

Putting Patients at the Center of Policy

In this section, we bring policy and pedagogy into creative dialogue as this creates benefit for patients. We do not intend to chronologically review policy on medical education. For those who are interested in this area, it is easy to gain access to historical resources. For example, those interested in North American medical education policy should turn to Ludmerer's (1985, 1999) seminal work and the 2010 Carnegie report (Cooke et al. 2010). Those interested in UK medical education policy can access the General Medical Council's (GMC) 'Historic medical education policy and other documents' site at http://www.gmc-uk.org/education/undergraduate/historicpolicy.asp.

Nor do we intend to comment on processes of evaluation in medical education, although this is a central feature of shaping policy. This area has been explored elsewhere in some detail and is summarized expertly, for example, by Wall's (2010) chapter 'Evaluation: improving practice, influencing policy' in Swanwick (2010). Rather, in the context of looking to the future of medical education, we are interested in the meta-level of how discourses shape and drive policy. In a chapter on quality in medical education Corrigan et al. (2010, in Swanwick 2010) point out that quality assurance is the mediating factor between medical education practices on the ground and the policies that drive such practices. All evaluation, as this relates to policy decision-making, is currently driven by the desire for continuous quality assurance. Assurance of quality in medicine and medical education was once left in the hands of doctors within a model of professional autonomy, where medical

education was treated more as a hobby than a professional responsibility. This state of affairs has changed rapidly in recent years.

Ludmerer (1999) in particular has shown how, in a North American context, loss of public faith in the profession of medicine has led to the loss of autonomy and to the development of a number of quality assurance mechanisms, such as greater intervention on the part of medical councils, greater transparency within the profession, public involvement in professional activities and the design of explicit professional development procedures such as revalidation and relicensure. In the United Kingdom, the Walport Report—*Modernizing Medical Careers* (2005)—focused upon academic medicine research provision, including the training and retention of medical educators of the future. Academic medicine, framed as a research field, was formally recognized as a legitimate career opportunity for doctors and not as a supplementary duty. The UK Academy of Medical Educators (2009), under the Presidency of John Bligh, has published a framework of Professional Standards for medical educators. The Academy's mission is 'to advance medical education for the benefit of the public.'

Academies Provide the Locations for Dialogue Between Pedagogy and Policy

Such schemes, while welcome for their formal recognition of medical education as a potential career route, will necessarily be small and selective and aimed at those who have a particular interest in medical education. But the vast majority of clinical teaching is delivered by practicing clinicians with little or no educational training but an earnest desire to do a good job while juggling educational responsibilities and the demands of service delivery. To support these educators needs a partnership with a formalized community of medical educators focused upon assuring quality in the field. This role is fulfilled by academies. Medical educators, especially those from a clinical rather than an academic background, are less likely to find an identity in the wider higher education community than in their own academic clinical world. For example, although the Higher Education Academy in the United Kingdom, founded in 2004, provides a policy framework for medicine, dentistry and veterinary medicine (http://www.medev.ac.uk) within one of its 24 subject centers, medical educators are more likely to join learned societies focusing purely on their field as a recognized and trusted community of practice. Such communities not only play a vital role in forming policy and assuring quality but also offer identity construction and raise debate about meaningful educational practices in the field.

Learned societies in medical education include, for example, the Association of American Medical Colleges (AAMC); (http://www.aamc.org); the Australia and New Zealand Association for Medical Education (http://www.anzame.unsw.edu.au); the Canadian Association for Medical Education (CAME) (http://www.came—acem.ca); the UK-based Association for the Study of Medical Education (ASME)

(http://www.asme.org.uk); the Netherlands Association for Medical Education (NVMO); and the Association for Medical Education in Europe (AMEE) (http://www.amee.org). All these organizations have an international reach.

The forward-looking UK-based Academy of Medical Educators (http://www.medicaleducator.org) (Bligh and Brice 2007) is explicitly seen as a Professional Organization rather than a Learned Society, where it is actively attempting to bring about organizational changes such as revalidation, credentialing, introduction of national standards, accreditation of teachers, career pathways, and so forth. This Academy is also explicit in its engagement with national policy and is not affiliated with a single institution. In contrast, in North America Academies are based in single institutions and membership (which may be competitive or by invitation only) carries career and financial incentives (Irby et al. 2004).

Such learned societies and professional organizations provide the common ground upon which policy and pedagogy can engage in critical and creative dialogue. They serve to delineate the concerns of the community of practice that is the culture of medical education, conferring the identity of medical educator on their members, but also, as we discussed in Chap. 7, of deepening the identity of clinical teachers to include both 'scholarly teacher' and 'scholar of teaching.' This enrichment of the identity of the medical educator offers a more readily occupied middle ground between jobbing teacher and academic researcher. Through meetings, conferences, workshops, special interest groups, education programs, journals, newsletters and e-bulletins, the learned societies also promote networking, updating of skills and knowledge, sharing ideas about best practice, presentation of work for peer review and feedback, reflecting on practice as a means of learning and, most importantly, formally signifying achievements in the field through peer-reviewed accreditations, prizes, scholarships and public recognition.

Policy as Text

We have argued for constructive and productive dialogue between policy and pedagogy, where learned organizations and academies for medical education now provide a ground upon which that dialogue can occur. Such learned organizations and academies might make recommendations or lobby for policy, but they do not usually formally intervene in curriculum structure. This role is generally performed by state or national medical councils, which show differing degrees of sensitivity towards developments in pedagogy.

Musick (1998) points out that policy analysis is usually carried out at the general level of curriculum evaluation rather than at the level of individual teachers and so it is difficult actually to gauge what kinds of pedagogies are practiced day to day in medical schools, work-based learning placements and postgraduate centers. What are the preferences of individual teachers for particular informing learning theories, modes of instruction and curriculum models?

Where a national body intervenes to maintain standards, such as the UK Quality Assurance Agency—an independent body employed by the Government to assure quality in higher education—the dialogue that ensues between an institution such as a medical school and the Agency can, in theory, be carried out at both the curriculum design and implementation level and at the level of the quality of individual teachers, although in practice the dialogue privileges the institutional level of organization. This quality assurance program is not in principle one of 'inspection,' but one of setting up constructive dialogue between evaluators and practitioners with the quality of the student experience as the common object of concern. Gelmon (1996) had warned some time ago about the dangers of accreditation becoming 'inspectorial' rather than dialogical. Institutions such as medical schools that already show healthy democratic, collaborative climates and have developed interdisciplinary mindsets will already, in their self-assessments of quality, have set the tone for a collaborative rather than inspection framework for quality assurance.

The major change in quality assurance over the past three decades has been to shift emphasis from expert opinion to a combination of evidence of quality through carefully designed evaluations that include triangulation of views of a number of stakeholders, including patients, who are the consumers of the services that medical education designs. Again, rather than discuss policy evaluation per se, we are interested in how policy is shaped as text and discourse. What is legitimate and what offers resistance to dominant practices? Again, what will unfold in the near future?

The way in which 'quality' is defined governs quality assurance practices. There are several, differing, views of quality and we can see these as varieties of text referring to or talking about quality. Each text constructs 'quality' differently, giving variations in meanings. 'Quality' can be read at a minimum as political, educational, economic, scientific, phenomenological, aesthetic, ethical, international, historical, spiritual and gendered texts. We have considered medical education as a historical text throughout this book. There is hardly any work considering medical education as a spiritual text (for example, Baetz and Toews 2009, Surbone and Baider 2010) although we see this as an important topic. Medical education is clearly a gendered text, classically gendered male with an emphasis upon heroic individualism. However, it is now clearly transforming into a more feminine gender orientation, not only as more women than men enter medicine, but also as medical education focuses more upon collaborative activities rather than competition and particularly where this is reflected in use of social learning theories.

The most obvious policy 'text' referring to quality of medical education is the *political*. Political and policy have the same etymological root—the ancient Greek *polis*, referring to the city and the body of people (*demos*) who inhabit the city and make its laws and customs. We have argued that medical education is a democratizing presence for medicine, because how medicine is learned will affect how it is practiced. Learning medicine with the patient at the heart of the matter in a future authentic, patient-centered medicine will produce a new identity for doctors. This has been a century in the making. Just as authentic democracy is something hoped for but not yet established, so authentic patient-centeredness as a standard way of practicing medicine is yet to come.

We see the arrival of a properly democratic and patient-centered medical education as an inevitable product of policy decisions in the near future of medical education. As we say this, it sounds blindingly obvious, but just as obvious is the fact that currently, medical education is neither democratic nor obviously takes the patient as its object of interest. Rather medical education pays lip service to such ideals. We predict that medical education research will come to democratize medical education by providing an evidence base, including the perspective of narrative inquiry, as a form of monitory democracy or quality assurance.

It seems just as odd—as a stating of the obvious—that we should consider that medical education policy as it relates to quality assurance should be considered as an *educational* text. However, as we restate at the beginning of this chapter, our concern has been to focus on challenging a limited pedagogy within current medical education provision, to stimulate interest in more complex educational frameworks. The near future is likely to see increasing interest in the quality of medical education as a radical pedagogical challenge. We suggest that socio-cultural pedagogies will become the dominant forms of informing and thinking about learning in medical education.

Importantly, as we have argued at length throughout this book, we will in the future have to grapple with the instrumental value complex that currently informs medical education. This value complex expresses itself as narrow, technical-rational thinking that privileges training over education and competency over capability. A competence is, strictly speaking, a potential to perform. Competency is the actual performance. While performance-based outcomes are a good idea in a profession such as medicine, this structure has been used rather clumsily to the disadvantage of potential or prospective capability in learning that is now commonly described as seeking 'excellence'—a trend that we discussed in Chap. 1. The sheer volume of policy concern with seeking excellence in medical education suggests that in the near future we will greatly refine our thinking about 'the good enough'—the etymological root of 'competency.' Medical educators should not be prepared to accept the 'good enough' (Tooke 2007).

The drift towards instrumental thinking as a dominant form may be tied up with the privileging of economic values over the aesthetic, or function over form. Characteristically in medical education something must have a use otherwise it is useless. Ideas are often not valued in their own right, but must be practical; and blue skies research is looked upon as a luxury in situations where research that can be applied quickly is a necessity. Quality itself is increasingly thought of in instrumental terms—as an *economic* text. What is the literal cost of quality assurance? How will medical education fare in the near future of economic austerity? The cost of educating doctors is already high and so we must not add to the burden.

Quality is then something that must, paradoxically, be quantified, measured and given a value. Values translate in terms of research output through measures (such as journal impact factors) that in turn are cashed in as economic support, for example, through central government funding. The near future will hold no surprises in this arena—medical education will have to be cost-effective as it also deals with chronic underfunding. There are, however, some unexpected benefits in being challenged

by policy developers to produce a lean medical education. For example, learning by simulation—one of the runaway costs in current medical education—may have focused too much upon fidelity at a literal cost. The days of hi-tech manikins and expensive simulated operating theaters may be numbered as we re-think locations for learning, returning medical students to learn in authentic contexts, but bridged by lo-tech simulation interventions where necessary for social, ethical or legal reasons (Kneebone et al. 2006).

