The Discourse of Evidence-Based Healthcare (1992-2012).

Power in Dialogue, Embodiment and Emotion.

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Abstract

The topic of this thesis is evidence-based healthcare, EBHC. The thesis has two key aims: to undertake an empirical exploration and analysis of debates around EBHC; and to develop a conceptual theorisation of these debates in terms of power. To fulfil the empirical aim I conduct a reading and analytic re-reading of EBHC-literature from the disciplines of medicine, physiotherapy and sociology. To fulfil the conceptual aim I draw upon the work of Foucault, Bakhtin and Barbalet to produce a 'dialogical' model of power.

Treating debates around EBHC as 'EB-discourse', this thesis follows the tradition of discourse analysis; but breaks ground by deploying writing as a research method and applying ethnographic ideas to discursive study. This novel approach I call 'literary ethnography'. Being a literary ethnography of EB-discourse, the thesis begins with a descriptive overview of the chosen disciplinary literatures. A methodological section explains the rationale for proceeding along the analytic path of dialogue; and then the thesis becomes gradually more analytical through progressively deeper readings of the same literatures.

The thesis is structured into these three levels of review, methodology and analysis; and in each level, the three strands of literary context (medicine, physiotherapy and sociology) run in parallel as comparators for each other. EBHC began in medicine (as EBM), but following its course in other disciplines allows discursive similarities and differences to be explicated. The initially descriptive and gradually more analytical approach reveals the dialogical structure of the discourse, and discovers embodiment and emotion as ideas which, across all three contexts, trouble the terms of the discourse.

The key findings of the thesis are that in EB-discourse, power operates through dialogue, by being split into different forms which interact to reinforce each other. Specifically, EB-discourse is built upon dialogical distinctions between mind and body, and between emotion and reason. These are dialogues which powerfully re-produce particular kinds of rationality. They are also in dialogue with each other; embodiment for the repressive aspects, and emotion for the productive aspects of power. The thesis also raises questions relating to the predicament of the patient in contemporary healthcare, and relating to the role of philosophical argumentation in social theory. It finishes with some suggestions for investigating the dialogical-power model in other areas of social life.

Dedication

This thesis is dedicated to Nick Whitfield

1980-2013

‘Sometimes there is no absolute need to remember the good times.

Why? Because there are more coming.’

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Contents

Glossary of acronyms.

BMJ	-	British Medical journal
CAM	-	Complementary and Alternative Medicine
CSP	-	Chartered Society of Physiotherapists
EB-discourse	-	Evidence-Basedness discourse
EBM	-	Evidence-Based Medicine
EBP	-	Evidence-Based Practice
EBHC	-	Evidence-Based Healthcare
EBMWG	-	Evidence-Based Medicine Working Group
GP	-	General Practitioner
JAMA	-	Journal of the American Medical Association
JECP	-	Journal for Evaluation in Clinical Pactice
NHS	-	National Health Service
PC	-	Patient-Centred
PCC	-	Patient-Centred Care
RCT	-	Randomised Controlled Trial
SSK	-	Sociology of Scientific Knowledge

Chapter 1

Introduction.

1.1 The Research Question: Framing EBHC in Terms of Power.

What is Evidence-Based Healthcare, EBHC? Originally a set of imperatives for practice, EBHC became a sequence of events in the social life of healthcare (so far lasting twenty years) which has left a generous history in academic literature. It became a self-reflexive and open-ended set of ideas, always in motion and feeding back into itself. As a cluster of acronyms (EBM (evidence-based medicine), EBP (evidence-based practice) and EBHC) it has become an autonomous sign and a simulacrum, something which has accrued symbolic value in itself, where what it refers to is not necessarily clear. It has expanded into different areas of public policy (there is evidence-based education, and evidence-based policing). Increasingly it has become a sign-of-the-times with popular and transferable currency: one can now speak of evidence-based activism, and of evidence-based cookery[1].