Quality will increasingly become a *scientific* text. Policy analysis itself has drifted away from an early social science frame to one of information science (Musick 1998). Pawson et al. (2005) point out that evidence-based policy interventions are necessarily complex, acting on complex social systems. Extrapolating from their work on evaluation of health policy, we can say that a policy-linked medical education will not offer 'magic bullets' as problem-solving interventions, but rather meaningful insights. There are often conflicting explanations even for the best design research outcomes and evidence may be at best exploratory rather than explanatory. A realist approach to evaluation focuses on context—what is best for whom under what circumstances. Paradoxically, a scientific approach to the quality of medical education provision might not focus upon a universal principle, but upon the emergent qualities of a local system. For example, a curriculum implemented locally would be evaluated against its stated theoretical framework and underlying assumptions through feedback from its local constituency. Where Pawson et al. (2005, p. 21) suggest that:

> Realist review does not provide simple answers to complex questions. It will not tell policy-makers or managers whether something works or not, but will provide the policy and practice community with the kind of rich, detailed and highly practical understanding of complex social interventions which is likely to be of much more use to them when planning and implementing programs at a national, regional or local level,

we take this as an indicator of how evaluation studies within a policy framework will evolve in the near future.

Quality is also a combined *phenomenological, ethical* and *aesthetic* text. We group these together as a collaborative expression (and impression) of professional identity. Medical education policy at the macro-level, such as a Government's politically influenced intervention, is intimately tied to the micro-level of government, where policy creates identities. The UK GMC's guidelines for best medical practice and best medical education not only set out a curriculum of practices but also a curriculum that constructs identities—of the doctor as scientist, as ethical professional, as researcher and as educator (for example, General Medical Council 2009). A phenomenological text is one that addresses what it is for an individual to 'be' and to 'become'—the experiential level of practice and the personal level of character, relationship and management of identity. A 'quality' doctor explicitly engages with aesthetic and ethical 'self-forming' in becoming a medical professional (Bleakley 2010b).

While there is great interest at the moment in professionalism and identity construction, we suggest that in the near future we will become increasingly interested in medical education as this relates to new constructions of the doctor as scientist. Nelson and McGuire (2010) build on previous work (Pauli et al. 2000a, b) in

defining a doctor's base identity as a holistic complexity scientist. For Nelson and McGuire (2010, p. 18) the medical educator of the future will be a type of information scientist where 'genetics is a microcosm of the changing dynamics of the practice of medicine.' The genetic revolution 'illustrates the perfect storm of exponential increases in raw data with undetermined clinical relevance, ease of access to large amounts of data via the internet and shifting expectations of the doctor-patient relationship and the very mechanisms of health care delivery.'

A near future medical education must embrace and address the consequences of the genetic revolution and the information science view of holistic health-care delivery. It may be a brave new world that could readily lead to objectifying the patient as 'readout,' where, as Nelson and McGuire (2010, p. 18) note, medicine 'requires a shift in focus from factual knowledge to data management and interpretation.'

Medical education's engagement with future policy can be read, finally, as both *inter-national* and *inter-disciplinary* texts. We place these together because they share the trope of 'multiplicity' that a medical education of the near future will certainly see as standard: the 'inter-,' the 'poly-' and the 'multi-.' We have already described this earlier in terms of emergent phenomena of identity, location and power, such as management of multiple identities, the establishment of the polyclinic and the standard practice of working in multi-disciplinary teams through democratic communication frameworks to ensure patient safety. A new inter-textuality (Orr 2003) will emerge for this landscape of clinical care in which medical educators must have facility with a number of discipline languages and be at ease with inter-disciplinarity and trans-disciplinarity.

Multiple, or 'poly-,' approaches will be commonly mediated by increasingly sophisticated information and communication technologies which will allow users to simultaneously manage several tasks and at the same time to acquire new skills for learning, such as learning how to learn or critically evaluating as one learns and noting the values that drive learning.

The inter- is also present in the inter-national text. Can medical education policy transcend political, ethnic, gender and religious borders in establishing common frameworks and standardizing accreditation? Will such an international approach work not just for the teaching and learning of medicine but for accreditation of medical teachers? In Chap. 12, we warned of the neocolonialist or imperialist tendencies inherent in the assumption that a Western-style medical education can be conveniently exported without resistance from local cultures. We face the same problem with medical education policy as an international text.

As we pointed out in Chap. 12, Karle (2008a, p. 1041) describes the World Federation for Medical Education's policy on international recognition of medical schools' programs as a 'a wave of quality assurance efforts in medical education' requiring 'the need for definition of standards' and 'introduction of effective and transparent accreditation systems.' This, in turn will lead to a meta-practice of accrediting the accreditors. Such quality assurance is laudable, but paradoxically the standardization of medical education through internationalization and globalization defeats medical education's other great virtue of upholding and tolerating difference (reflected in the central virtue of treating all patients equally).

Thus, Karle (2008b, p. 12) notes that in developing an international directory of medical education programs and their quality assurance mechanisms, ultimately this is for purposes of standardization—'to develop principles to be used in the evaluation of medical schools' and to 'provide a basis for the meta-recognition of medical schools' programs by stimulating the establishment of national accreditation systems and other quality assurance instruments.'

It may seem entirely reasonable for North American medical schools to apply home-grown quality assurance frameworks to vet graduates from medical schools internationally who seek work and residency in the United States (van Zanten et al. 2010), but this can also be read as a resistance to learning from cultural difference rather than just assuring quality. Surely quality benefits from expanding horizons rather than limiting them to what van Zanten et al. (2010, p. 324) call 'Flexner's global influence'? This article (van Zanten et al. 2010, p. 324) begins eerily: 'Abraham Flexner's report on medical education, published 100 years ago, remains influential in the United States today, although its international impact is unclear.' Indeed, the authors employ Flexner's original framework as accreditation standards. Does this not return us to our earlier argument—the more things change, the more they remain the same?

We call for radical change in medical education to move out of Flexner's shadow and we have set out an agenda for such change. We began in reformulating pedagogy for medical education and we have finished in the potentially creative dialogue between pedagogy and policy.

Coda

We began this book with references to a current 'crisis' and 'crossroads' in medical education. We have established a position with regard to this. Our argument has been that while structural issues such as chronic underfunding and lack of clear direction in policy have historically affected medical education, there is a deeper malaise—that of a persistent ahistorical and atheoretical stance within the fields of medical education and medical education research. Of course, there is significant work that is both historical and theoretical but this is not the norm. Certainly, as we have argued, where theory is employed in medical education and its associated research, it is often not cutting edge or radical in its challenge. We suggest that this has resulted in recurring symptoms of anxiety and low self-esteem that have rumbled on in various forms since Flexner, exacerbated by the structural problem of the preclinical/clinical divide.

Our work in this book has been to address this underlying malaise by providing first a historical and rich theoretical input to what we term a medical education for the future. The framing of theoretical ideas informing curriculum design—including both teaching and learning process and the means for researching the impact of such process—follows from a historical analysis. But our 'theory,' while rich and demanding, is itself grounded in the kinds of practical knowledge that medical

students and doctors demand. Thus, central to our argument is that work-based learning should be the focus of curriculum design in medicine.

'Work-based' learning describes clinical teams and individual doctors in consultations addressing the needs of patients. Patients drive the process. Learning with, from and about patients is the heart of the matter in medical education and is the foundation for a medical education for the future. There is of course a good deal of excellent established work in medical education that is authentically patient-centered. There is, however, much that promises to put the patient at the heart of the enterprise but actually fails to do so. Indeed, there is a worrying refusal in medical education to address concerns that health-care practices inadvertently harm patients. We are not talking about iatrogenic illness caused by technical errors in medicine, rather, we are pointing to medical errors grounded in non-technical areas such as communication. We know from research that 70% of medical errors are grounded in poor communication in clinical teams thus violating the first principle of medicine to 'do no harm' and an estimated 50% of such errors can be addressed through better education in communication and teamwork (Kohn et al. 1999). Further, despite 30 years' worth of research-led development in teaching and learning communication in medicine, doctors in general communicate poorly with patients and remain doctor-centered rather than patient-centered (Roter and Hall 2006). Again, the patient is not at the heart of medical education but is paradoxically relegated.

The purpose of medical education (and therefore of every endeavor within the field including research, teaching, policy making, management, scholarship and so forth) is to benefit patients. By improving medical education, we should improve patient care and safety. We need to challenge practices that keep students and patients apart—unjustifiable both from a moral and a pedagogic standpoint. Through the intervention of policy structures, curriculum design and on-the-ground pedagogical practices, we can shape a vibrant medical education for the future. We are passionate about this project and we hope that you, the readers, have been fired by our passion to reformulate medical education with patient benefit at its heart.

References

Academy of Medical Educators. (2009). *Professional standards.* London: Academy of Medical Educators (December).

Agamben, G. (1998). *Homo sacer: Sovereign power and bare life.* Palo Alto: Stanford University Press.

Ainley, P., & Rainbird, H. (Eds.). (1999). *Apprenticeship: Towards a new paradigm of learning.* London: Routledge.

Albert, M. (2004). Understanding the debate on medical education research: A sociological perspective. *Academic Medicine, 79,* 948–954.

Albert, M., Hodges, B., & Regehr, G. (2007). Research in medical education: Balancing service and science. *Advances in Health Sciences Education: Theory and Practice, 12,* 103–115.

Alcoff, L. M., & Mendieta, E. (Eds.). (2003). Identities: Race, class, gender and nationality. Oxford: Blackwell.

Alderson, T. S. J., & Bateman, H. (2002). Doctors telling stories: The place of anecdote in GP registrar training. *Medical Teacher, 24,* 654–657.

Allard, J., Bleakley, A., Hobbs, A., & Vinnell, T. (2007). "Who's on the team today?" The status of briefing amongst operating theatre practitioners in one UK hospital. *Journal of Interprofessional Care, 21,* 189–206.

Alvesson, M., & Skoldberg, K. (2000). *Reflexive methodology: New vistas for qualitative research.* London: Sage.

Amalberti, R., & Auroy, Y. (2005). Five system barriers to achieving ultra safe health care. *Annals of Internal Medicine, 142,* 756–764.

Amin, Z., Khoo, H. E., Gwee, M., Koh, D. R., & Tan, C. H. (2005). Medical education in Southeast Asia: Emerging issues, challenges and opportunities. *Medical Education, 39,* 829–832.

Anderson, H., & Styles, M. (2000). *Teaching through texts.* London: Routledge.

Applebee, A. N. (1996). *Curriculum as conversation: Transforming traditions of teaching and learning.* Chicago: University of Chicago Press.

Arluke, A. (1980). Roundsmanship: Inherent control on a medical ward. *Social Science & Medicine, 14A,* 297–302.

Arras, J. D. (1999). Getting down to cases: The revival of casuistry in bioethics. In J. L. Nelson & H. L. Nelson (Eds.), *Meaning and medicine: A reader in the philosophy of health care* (pp. 133–146). London: Routledge.

Ashcroft, B., Griffiths, G., & Tiffin, H. (Eds.). (2004). *The post-colonial studies reader.* London: Routledge.

Ashley, P., Rhodes, N., Sari-Kouzel, H., Mukherjee, A., & Dornan, T. (2009). 'They've all got to learn'. Medical students' learning from patients in ambulatory (outpatient and general practice) consultations. *Medical Teacher, 31,* e24–31.

Atkinson, P. A. (1995). Medical talk and medical work: The liturgy of the clinic. London: Sage.

Baetz, M., & Toews, J. (2009). Clinical implications of research on religion, spirituality, and mental health. *Canadian Journal of Psychiatry, 54,* 292–301.

Ballard, J. G. (1994). *Myths of the near future.* London: Vintaqe.

Ballard, J. G. (1998). *High rise.* London: Flamingo.

Barone, T. (2000). Aesthetics, politics, and educational inquiry: Essays and examples. New York: Lang.

Barry, C. A., Stevenson, F. A., Britten, N., Barber, N., & Bradley, C. P. (2001). Giving voice to the lifeworld. More humane, more effective medical care? A qualitative study of doctor–patient communication in general practice. *Social Science & Medicine*, 53, 487–505.

Barthes, R. (1977). The death of the author. *Image-Music-Text.* London: Fontana.

Baudrillard, J. (1983). *Simulations.* New York: Semiotext(e).

Baudrillard, J. (1990). *Seduction.* London: Macmillan.

Baudrillard, J. (1994). *Simulacra and simulation.* Ann Arbor: University of Michigan Press.

Baudrillard, J. (2005). *The intelligence of evil or the lucidity pact.* Oxford: Berg.

Bauman, Z. (2000). *Liquid modernity.* Cambridge: Polity.

Bauman, Z. (2004). *Identity.* Cambridge: Polity.

Bauman, Z. (2007). *Liquid times: Living in an age of uncertainty.* Cambridge: Polity.

Bean, W. B. (Ed.). (1950). *Osler W: Aphorisms.* New York: Henry Schuman.

Becker, H. S., Geer, B., Hughes, E. C., & Strauss, A. L. (1980). *Boys in white.* New Jersey: Transaction.

Bellah, R. N., Madsen, R., Sullivan, W. M., Swidler, A., & Tipton, S. M. (2007). *Habits of the heart: Individualism and commitment in American life* (3rd ed.). Berkeley: University of California Press.

Benjamin, W. (1999). *Illuminations.* London: Pimlico.

Bereiter, C., & Scardamalia, M. (1993). *Surpassing ourselves: An inquiry into the nature and implications of expertise.* Chicago: Open Court.

Berlin, I. (2003). *The crooked timber of humanity: Chapters in the history of ideas.* London: Pimlico.

Berwick, D. M. (2004). *Escape fire: Designs for the future of health care.* San Francisco: Jossey-Bass.

Bhabha, H. (2004). *Location of culture* (2nd ed.). London: Routledge.

Bleakley, A. (1998). Learning as an aesthetic practice: Motivation through beauty in higher education. In S. Brown, S. Armstrong, & G. Thompson (Eds.), *Motivating students. Staff and educational development series* (pp. 165–172). London: Kogan Page.

Bleakley, A. (1999). From reflective practice to holistic reflexivity. *Studies in higher education, 24,* 315–330.

Bleakley, A. (2000a). Adrift without a life belt: Reflective self-assessment in a post-modern age. *Teaching in Higher Education, 5,* 405–418.

Bleakley, A. (2000b). Writing with invisible ink: Narrative, confessionalism and reflective practice. *Reflective Practice, 1,* 11–24.

Bleakley, A. (2001a). From lifelong learning to lifelong teaching: Teaching as a call to style. *Teaching in Higher Education, 6,* 113–116.

Bleakley, A. (2001b). *Using the ward round for teaching and learning: How do junior doctors learn from consultants through ward-based teaching?* Proceedings of the 2nd International Conference on Researching Work and Learning University of Calgary, 329–335.

Bleakley, A. (2002a). Pre-registration house officers and ward-based learning: A 'new apprenticeship' model. *Medical Education, 36,* 9–15.

Bleakley, A. (2002b). Teaching as a gift: The gendered gift and teaching as hospitality. In G. Howie & A. Tauchert (Eds.), *Gender, Teaching and Research in Higher Education.* London: Ashgrove.

Bleakley, A. (2004). Doctors as connoisseurs of informational images: Aesthetic and ethical self-forming through medical education. In J. Satterthwaite, E. Atkinson, & W. Martin (Eds.), *Educational counter-cultures: Confrontations, images, vision.* London: Trentham.

Bleakley, A. (2005). Stories as data, data as stories: Making sense of narrative inquiry in clinical education. *Medical Education, 39,* 534–540.

Bleakley, A. (2006a). Broadening conceptions of learning in medical education: The message from teamworking. *Medical Education, 40,* 150–157.

Bleakley, A. (2006b). A common body of care: The ethics and politics of teamwork in the operating theatre are inseparable. *Journal of Medicine and Philosophy, 31,* 1–18.

Bleakley, A. (2006c). "You are who I say you are": The rhetorical construction of identity in the operating theatre. *Journal of Workplace Learning, 17,* 414–425.

Bleakley, A. (2009). Curriculum as conversation. *Advances in Health Sciences Education: Theory and Practice, 14,* 297–301.

Bleakley, A. (2010a). Blunting Occam's razor: Aligning medical education with studies of complexity. *Journal of Evaluation in Clinical Practice*, *16,* 849–855.

Bleakley, A. (2010b). Becoming a medical professional. Chapter 7. In L. Scanlon (Ed.), *'Becoming' a professional: An interdisciplinary analysis of professional learning.* New York: Springer (in press).

Bleakley, A., & Bligh, J. (2009). Who can resist Foucault? *The Journal of Medicine and Philosophy, 34,* 368–383.

Bleakley, A., Farrow, R., Gould, D., & Marshall, R. (2003a). Making sense of clinical reasoning: Judgment and the evidence of the senses. *Medical Education, 37,* 544–552.

Bleakley, A., Farrow, R., Gould, D., & Marshall, R. (2003b). Learning how to see: Doctors making judgments in the visual domain. *Journal of Workplace Learning, 15*, 301–306.

Bleakley, A., Hobbs, A., Boyden, J., & Walsh, L. (2004). Safety in operating theatres: Improving teamwork through team resource management. *Journal of Workplace Learning, 16,* 83–91.

Bleakley, A., Boyden, J., Hobbs, A., Walsh, L., & Allard, J. (2006a). Improving teamwork climate in operating theatres: The shift from multiprofessionalism to interprofessionalism. *Journal of Interprofessional Care, 20,* 461–470.

Bleakley, A., Marshall, R., & Brömer, R. (2006b). Toward an aesthetic medicine: Developing a core medical humanities undergraduate curriculum. *Journal of Medical Humanities, 27,* 197–214.

Bleakley, A., Brice, J., & Bligh, J. (2008). Thinking the post-colonial in medical education. *Medical Education, 42,* 266–270.

Bligh, J. (1995). The clinical skills unit. *Postgraduate Medical Journal, 71,* 730–732.

Bligh, J. (1998). Commentary: Where medical education matters. *Medical Education, 32,* 573.

Bligh, J. (2003). Nothing is but what is not. *Medical Education*, *37*, 184–185.

Bligh, J., & Bleakley, A. (2006). Distributing menus to hungry learners: Can learning by simulation become simulation of learning? *Medical Education, 28,* 606–613.

Bligh, J., & Brice, J. (2007). The academy of medical educators: A professional home for medical educators in the UK. *Medical Education, 41,* 625–627.

Bligh, J., & Brice, J. (2008). What is the value of good medical education research? *Medical Education, 42,* 652–653.

Bligh, J., & Brice, J. (2009). Further insights into the roles of the medical educator: The importance of scholarly management. *Academic Medicine, 84,* 1161–1165.

Bligh, J., & Parsell, G. (1999). Research in medical education: Finding its place. *Medical Education, 33,* 162–163.

Blum, R. H., Raemer, D. B., Carroll, J. S., Sunder, N., Feinstein, D. M., & Cooper, J. B. (2004). Crisis resource management training for an anesthetics faculty: A new approach to continuing education. *Medical Education, 38,* 45–55.

Boaden, N., & Bligh, J. (1999). *Community-based medical education: Towards a shared agenda for learning.* London: Hodder Arnold.

Bogard, W. (1996). *The simulation of surveillance: Hypercontrol in telematic societies.* Cambridge: Cambridge University Press.

Borrill, C. S., Carletta, J., Carter, A. J., Dawson, J. F., Garrod, S., & Rees, A., et al. (2000). *The effectiveness of health care teams in the national health service*. Aston Centre for Health Service Organization Research, Aston Business School, University of Aston.

Boshuizen, H. P. A., & Schmidt, H. G. (2008). The development of clinical reasoning expertise. In: J. Higgs, M. A. Jones, S. Loftus, & N. Christensen. (Eds.), *Clinical reasoning in the health professions* (3rd ed., pp. 113–122). London: Elsevier.

Boud, D. (1987). *Developing student autonomy in learning.* London: Routledge.

Boyer, E. (1990). *Scholarship reconsidered: Priorities of the professoriate.* San Francisco: Jossey-Bass.

Bradley, P. (2006). The history of simulation in medical education and possible future directions. *Medical Education, 40,* 254–262.

Bradley, P., & Bligh, J. (1999). One year's experience with a clinical skills resource centre. *Medical Education*, 33, 114–120.

Bradley, P., & Bligh, J. (2005). Clinical skills centers. *Medical Education*, 39, 649–650.

Bradley, P., & Postlethwaite, K. (2003). Simulation in clinical learning. *Medical Education*, 37(Suppl. 1), 1–5.

Branch, W. T. (2001). Small-group teaching emphasizing reflection can positively influence medical students' values. *Academic Medicine, 76,* 1171–1172.

Briggs, M. I., & Myers, P. B. (1995). *Gifts differing: Understanding personality type*. London: Davies-Black.

British Medical Association. (2008). *The role of the patient in medical education.* London: BMA Medical Education Subcommittee.

Britten, N. (2005). Making sense of qualitative research: A new series. *Medical Education, 39,* 5–6.

Brookfield, S. (1986). *Understanding and facilitating adult learning.* Buckingham: Open University Press.

Brown, J. S., & Duguid, P. (2000). *The social life of information*. Boston: Harvard Business School Press.

Bruner, J. (2002). *Making stories: Law, literature, life.* New York: Farrar, Straus & Giroux.

Calman, K. (2006). *Medical education: Past, present and future: Handing on learning.* Oxford: Churchill Livingstone.

Campbell, J. K., & Johnson, C. (1999). Trend spotting: Fashions in medical education. *British Medical Journal , 318,* 1272–1275.

Carter, Y., & Jackson, N. (2008). *Medical education and training: From theory to delivery.* Oxford: OUP.

Casey, E. (1998). *The fate of place: A philosophical history.* Berkeley: University of California Press.

Cassell, J. (1991). *Expected miracles: Surgeons at work*. Philadelphia: Temple University Press.

Castenell, L. A., & Pinar, W. F. (Eds.). (1993). *Understanding curriculum as racial text: Representations of identity and difference in education.* New York: SUNY Press.

Centeno, A. M. (2006). *The program and context of medical education in Argentina. Academic Medicine, 81,* 1081–1084.

Chaiklin, S., Hedegaard, M., & Jensen, U. J. (2003). *Activity theory and social practice: Cultural historical approaches.* Aarhus: Aarhus University Press.

Chen, F. M., Bauchner, H., & Burstin, H. (2004). A call for outcomes research in medical education. *Academic Medicine, 79,* 955–960.

Chesney, M. (2001). Dilemmas of self in the method. *Qualitative Health Researcher, 11,* 127–135.

Christensen, L. (2004). The Bologna process and medical education. *Medical Teacher, 26,* 625–629.

Ciborra, C. (Ed.). (2000). *From control to drift: The dynamics of corporate information infrastructure.* Oxford: OUP.

Cixous, H. (1991). *Coming to writing and other essays.* Cambridge: Harvard University Press.

Cixous, H., & Clément, C. (1986). *The newly born woman.* Minneapolis: University of Minnesota Press.

Clark, A. (2002). *Being there: Putting brain, body, and world together again.* London: MIT Press.

Clark, A. (2008). *Supersizing the mind: Embodiment, action, and cognitive extension.* Oxford: OUP.

Conaboy, K. A., Nugmanova, Z., Yeguebaeva, S., Jaeger, F., & Daugherty, R. M. (2005). Central Asian republics: A case study for medical education reform. *The Journal of Continuing Education in the Health Professions, 25,* 52–64.

Cook, G., Gerrish, K., & Clarke, C. (2001). Decision-making in teams: Issues arising from two UK evaluations. *Journal of Interprofessional Care, 15,* 141–151.

Cook, M., Bordage, G., & Schmidt, H. (2008). Description, justification and clarification: A framework for classifying the purposes of research in medical education. *Medical Education, 42,* 128–133.

Cooke, M., Irby, D. M., Sullivan, W., & Ludmerer, K. M. (2006). American medical education 100 years after the Flexner Report. *The New England Journal of Medicine, 355,* 1339–1344.

Cooke, M., Irby, D. M., & O'Brien, B. C. (2010). *Educating physicians: A call for reform of medical school and residency.* San Francisco: Jossey-Bass.

Cornwell, J. (Ed.). (2004). *Explanations: Styles of explanation in science.* Oxford: OUP.

Corrigan, O., Ellis, K., Bleakley, A., & Brice, J. (2010). Quality in medical education. In T. Swanwick. (Ed.), *Understanding medical education: Evidence, theory and practice* (pp. 379–391). Oxford: Wiley-Blackwell.

Coulter, A. (2002). *The autonomous patient: Ending paternalism in medical care.* London: TSO.

Cresswell, J. W. (2008). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). London: Sage.

Crook, C. (2002). Learning as cultural practice. In M. R. Lea & K. Nicoll. (Eds.), *Distributed learning: Social and cultural approaches to practice* (pp. 152–169). London: Routledge.

Culler, J. (1997). *Literary theory: A very short introduction.* Oxford: OUP.

Culler, J. (2006). *The literary in theory (cultural memory in the present).* Palo Alto: Stanford University Press.

Curry, L. (2002). Individual differences in cognitive style, learning style and instructional preference in medical education. In G. R. Norman, C. P. M. van der Vleuten, & D. Newble. (Eds.), *International Handbook of Research in Medical Education* (pp. 263–276). Dordrecht: Kluwer.

Custers, E. J. F., & Boshuizen, H. P. A. (2002). The psychology of learning. In G. Norman, C. P. M. van der Vleuten, & D. I. Newble. (Eds.), *International handbook of research in medical education, Part One* (pp. 163–203). Dordrecht: Kluwer.

Dalal, H. M., Wingham, J., Evans, P., Taylor, R., & Campbell, J. (2009). Deprivation and prognosis. Home based cardiac rehabilitation could improve outcomes. *British Medical Journal, 338,* b1921 (May 12).

Dalke, A., Grobstein, P., & McCormack, E. (2004). Theorizing interdisciplinarity: The evolution of new academic and intellectual communities. http://serendip.brynmawr.edu/local/scisoc/theorizing.html. Accessed 22 June 2010.

Daniel, S. L. (1986). The patient as text: A model of clinical hermeneutics. *Journal of Theoretical Medicine and Bioethics, 7,* 195–210.

Daniel, S. L. (1990). Interpretation in medicine: An introduction. *Journal of Theoretical Medicine and Bioethics, 11,* 5–8.

Daniels, H. (2005). *An introduction to Vygotsky.* London: Routledge.

Daniels, H., Edwards, A., Engeström, Y., Gallagher, T., & Luvigsen, S. R. (Eds.). (2009). *Activity theory in practice.* London: Routledge.

Daston, L., & Galison, P. (2007). *Objectivity.* New York: Zone.

Davenport, J. (1993). Is there any way out of the andragogy morass? In M. Thorpe, R. Edwards, & A. Hanson. (Eds.), *Culture and processes of adult learning.* London: Routledge.

Davis, M. H., & Ponnamperuma, G. G. (2006). Medical education research at the crossroads. *The Lancet, 367,* 377–378.

de Certeau, M. (1984). *The practice of everyday life.* Berkeley: University of California Press.

De Cossart, L., & Fish, D. (2005). *Cultivating a thinking surgeon: New perspectives on clinical teaching, learning and assessment.* Harley: tfm.

Deleuze, G. (1993). *Critique et clinique.* Paris: Éditions de Minuit.

Deleuze, G., & Guattari, F. (2004a). *A thousand plateaus.* London: Continuum.

Deleuze, G., & Guattari, F. (2004b). *Anti-Oedipus.* London: Continuum.

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2003). *The landscape of qualitative research: Theories and issues* (2nd ed.). London: Sage.

De Valck, C., Bensing, J., Bruynooghe, R., & Batenburg, V. (2001). Cure-oriented versus care-oriented attitudes in medicine. *Patient Education and Counseling, 45,* 119–121.

Dewey, J. (1910). *How we think.* Boston: Heath. Available as electronic text from: http://www.archive.org/details/howwethink000838mbp. Accessed 22 June 2010.

Dickey, J., Girard, D. E., Geheb, M. A., & Cassell, C. K. (2004). Using systems-based practice to integrate education and clinical services. *Medical Teacher, 26,* 428–434.

DiMatteo, M. R. (2004). Variations in pateints' adherence to medical recommendations: A quatitative review of 50 years of research. *Medical Care, 42,* 200–209.

Distlehorst, L., Dunnington, G., & Folse, J. R. (2000). *Teaching and learning in medical and surgical education: Lessons learned for the 21st century.* Mahwah: Erlbaum.

Dogra, N., & Karnik, N. (2003). First-year medical students' attitudes toward diversity and its teaching: An investigation at one U.S. Medical School. *Academic Medicine, 78,* 1191–1200.

Dornan, T., Littlewood, S., Margolis, S. A., Scherpbier, A., Spencer, J., & Ypinazar, V. (2006). How can experience in clinical and community settings contribute to early medical education? A BEME systematic review. *Medical Teacher, 28*(1), 3–18 (February).

Drezner, D. W. (2007). The new world order. *Foreign Affairs, 86,* 34–46.

Durham, S. (1999). *Phantom communities: Simulacrum and the limits of postmodernism.* Palo Alto: Stanford University Press.

Ecclestone, K. (1996). The reflective practitioner: Mantra or a model for emancipation? *Studies in the Education of Adults, 28,* 148–160.

Eco, U. (1987). *Travels in hyperreality: Essays.* London: Picador.

Edmondson, A., Bohmer, R., & Pisano, G. (2001). Speeding up team learning. *Harvard business review on teams that succeed* (pp. 77–98). Boston: Harvard Business School Publishing.

Eisner, E. (1979). *The educational imagination: On the design and evaluation of school programs.* New York: Macmillan.

Elkins, J. (2008). *How to use your eyes.* London: Routledge.

Engeström, Y. (1987). *Learning by expanding: An activity-theoretical approach to developmental research.* Helsinki: Orienta-Konsultit.

Engeström, Y. (2004). New forms of learning in co-configuration work. *Journal of Workplace Learning, 16,* 11–21.

Engeström, Y. (2005). Knotworking to create collaborative intentionality capital in fluid organizational fields. In M. M. Beyerlein, S. T. Beyerlein, & F. A. Kennedy. (Eds.), *Collaborative capital: Creating intangible value* (pp. 307–336). Amsterdam: Elsevier.

Engeström, Y. (2008). *From teams to knots.* Cambridge: CUP.

Engeström, Y., & Middleton, D. (Eds.). (1998). *Cognition and communication at work.* Cambridge: CUP.

Engeström, Y., Engeström, R., & Vähäaho, T. (1999). When the center does not hold: The importance of knotworking. In S. Chaiklin, M. Hedegaard, & U. J. Jensen. (Eds.), *Activity theory and social practice: Cultural-historical approaches* (pp. 345–375). Aarhus: Aarhus University Press.

Engeström, Y., Engeström, R., & Kerosuo, H. (2003). The discursive construction of collaborative care. *Applied Linguistics, 24,* 286–315.

Eraut, M. (1994). *Developing professional knowledge and competence.* London: Routledge.

Eraut, M. (2000). Non-formal learning, implicit learning and tacit knowledge in professional work. *British Journal of Educational Psychology, 70,* 113–136.

Eraut, M. (2009). http://www.mofet.macam.ac.il/iun/mechkar/pdf/ProfessionalKnowledgeinPractice.pdf. Accessed 1 May 2009.

Eva, K. (2005). What every teacher needs to know about clinical reasoning. *Medical Education, 39,* 98–106.

Eva, K. (2008). Editorial: 'Covering up the crystal ball.' *Medical Education, 42,* 330–332.

Fadiman, A. (1997). *The spirit catches you and you fall down: A Hmong child, her American doctors, and the collision of two cultures.* New York: Farrar Straus Giroux.

Fincher, R., & Work, J. (2006). Perspectives on the scholarship of teaching. *Medical Education, 40,* 293–295.

Finlay, L., & Gough, B. (2003). *Reflexivity: A practical guide for researchers in health and social sciences.* Oxford: Blackwell.

Finn, R. (2008). The language of teamwork: Reproducing professional divisions in the operating theatre. *Human Relations, 61,* 103–130.

Finn, R., & Waring, J. J. (2006). Organizational barriers to architectural knowledge and teamwork in operating theatres. *Public Money and Management, 26,* 117–124.

Fish, D., & Coles, C. (2005). *Medical education: Developing a curriculum for practice.* Maidenhead: Open University Press.

Fitzpatrick, R., & White, D. (2001). Public participation in the evaluation of health care. In B. Davey, A. Gray, & C. Seale. (Eds.), *Health and disease: A reader* (3rd ed., pp. 298–301). Buckingham: Open University Press.

Flanagan, B., Nestel, D., & Joseph, M. (2004). Making patient safety the focus: Crisis resource management in the undergraduate curriculum. *Medical Education, 38,* 56–66.

Flexner, A. (1910). *Medical education in the United States and Canada.* New York: Carnegie Foundation for the Advancement of Teaching (revised 1973, New York: Heritage Press).

Flexner, A. (1925). *Medical education: A comparative study.* New York: Macmillan.

Flexner, A. (1940). *I remember; the autobiography of Abraham Flexner.* New York: Simon & Schuster.

Foucault, M. (1989). *The birth of the clinic: An archaeology of medical perception.* London: Routledge.

Foucault, M. (1991a). Governmentality. In G. Burchell, C. Gordon, & P. Miller. (Eds.), *The foucault effect: Studies in governmentality* (pp. 87–104). Chicago: University of Chicago Press.

Foucault, M. (1991b). *Discipline and punish: The birth of the prison.* Harmondsworth: Penguin.

Foucault, M. (1997). *The history of sexuality, Vol. III: Care of the self* (3rd ed.). Harmondsworth: Penguin.

Foucault, M. (2001). *Fearless speech.* New York: Semiotext[e].

Foucault, M. (2002). *Power: The essential works of Michel Foucault 1954–1984 (3rd ed.).* Harmondsworth: Penguin.

Foucault, M. (2005). *The Hermeneutics of the subject: Lectures at the collège de France 1981–1982.* New York: Picador.

Foucault, M., & Miskowiec, J. (1986). Of other spaces. *Diacritics, 16*(1, Spring), 22–27. http://www.jstor.org/stable/464648. Accessed 23 June 2010.

Fox, R. C. (1957). Training for uncertainty. In R. K. Merton, G. Reader, & P. Kendall. (Eds.), *The student-physician.* Cambridge: Harvard University Press.

Freeth, D., Reeves, S., Goreham, C., Parker, P., Haynes, S., & Pearson, S. (2001). 'Real life' clinical learning on an interprofessional training ward. *Nurse Education Today, 21,* 366–372.

Freud, S. (2002). *Wild analysis.* Harmondsworth: Penguin.

Fulford, K. W. M., Ersser, S., & Hope, T. (1995). *Essential practice in patient-centered care.* Oxford: Blackwell.

Gaba, D. (2004). The future vision of simulation in health care. *Quality and Safety in Health Care, 13*(Suppl. 1), i2–i10.

Gao, L. (2009). *The development of 'thinking as a doctor' in medical students through multiprofessional team placements: Medical students' identities in 'facing' other professional groups.* PhD thesis, Peninsula Medical School, University of Exeter.

Gao, L., & Bleakley, A. (2008). Developing 'thinking as a doctor': What is the influence of other healthcare professionals upon the early learning of medical students? *International Journal of the Humanities, 6,* 65–74.

Gardini, S., Cloninger, C. R., & Venneri, A. (2009). Individual differences in personality traits reflect structural variance in specific brain regions. *Brain Research Bulletin, 79,* 265–270.

Gawande, A. (2007). *Better: A surgeon's notes on performance.* London: Profile.

Gawande, A. (2008). *Complications: A surgeon's notes on an imperfect science.* London: Profile.

Gawande, A. (2009). *The checklist manifesto: How to get things right.* London: Profile.

Gawande, A. A., & Zinner, M. J. (2003). Studdert DM, Brennan TA. Analysis of errors reported by surgeons at three teaching hospitals. *Surgery, 133,* 614–621.

Geertz, C. (1977). *The interpretation of cultures.* New York: Basic.

Geertz, C. (1992). *Writing culture: The poetics and politics of ethnography.* Berkeley: University of California Press.

Gelmon, S. B. (1996). Can educational accreditation drive interdisciplinary learning in the health professions? *The Joint Commission Journal on Quality Improvement, 22,* 213–222.

General Medical Council. (2009). *Tomorrow's Doctors 2009: Outcomes and standards for undergraduate medical education.* London: General Medical Council.

Genn, J. M. (2001). Curriculum, environment, climate, quality and change in medical education—A unifying perspective. *Medical Teacher, 23,* 337–344 (Part 1), 445–454 (Part 2).

Ghaye, T. (2005). *Developing the reflective healthcare team.* Oxford: Blackwell.

Giddens, A. (2002). *Runaway world.* London: Profile.

Gladwell, M. (2002). *The tipping point: How little things can make a big difference.* London: Abacus.

Goffman, E. (1971). *The presentation of self in everyday life.* London: Penguin.

Goffman, E. (1991). *Asylums: Essays on the social situation of mental patients and other inmates.* London: Penguin.

Greenblatt, S. (2005). *Renaissance self-fashioning: From More to Shakespeare.* Chicago: Chicago University Press.

Groopman, J. (2007). *How doctors think.* Boston: Houghton Mifflin.

Gruppen, L. D., & Frohna, A. Z. (2002). Clinical reasoning. In G. Norman, C. P. M. van der Vleuten, & D. I. Newble. (Eds.), *International handbook of research in medical education, part one* (pp. 205–230). Dordrecht: Kluwer.

Guile, D., & Young, M. (2001). Apprenticeship as a conceptual basis for a social theory of learning. In C. Paechter, M. Preedy, D. Scott, & J. Soler. (Eds.), *Knowledge, power and learning.* London: Chapman.

Gunderman, R. B. (2006). *Achieving excellence in medical education.* London: Springer.

Guthrie, C. (2002). What's a good doctor and how do you make one? Teach medical students reality to make good doctors. *British Medical Journal, 325,* 711.

Haidet, P., Dains, J. E., Paterniti, D. A., Hechtel, L., Chang, T., Tseng, E., et al. (2002). Medical student attitudes toward the doctor-patient relationship. *Medical Education, 36,* 568–574.

Hall, S. (1994). Cultural identity and diaspora. In P. Williams & L. Chrisman. (Eds.), *Colonial discourse and postcolonial theory: A reader* (p. 394). New York: Columbia University Press.

Harden, R. (2006). International medical education and future directions: A global perspective. *Academic Medicine, 81*(12 Suppl.), 22–29.

Hardt, M., & Negri, A. (2001). *Empire.* Cambridge: Harvard University Press.

Hardt, M., & Negri, A. (2006). *Multitude: War and democracy in the age of empire.* Harmondsworth: Penguin.

Hardt, M., & Negri, A. (2009). *Commonwealth.* Cambridge: Harvard University Press.

Hargreaves, A. (2003). *Teaching in the knowledge society.* Maidenhead: Open University Press.

Hargreaves, D. H., Southworth, G. W., Stanley, P., & Ward, S. J. (1997). *On-the-job training for physicians: A practical guide.* Edinburgh: Royal Society of Medicine Press.

Harmon-Jones, H., & Winkielman, P. (Eds.). (2008). *Social neuroscience: Integrating biological and psychological explanations of social behavior.* London: Guilford.

Hawkes, D. (1996). *Ideology.* London: Routledge.

Headrick, L. A., & Khaleel, N. I. (2008). Getting it right: Educating professionals to work together in improving health and health care. *Journal of Interprofessional Care, 22,* 364–374.

Helman, C. (2006). *Suburban shaman: Tales from medicine's front line.* London: Hammersmith.

Helmreich, R. L., & Merritt, A. C. (1998). *Culture at work in aviation and medicine: National, organizational and professional influences.* Aldershot: Ashgate.

Hemlin, S., Allwood, C. M., & Martin, B. R. (2004). *Creative knowledge environments: The influences on creativity in research and innovation.* Cheltenham: Elgar.

Heron, J. (1982). *Humanistic medicine.* Guilford: University of Surrey.

Heron, J. (1999). *The complete facilitator's handbook.* London: Kogan Page.

Heron, J. (2001). *Helping the client: A creative practical guide* (5th ed.). London: Sage.

Higgs, J., Jones, M. A., Loftus, S., & Christensen, N. (Eds.). (2008). *Clinical reasoning in the health professions* (3rd ed.). London: Elsevier.

Hillman, J. (1994). *Healing fiction.* Dallas: Spring.

Hillman, J. (1995). *Kinds of power: A guide to its intelligent uses.* New York: Doubleday.

Hillman, J., & Ventura, M. (1993). *We've had a hundred years of psychotherapy and the world's getting worse.* San Francisco: Harper.

Hilton, S. R., & Slotnick, H. B. (2005). Proto-professionalism: How professionalism occurs across the continuum of medical education. *Medical Education, 39,* 58–65.

Hobbes, T. (2008). *Leviathan.* Harlow: Longman.

Hodges, B. (2003). OSCE! Variations on a theme by Harden. *Medical Education, 37,* 1134–1140.

Hodges, B. (2005). The many and conflicting histories of medical education in Canada and the USA: An introduction to the paradigm wars. *Medical Education, 39,* 613–621.

Horton, R. (2003). *Health wars: On the global front lines of modern medicine.* New York: New York Review Books.

Howe, A. (2001). Patient-centered medicine through student-centered teaching: A student perspective on the key impacts of community-based learning in undergraduate medical education. *Medical Education, 35,* 666–672.

Hughes, E. (1988). The making of a physician—general statement of ideas and problems. In L. Mackay, K. Soothill, & K. Melia. (Eds.), *Classic texts in health care* (pp. 136–139). Oxford: Butterworth.

Hughes, E. C. (1955). The making of a physician: General statement of ideas and problems. *Human Organisation, 14,* 21–25.

Hunter, K. M. (1991). *Doctors' stories: The narrative structure of knowledge in medicine.* Princeton: Princeton University Press.

Hutchinson, L. (2006). Challenges of training doctors in the new English NHS. *British Medical Journal*, *332*, 1502–1504.

Huyler, F. (2010). *Right of thirst.* Oxford: Oneworld.

Iedema, R. (Ed.). (2007). *The discourse of hospital communication: Tracing complexities in contemporary health organizations.* Houndsworth: Palgrave Macmillan.

Iedema, R., & Scheeres, H. (2003). From doing work to talking work: Renegotiating knowing, doing, and identity. *Applied Linguistics, 24,* 316–337.

Illich, I. (1977). *Limits to medicine: Medical nemesis—the expropriation of health.* Harmondsworth: Penguin.

Illing, J., Morrow, G., Kergon, C., Burford, B., Spencer, J., Peile, E., et al. (2008). *How prepared are medical graduates to begin practice? A comparison of three diverse UK medical schools.* Final Report for the GMC Education Committee: GMC.

International Federation of Medical Students' Associations. (2008). *Policy declaration on medical education adopted by the 29th general assembly, Cairo 1980.* http://www.ifmsa.org/. Accessed 24 June 2010.

International Working Party to Promote and Revitalize Academic Medicine. (2004). ICRAM (the International Campaign to Revitalize Academic Medicine): Agenda setting. *British Medical Journal, 329,* 787–789.

Inui, T. S., & Frankel, R. M. (2006). Hello, stranger: Building a healing narrative that includes everyone. *Academic Medicine, 81,* 415–418.

Irby, D. M. (1978). Clinical teacher effectiveness in medicine. *Journal of Medical Education, 37*, 258–261.

Irby, D. M. (1994). What clinical teachers in medicine need to know. *Academic Medicine, 69,* 333–342.

Irby, D. M. (2008). *Stanford podcast on the Carnegie study on medical education.* http://med.stanford.edu/medcast/2008/irby.html.

Irby, D. M., & Rakestraw, P. (1981). Evaluating clinical teaching in medicine. *Journal of Medical Education, 56*, 181–185.

Irby, D. M., Ramsey, P. G., Gillmore, G. M., & Schaad, D. (1991). Characteristics of effective clinical teachers of ambulatory care medicine. *Academic Medicine, 66,* 54–55.

Irby, D. M., Cooke, M., Lowenstein, D., & Richards, B. (2004). The academy movement: A structural approach to reinvigorating the educational mission. *Academic Medicine, 8,* 729–736.

Irby, D. M., Cooke, M., & O'Brien, B. C. (2010). Calls for reform of medical education by the Carnegie foundation for the advancement of teaching: 1910 and 2010. *Academic Medicine, 85,* 220–227.

Irigaray, L. (2004). *An ethics of sexual difference.* London: Continuum.

Issenberg, S. B., McGaghie, W. C., Petrusa, E. R., Gordon, D. L., & Scalese, R. J. (2005). Features and uses of high-fidelity medical simulations that lead to effective learning: A BEME systematic review. *Medical Teacher, 27,* 10–28.

Jackson, N. (2000). Writing-up people at work: Investigations of workplace literacy. *Literacy and Numeracy Studies, 10*(1/2), 5–22.

Jardine, D. W., Friesen, S., & Clifford, P. (2006). *Curriculum in abundance.* Mahwah: Erlbaum.

Jason, H. (2000). Communication skills are vital in all we do as educators and clinicians. *Education for Health, 13,* 157–160.

Jencks, C. (2002). *The new paradigm in architecture: The language of post-modernism.* New Haven: Yale University Press.

Jencks, C. (2007). *Critical modernism: Where is post-modernism going?* Chichester: Wiley.

Jolly, B., & Rees, L. (Eds.). (1998). *Medical education in the millennium.* Oxford: OUP.

Jonsen, A. R., & Toulmin, S. E. (1990). *The abuse of casuistry: A history of moral reasoning.* Berkeley: University Of California Press.

Jullien, F. (2007). *Vital nourishment: Departing from happiness.* New York: Zone.

Karle, H. (2006). Global standards and accreditation in medical education: A view from the WFME. *Academic Medicine, 81*(12 Suppl), 43–48.

Karle, H. (2008a). World Federation for Medical Education policy on international recognition of medical schools' program. *Annals of the Academy of Medicine, 37,* 1041–1043 (Singapore).

Karle, H. (2008b). International recognition of basic medical education programs. *Medical Education, 42,* 12–17.

Katz, P. (1999). *Scalpel's edge: The culture of surgeons.* Boston: Allyn & Bacon.

Kauffman, S. (1995). *At home in the universe: The search for the laws of self-organization and complexity.* London: Viking.

Keane, J. (2009). *The life and death of democracy.* New York: Simon & Schuster.

Keating, P., & Cambrosio, A. (2003). *Biomedical platforms: Realigning the normal and the pathological in late-twentieth-century medicine.* Cambridge: MIT Press.

Keats, J. (2004). *The letters of John Keats.* Kila: Kessinger.

Kerosuo, H. (2006). *Boundaries in action: An activity-theoretical study of development, learning, and change in health care organization for patients with multiple and chronic illnesses.* Doctoral dissertation, University of Helsinki, Finland, November 2006. http://ethesis.helsinki.fi/julkaisut/kay/kasva/vk/kerosuo/.

Kerosuo, H., & Engeström, Y. (2003). Boundary crossing and learning in creation of new work practice. *Journal of Workplace Learning, 15,* 345–351.

Khoo, H. E. (2003). Implementation of problem-based learning in Asian medical schools and students' perceptions of their experience. *Medical Education, 37,* 401–409.

Klitzman, R. (2006). Improving education on doctor-patient relationships and communication: Lessons from doctors who become patients. *Academic Medicine, 81,* 447–453.

Kneebone, R. (2005). Evaluating clinical simulations for learning procedural skills: A theory-based approach. *Academic Medicine, 80,* 549–553.

Kneebone, R., & Baillie, S. (2008). Contextualized simulation and procedural skills: A view from medical education. *Journal of veterinary medical education, 35,* 595–598.

Kneebone, R., Nestel, D., Wetzel, C., Black, S., Jacklin, R., Aggarwal, R., et al. (2006). The human face of simulation: Patient-focused simulation training. *Academic medicine, 81,* 919–924.

Kneebone, R., Arora, S., King, D., Bello, F., Sevdalis, N., Kassab, E., et al. (2010). Distributed simulation—accessible immersive training. *Medical Education, 32,* 65–70.

Kneebone, R. L. (2009). Practice, rehearsal, and performance: An approach for simulation-based surgical and procedure training. *The Journal of the American Medical Association, 302,* 1336–1338.

Kneebone, R. L., Kidd, J., Nestel, D., Barnet, A., Lo, B., King, R., et al. (2005). Blurring the boundaries: Scenario-based simulation in a clinical setting. *Medical Education, 39,* 580–587.

Kneebone, R. L., Nestel, D., Vincent, C., & Darzi, A. (2007). Complexity, risk and simulation in learning procedural skills. *Medical Education, 41,* 808–814.

Knowles, M. (1978). *The adult learner: A neglected species.* Houston: Gulf.

Kohn, L. T., Corrigan, J. M., & Donaldson, M. S. (Eds.). (1999). *To err is human: Building a safer health system.* Washington: National Academy Press.

Kolb, D. (1984). *Experiential learning.* New Jersey: Prentice Hall.

Krishnan, P. (1992). Health millions. *Medical Education, 18,* 42–44.

Kristeva, J. (1982). *Powers of horror: An essay on abjection.* New York: Columbia University Press.

Kristeva, J. (1989). *Black sun: Depression and melancholia.* New York: Columbia University Press.

Kroker, A. (2003). *The will to technology and the culture of nihilism: Heidegger, Marx, and Nietzsche.* Toronto: University of Toronto Press.

Krupat, E., Hiam, C. E., Fleming, M. Z., & Freeman, P. (1999). Patient-centeredness and its correlates among first year medical students. *International Journal of Psychiatry in Medicine, 29,* 347–356.

Kuhn, T. (1970). *The structure of scientific revolutions.* Chicago: University of Chicago Press.

Kumagai, A. K. (2008). A conceptual framework for the use of illness narratives in medical education. *Academic Medicine, 83,* 653–658.

Lakoff, G., & Johnson, M. (1999). *Philosophy in the flesh: The embodied mind and its challenge to western thought.* New York: Basic.

Lam, V. (2006). *Bloodletting and miraculous cures.* Toronto: Doubleday of Canada.

Latour, B. (2007). *Reassembling the social: An introduction to actor-network-theory.* Oxford: OUP.

Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation.* Cambridge: CUP.

Law, J., & Hassard, J. (1999). *Actor network theory and after.* Oxford: Blackwell.

Lazarus, N. (2006). Post-colonial studies after the invasion of Iraq. *New Formations, 59,* 10–22.

Lea, M. R., & Nicoll, K. (Eds.). (2002). *Distributed learning: Social and cultural approaches to practice.* London: Routledge.

Leder, D. (1990). Clinical interpretation: The hermeneutics of medicine. *Theoretical Medicine and Bioethics, 11,* 9–24.

Letherby, G. (2007). Feminist research and health. In J. Douglas, S. Earle, S. Handsley, C. E. Lloyd, & S. Spurr. (Eds.), *A reader in promoting public health: Challenge and controversy.* London: Open University/Sage.

Lewis, N. J., Rees, C. E., Hudson, J. N., & Bleakley, A. (2005). Emotional intelligence in medical education: Measuring the unmeasurable? *Advances in Health Sciences Education: Theory and Practice, 10,* 339–355.

Lidskog, M., Löfmark, A., & Ahlström, G. (2009). Learning through participating on an interprofessional training ward. *Journal of Interprofessional Care, 23,* 486–497.

Lingard, L., Reznick, R., DeVito, I., & Espin, S. (2002). Forming professional identities on the healthcare team: Discursive construction of the 'other' in the operating room. *Medical Education, 36,* 728–734.

Lingard, L., Garwood, K., Schryer, C. F., & Spafford, M. M. (2003a). 'Talking the talk': School and workplace genre tension in clerkship case presentations. *Medical Education, 37,* 612–620.

Lingard, L., Schryer, C. F., Garwood, K., & Spafford, M. M. (2003b). A certain art of uncertainty: Case presentation and the development of professional identity. *Social Science & Medicine, 56,* 603–616.

Lingard, L., Hodges, B., MacRae, H., & Freeman, R. (2004). Expert and trainee determinations of rhetorical relevance in referral and consultation letters. *Medical Education, 38,* 168–176.

Lingis, A. (1994). Lust. In S. Shamdasani. (Ed.), *Speculations after freud* (pp. 133–150). London: Routledge.

Loomba, A. (2005). *Colonialism/postcolonialism.* London: Routledge.

Lough, M. (2006). BMJ analysis and comment: What the educators are saying. *British Medical Journal, 332,* 1450.

Ludmerer, K. M. (1985). *Learning to heal—the development of American medical education.* New York: Basic.

Ludmerer, K. M. (1999). *Time to heal: American medical education from the turn of the century to the era of managed care.* Oxford: Oxford University Press.

Lynn, S. (1988). *Texts and contexts.* Harlow: Longman.

Lyotard, J.-F. (1984). *The postmodern condition: A report on knowledge.* Manchester: Manchester University Press.

Macherey, P. (2006). *A theory of literary production.* London: Routledge.

MacIntyre, A. (1977). Epistemological crises, dramatic narrative and the philosophy of science. *The Monist, 60,* 453–472.

Macklin, R. (2001). International research: Ethical imperialism or ethical pluralism? *Accountability in Research, 7,* 59–83.

Macnaughton, J. (2009). The art of medicine: The dangerous practice of empathy. *The Lancet, 373,* 1940–1941.

Mamede, S., & Schmidt, H. G. (2004). The structure of reflective practice in medicine. *Medical Education, 38,* 1302–1308.

Marsh, C. J., & Willis, G. (2003). *Curriculum: Alternative approaches, ongoing issues* (3rd ed.). New Jersey: Merrill Prentice Hall.

Marshall, R., & Bleakley, A. (2009). The death of Hector: Pity in Homer, empathy in medical education. *Medical Humanities, 35,* 7–12.

Martenson, D. (2001). Learning: Current knowledge and the future. *Medical Teacher, 23,* 192–197.

Martire, J. R. (1969). The crisis in American medical education: The student viewpoint. *Academic Medicine, 44,* 1070–1075.

Masson, N., & Lester, H. (2003). The attitudes of medical students towards homeless people: Does medical school make a difference? *Medical Education, 37,* 869–872.

McClellan, B. E., & Zelenka, M. H. (2008). *The educational philosophy of Abraham Flexner: Creating cogency in medical education.* Ceredigion: Mellen.

McEachern, S. (2009). *Don't kill me doctor: Wash your hands!* http://www.ethicsoup.com/2009/01/dont-kill-me-doctor-wash-your-hands.html. Accessed 23 June 2010 (online Ethics Soup 21 January).

McGann, J. (1991). *The textual condition.* Princeton: Princeton University Press.

McKinney, K. (2004). The scholarship of teaching and learning: Past lessons, current challenges, and future visions. *To Improve the Academy* (Vol. 22, pp. 3–19). Bolton: Anker.

McLachlan, J. C., Bligh, J., Bradley, P., & Searle, J. (2004). Teaching anatomy without cadavers. *Medical Education, 38,* 418–424.

Mennin, S. (2010). Self-organization, integration and curriculum in the complex world of medical education. *Medical Education, 44,* 20–30.

Mercurio, J. (2003). *Bodies.* London: Vintage.

Mercurio, J. (2008). *American adulterer.* London: Cape.

Middleton, D. (1998). Talking work: Argument, common knowledge, and improvisation in teamwork. In Y. Engeström & D. Middleton. (Eds.), *Cognition and communication at work.* Cambridge: CUP.

Millenson, M. L. (1999). *Demanding medical excellence: Doctors and accountability in the information age* (2nd ed.). Chicago: University of Chicago Press.

Miller, G. E. (1961). *Teaching and learning in medical school.* New Haven: Harvard UP.

Miller, G. E. (1970). A perspective on research in medical education. *Journal of Medical Education, 45,* 694–699.

Miller, G. E. (1999). Adventure in pedagogy. *Education for Health, 12,* 339–345 (first published 1956 in *The Journal of the American Medical Association, 162,* 144–150).

Miller, H. (1967). *In sickness and in health: A doctor's view of medicine in Britain. Encounter, XXVIII,* 10–21.

Mills, S. (1997). *Discourse.* London: Routledge.

Mishler, E. G. (1985). *The discourse of medicine (language and learning for human service professions).* New York: Ablex.

Molyneaux, J. (2001). Interprofessional teamworking: What makes teams work well? *Journal of Interprofessional Care, 15,* 29–35.

Montgomery, K. (2006). *How doctors think: Clinical judgment and the practice of medicine.* Oxford: Oxford University Press.

Moore, R. (2010). *The Circle Hospital: Foster and partners.* http://www.guardian.co.uk/artanddesign/2010/mar/21/norman-foster-circle-hospital-bath. Accessed 28 June 2010 (online London The Observer 21 March).

Mukohara, K., Ban, N., Sobue, G., Shimada, Y., Otani, T., & Yamada, S. (2006). Follow the patient: Process and outcome evaluation of medical students' educational experiences accompanying outpatients. *Medical Education, 40,* 158–165.

Murphy, D. (2006). Beyond anglophone imperialism? *New Formations, 59,* 132–143.

Musick, D. W. (1998). Policy analysis in medical education: A structured approach. *Medical Education Online, 3,* 2. http://www.Med-Ed-Online (serial online).

Nagel, T. (1986). *The view from nowhere.* New York: Oxford University Press.

Naranchimeg, S. (2008). A model for the teaching and assessment of professionalism. *Medical Education, 42,* 527–528.

Negri, A. (1999). *The savage anomaly: The power of Spinoza's metaphysics and politics.* Minneapolis: University of Minnesota Press.

Negri, A. (2008). *Reflections on Empire.* Cambridge: Polity.

Nelson, E. A., & McGuire, A. L. (2010). The need for medical education reform: Genomics and the changing nature of health information. *Genome Medicine, 2,* 18.

Nelson, H. L. (1999). Knowledge at the bedside: A feminist view of what's happening with this patient. In J. L. Nelson & H. L. Nelson. (Eds.), *Meaning and medicine: A reader in the philosophy of health care* (pp. 106–116). London: Routledge.

Nestel, D., & Kneebone, R. (2010). Perspective: Authentic patient perspectives in simulations for procedural and surgical skills. *Academic Medicine, 85,* 889–893.

Norman, G. (2002). Research in medical education: Three decades of progress. *British Medical Journal, 324,* 1560–1562.

Norman, G. (2003). RCT = results confounded and trivial: The perils of grand educational experiments. *Medical Education, 7,* 582–584.

Norman, G. (2004). Editorial—theory testing research versus theory-based research. *Advance Health Science Education Theory Practice, 9,* 175–178.

Norman, G. (2007). Editorial—how bad is medical education research anyway? *Advance Health Science Education Theory Practice, 12,* 1–5.

Norman, G. (2008). The glass is a little full—of something: Revisiting the issue of content specificity of problem solving. *Medical Education, 42,* 549–551.

Norman, G., van der Vleuten, C. P. M., & Newble, D. I. (Eds.). (2002). *International handbook of research in medical education, Part one.* Dordrecht: Kluwer.

Norman, G., Young, M., & Brooks, L. (2007). Non-analytic models of clinical reasoning: The role of experience. *Medical Education, 41,* 1140–1145.

Norman, G. R. (1999). The adult learner: A mythical species. *Academic Medicine, 74,* 886–889.

Oakeshott, M. (1959). *The voice of poetry in the conversation of mankind.* London: Bowes & Bowes.

Onishi, H., & Yoshida, I. (2004). Rapid change in Japanese medical education. *Medical Teacher, 26,* 403–408.

Orbinski, J. (2009). *An imperfect offering: Dispatches from the medical frontline.* London: Random House.

Orr, M. (2003). *Intertextuality: Debates and contexts.* Cambridge: Polity.

Owen, D. (2008). *In sickness and in power: Illness in heads of government during the last 100 years.* Westport: Praeger.

Paechter, C., Edwards, R., Harrison, R., & Twining, P. (Eds.). (2001a). *Learning, space and identity.* London: Chapman.

Paechter, C., Preedy, M., Scott, D., & Soler, J. (Eds.). (2001b). *Knowledge, power and learning.* London: Chapman.

Paget, M. A. (2004). *The unity of mistakes* (2nd ed.). Philadelphia: Temple University Press.

Patterson, K. (2007). *Consumption.* Toronto: Vintage Canada.

Pauli, H. G., White, K. L., & McWhinney, I. R. (2000a). Medical education, research, and scientific thinking in the 21st century. *Education for Health, 13*(1), 15–25.

Pauli, H. G., White, K. L., & McWhinney, I. R. (2000b). Medical education, research, and scientific thinking in the 21st century. *Education for Health, 13*(2), 165–172 and 173–186.

Pawson, R., Greenhalgh, T., Harvey, G., & Walshe, K. (2005). Realist review—a new method of systematic review designed for complex policy interventions. *Journal of Health Services Research & Policy, 10*(Suppl 1), 24–34.

Pecheux, M. (1983). *Language, semantics and ideology.* Basingstoke: Palgrave MacMillan.

Phillips, S. P., & Ferguson, K. E. (1999). Do students' attitudes toward women change during medical school? *Canadian Medical Association Journal, 161,* 127–128.

Pinar, W. F. (2004). *What is curriculum theory?* Mahwah: Erlbaum.

Pinar, W. F. (2006). *The synoptic text today and other essays: Curriculum development after the reconceptualization.* New York: Lang.

Pinar, W. F., & Reynolds, W. M. (Eds.). (1992a). *Understanding curriculum as phenomenological and deconstructed text.* New York: Teachers College Press.

Pinar, W. F., & Reynolds, W. M. (1992b). Introduction: Curriculum as text. In W. F. Pinar & W. M. Reynolds. (Eds.), *Understanding curriculum as phenomenological and deconstructed text* (pp. 1–16). New York: Teachers College Press.

Pinar, W. F., Reynolds, W. M., Slattery, P., & Taubman, P. M. (1995). *Understanding curriculum: An introduction to historical and contemporary curriculum discourses.* New York: Lang.

Plato. (2003). *The Republic.* Harmondsworth: Penguin.

Plsek, P. E., & Greenhalgh, T. (2001). Complexity science: The challenge of complexity in health care. *British Medical Journal, 323,* 625–628.

Polanyi, M. (1983). *The Tacit dimension.* Gloucester: Smith.

Pololi, L., Clay, M. C., Lipkin, M., Hewson, M., Kaplan, C., & Frankel, R. M. (2001). Reflections on integrating theories of adult education into a medical school faculty development course. *Medical Teacher, 23,* 276–283.

Powers, R. (1998). *Gain.* New York: Picador.

Prideaux, D., & Bligh, J. (2002). Research in medical education: Asking the right questions. *Medical Education, 36,* 1114–1115.

Prigogene, I., & Stengers, B. (1985). *Order out of chaos: Man's new dialogue with nature.* London: Flamingo.

Pronovost, P., & Vohr, E. (2010). *Safe patients, smart hospitals: How one doctor's checklist can help us change health care from the inside out.* New York: Hudson Street.

Pynchon, T. (1990). *Vineland.* London: Secker & Warburg.

Quirk, M. (2006). *Intuition and metacognition in medical education: Keys to developing expertise.* London: Springer.

Rao, K. H., & Rao, R. H. (2007). Perspectives in medical education 5. Implementing a more integrated, interactive and interesting curriculum to improve Japanese medical education. *The Keio Journal of Medicine, 56,* 75–84.

Rao, R. H. (2006). Perspectives in medical education: 1. Reflections on the state of medical education in Japan. *The Keio Journal of Medicine, 55,* 41–51.

Reber, A. S. (1996). *Implicit learning and tacit knowledge: An essay on the cognitive unconscious.* Oxford: OUP.

Reeves, S., & Freeth, D. (2002). The London Training Ward: An innovative interprofessional learning initiative. *Journal of Interprofessional Care, 16,* 41–52.

Regehr, G. (2004). Trends in medical education research. *Academic Medicine, 79,* 939–947.

Regehr, G. (2006). The persistent myth of stability: On the chronic underestimation of the role of context in behavior. *International Journal of General Medicine, 21,* 544–545.

Regehr, G., & Rajaratanam, K. (2000). Models of learning: Implications for teaching students and residents. In L. Distlehorst, G. Dunnington, & J. R. Folse. (Eds.), *Teaching and learning in medical and surgical education: Lessons learned for the 21st century.* Mahwah: Erlbaum.

Resnik, D. B. (2004). The distribution of biomedical research resources and international justice. *Developing World Bioethics, 4,* 42–57.

Reynolds, W. M., & Webber, J. A. (Eds.). (2004). *Expanding curriculum theory: Dis/positions and lines of flight.* Mahwah: Erlbaum.

Riesenberg, L. A., Little, B. W., & Wright, V. (2009). Nonphysician medical educators: A literature review and job description resource. *Academic Medicine*, *84*, 1078–1088.

Rogers, C. (1983). *Freedom to learn for the '80s.* Princeton: Merrill.

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context.* Oxford: OUP.

Rolfe, I. E., & Sanson-Fisher, R. W. (2002). *Translating learning principles into practice: A new strategy for learning clinical skills. Medical Education, 36,* 345–352.

Roter, D. L., & Hall, J. A. (2006). *Doctors talking with patients/patients talking with doctors: Improving communication in medical visits* (2nd ed.). London: Praeger.

Rowland, S. (1999). The role of theory in a pedagogical model for lecturers in higher education. Studies in Higher Education*, 24,* 303–314.

Ryder, N., Ivens, D., & Sabin, C. (2005). The attitude of patients towards medical students in a sexual health clinic. *Sexually Transmitted Infections, 81,* 437–439.

Sacks, O. (1986). *The man who mistook his wife for a hat.* London: Picador.

Said, E. (1993). *Culture and imperialism.* London: Chatto & Windus.

Said, E. (2003). *Orientalism.* Harmondsworth: Penguin Modern Classics.

Scheurich, J. J. (1997). *Research method in the postmodern.* London: Falmer.

Schön, D. (1983). *The reflective practitioner.* New York: Basic.

Schön, D. A. (1990). *Educating the reflective practitioner: Towards a new design for teaching and learning in the professions.* Oxford: Jossey-Bass.

Schwarz, M. R. (2001). Globalization and medical education. *Medical Teacher, 23,* 533–534.

Scott, W. R., Ruef, M., Mendel, P. J., & Caronna, C. A. (2008). *Institutional change and health-care organizations: From professional dominance to managed care.* Chicago: University of Chicago Press.

Seale, C. (1999). *The quality of qualitative research.* London: Sage.

Searle, J. R. (1990). Collective intentions and actions. In P. R. Cohen, J. Morgan, & M. E. Pollack. (Eds.), *Intentions in communication* (pp. 401–415). Cambridge: MIT Press.

Sefton, A. J. (2004). New approaches to medical education: An international perspective. *Medical Principles and Practice, 13,* 239–248.

Segouin, C., & Hodges, B. (2005). Educating doctors in France and Canada: Are the differences based on evidence or history? *Medical Education, 39,* 1205–1212.

Selzer, R. (1996). *Notes on the art of surgery.* San Diego: Harvest.

Selzer, R. (1998). *Letters to a young doctor.* San Diego: Harvest.

Sennett, R. (2008). *The craftsman.* London: Penguin.

Sfard, A. (1998). On two metaphors for learning and on the danger of choosing just one. *Educational Researcher, 27,* 4–13.

Silver-Isenstadt, A., & Ubel, P. A. (1999). Erosion in medical students' attitudes about telling patients they are students. *Journal of General Internal Medicine, 14,* 481–487.

Singh, H., Thomas, E. J., Petersen, L. A., & Studdert, D. M. (2007). Medical errors involving trainees: A study of closed malpractice claims from 5 insurers. *Archives of Internal Medicine, 167,* 2030–2036.

Smith, D. W. (2005). Critical, clinical. In C. J. Stivale. (Ed.), *Gilles Deleuze: Key concepts* (pp. 182–193). Stocksfield: Acumen.

Spivak, G. (1994). Psychoanalysis in left field and fieldworking: Examples to fit the title. In S. Shamdasani. (Ed.), *Speculations after Freud* (pp. 41–76). London: Routledge.

Stein, S. J., Isaacs, G., & Andrews, T. (2004). Incorporating authentic learning experiences within a university course. *Studies in Higher Education, 29,* 239–258.

Stern, D. T. (Ed.). (2006). *Measuring Medical Professionalism.* Oxford: OUP.

Stevens, W. (1954). *Collected poems*. New York: Knopf.

Stewart, M. (1995). Effective physician-patient communication and health outcomes: A review. *Canadian Medical Association Journal, 152,* 1423–1433.

Sullivan, W. M., & Rosin, M. S. (2008). *A new agenda for higher education: Shaping a life of mind for practice.* San Francisco: Jossey-Bass.

Supe, A., & Burdick, W. P. (2006). Challenges and issues in medical education in India. *Academic Medicine, 81*, 1076–1080.

Surbone, A., & Baider, L. (2010). The spiritual dimension of cancer care. *Critical Reviews in Oncology/Hematology, 73,* 228–235.

Swanwick, T. (Ed.). (2010). *Understanding medical education: Evidence, theory and practice.* Oxford: Wiley-Blackwell.

Sweeney, K. (2006). *Complexity in primary care: Understanding its value.* Oxford: Radcliffe.

Sweeney, K. G., MacAuley, D., & Pereira, G. D. (1998). Personal significance: The third dimension. *The Lancet, 351,* 134–136.

Taylor, C., & White, S. (2000). *Practicing reflexivity in health and welfare: Making knowledge.* Milton Keynes: Open University Press.

Ten Cate, O. (2007). Medical education in the Netherlands. *Medical Teacher, 29,* 752–757.

Tervo, R. C., Azuma, S., Palmer, G., & Redinius, P. (2002). Medical students' attitudes toward persons with disability: A comparative study. *Archives of Physical Medicine and Rehabilitation, 83,* 1537–1542.

Thistlethwaite, J. E., & Jordan, J. J. (1999). Patient-centered consultations: A comparison of student experience and understanding in two clinical environments. *Medical Education, 33,* 678–685.

Thomas, J., & Monaghan, T. (Eds.). (2007). *The Oxford handbook of clinical examination and practical skills.* Oxford: OUP.

Thoreau, H. D. (2008). On the duty of civil disobedience: Resistance to civil government. Charleston: Forgotten Books.

Thorpe, M. (2002). From independent learning to collaborative learning. In M. R. Lea & K. Nicoll. (Eds.), *Distributed learning: Social and cultural approaches to practice.* London: Routledge.

Tochon, F. V. (2000). When authentic experiences are 'enminded' into disciplinary genres: Crossing biographic and situated knowledge. *Learning and Instruction, 10,* 331–359.

Tooke, J. (2007). *Aspiring to excellence: Findings and recommendations of the Independent Inquiry into Modernizing Medical Careers*. London: Aldridge.

Towle, A. (1998). Education for health needs in 2000 and beyond. In B. Jolly & L. Rees. (Eds.), *Medical education in the millennium* (pp. 3–20). Oxford: OUP.

van der Vleuten, C., Dolmans, D. H., de Grave, W. S., van Luijk, S. J., Muijtjens, A. M., Scherpbier, A. J., et al. (2004). Education research at the Faculty of Medicine, University of Maastricht: Fostering the interrelationship between professional and education practice. *Academic Medicine, 79,* 990–996.

van Dijck, J. (2005). *The transparent body: A cultural analysis of medical imaging.* Seattle: University of Washington Press.

van Zanten, M., Boulet, J. R., & Simon, F. A. (2010). Flexner's global influence: Medical education accreditation in countries that train physicians who pursue residency in the United States. *Academic Medicine, 85,* 324–332.

Vargas, L. M. (1986). Literature is fire. In: J. King (Ed.), *Making waves* (1996, p. 71). London: Faber & Faber.

Verghese, A. (1992). Soundings. *Granta, 39,* 81–90.

Verghese, A. (1998). *The Tennis Partner.* London: Chatto & Windus.

Verghese, A. (2007, February). Bedside manners. *Texas Monthly.*

Verghese, A. (2009). *Cutting for Stone.* London: Chatto & Windus.

Victor, B., & Boynton, A. C. (1998). *Invented here: Maximizing your organization's internal growth and profitability.* Boston: Harvard Business School Press.

Virno, P. (2004). *A grammar of the multitude.* Los Angeles: Semiotext(e).

Vogt, A. M. (1998). *Le Corbusier, the noble savage.* Cambridge: MIT Press.

Wahlstrom, O., Sanden, I., & Hammar, M. (1997). Multiprofessional education in the medical curriculum. *Medical Education, 31,* 425–429.

Waldby, C. (2000). *The Visible Human Project: Informatic bodies and posthuman medicine.* London: Routledge.

Waldrop, M. M. (1992). *Complexity: The emerging science at the edge of order and chaos.* London: Viking.

Wall, D. (2010). Evaluation: Improving practice, influencing policy (Chapter 23). In T. Swanwick. (Ed.), *Understanding medical education; evidence, theory and practice*. Oxford: Wiley-Blackwell.

Wallace, D. F. (1998). *A supposedly fun thing I'll never do again: Essays and arguments.* London: Abacus.

Walling, A., Montello, M., Moser, S. E., Menikoff, J. A., & Brink, M. (2004). Which patients are most challenging for second-year medical students? *Family Medicine, 36,* 710–714.

Walport, M. (2005). *Medically- and dentally-qualified academic staff: Recommendations for training the researchers and educators of the future.* Report of the Academic Careers Sub-Committee of Modernizing Medical Careers and the UK Clinical Research Collaboration. www.nihrtcc.nhs.uk/archivesmain/archiveinfoiat/oldsiteremovednov07/Medically_and_Dentally-qualified_Academic_Staff_Report.pdf. Accessed 28 June 2010 (online London: MMC).

Watt, G. C. M. (2005). Where health services research has led, medical education research may follow. *Medical Education*, 39, 555–556.

Weller, J. M. (2004). Simulation in undergraduate medical education: Bridging the gap between theory and practice. *Medical Education, 38,* 32–38.

Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity.* Cambridge: Cambridge University Press.

West, M. A., & Borrill, C. S. (2002). *Effective human resource management and lower patient mortality.* Birmingham: University of Aston.

WFME. (2003). WFME global standards for quality improvement. Copenhagen: WFME Office.

Wheatley, S. C. (1989). *The politics of philanthropy: Abraham Flexner and medical education.* Madison: University of Wisconsin Press.

Wind, L. A., van Dalen, J., Muijtjens, A. M. M., & Rethans, J.-J. (2004). Assessing simulated patients in an educational setting: The MaSP. *Medical Education, 38,* 39–44.

Wingham, J., Dalal, H. M., Sweeney, K. G., & Evans, P. H. (2006). Listening to patients: Choice in cardiac rehabilitation. *European Journal of Cardiovascular Nursing, 5,* 289–294.

Wolf, F. M. (2004). Commentary—methodological quality, evidence, and research in medical education (RIME). *Academic Medicine, 79,* 68–69.

Woloschuk, W., Harasym, P. H., & Temple, W. (2004). Attitude change during medical school: A cohort study. *Medical Education, 38,* 522–534.

World Alliance for Patient Safety. (2008). *WHO surgical safety checklist and implementation manual.* Geneva: World Health Organization.

Xyrichis, A., & Ream, E. (2008). Teamwork: A concept analysis. *Journal of Advanced Nursing, 61,* 232–241.

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