EBHC is, however, a phenomenon of special sociological interest. Perhaps more than any other focus for official debates, it has contributed to the maintenance of modern social institutions of healthcare. As a means to the maintenance of these social institutions, not just EBHC but the discourse around it (which I call EB-discourse) is a forum for expressions of power, and many sociologists are interested in power. Power, in broad terms, is what determines the structures of societies, the courses of lives and the conduct of individuals. The case of EBHC, for the depth of its influence in institutions seen as vital to the fabric of society, provides an opportunity to study power at work. Michel Foucault (1926-1984) is the most prominent of recent scholars to commit strongly to studying the nature of power, in which he used medicine as a paradigmatic case (Foucault 1963).

Foucault's later understanding of power as 'productive' is still current in sociology, but while it has been readily adopted[2], it is an understanding overdue for further elaboration, especially where medicine is concerned. The historical trajectory of EBHC shows that although sociologists are prepared to think of medical healthcare as powerful, they have not developed an

[1] The internet now carries ample evidence of the possibilities for appendages to the EB- stem.
[2] See eg. Lawler 2008.

assured conceptual apparatus to do so. As I will show, some sociologists thought that EBM itself would be the thing to overthrow medicine as a hegemonic and repressive power; but EBM has arguably made medical knowledge more institutionally secure, more stable in its relationship to power than ever before. Phil Strong (1984) foresaw this stability; he observed that modern medicine undergoes regular scientific revolutions which revitalise its social eminence. The eventuality of the latest such revolution – EBHC – continues of this cycle. Sociologists have been involved in the process of renewal, but are still not well placed to explain how the power of medicine, and (for that matter) power in general, is constituted.

1.2 Aims and Outcomes of Thesis.

In this thesis I look to address these deficits in the sociological understanding of medical power using the debate about EBHC as a case-study. Accordingly the thesis has two aims, of which the first is empirical and the second is conceptual. The empirical aim is to undertake an exploration and analysis of debates around EBHC. The conceptual aim is to develop a novel theorisation of power which applies to medicine, and which has the potential for general applicability. Neither of these aims are simply fulfilled. The empirical task begins with a description of the debates in medicine and an allied health professsion (physiotherapy), and continues with a description of the debates in sociology. In both cases the increasing complexity of debates around EBHC can readily be seen, and the means I propose for understanding these debates are themselves somewhat complicated.

Seeking appropriate themes for analysing these complex debates, I settle on the topics of dialogue, embodiment and emotion. Each of these analyses explores a particular perspective for understanding the debates around EBHC. In each of them, the issue of power is considered. For instance, in my analysis by dialogue, I find that the debate can be understood in relation to the different forms of dialogue which, in different contexts, give it structure in language and thought. The structuring of language and thought is an effect of power; so while arguing that EBHC-debates are constructed through different types of dialogue, I also argue that power can, and indeed should, be thought of in terms of dialogue. Being a relational phenomenon which operates across all levels of social life (the macro-, meso- and micro-social), power is manifested through dialogue.

There are particular dialogues, concerning particular concepts, which I argue are especially useful for understanding debates around EBHC sociologically. One such is the dialogue between embodied and disembodied forms of social life; another is the dialogue between social life classified as being emotional or non-emotional. Analysing debates around EBHC from the perspectives of embodiment and emotion allows me to consider aspects of the debate which have evaded consideration by others. For example, a focus on embodiment allows me to investigate the role of the patient in sustaining these debates. A focus on emotion allows me, rather than limiting my concern to the explicit content of these debates, to investigate the source of energy which animates them.

The relationship between these two channels of analysis – embodiment and emotion – is something which has its own relevance to the conceptualisation of power as dialogical. A point of controversy in recent sociologies of power has been whether it is in the basic nature of power to be repressive or productive. In the context of debates around EBHC I come to the view that power is both repressive *and* productive. Some dialogues, in this case the dialogue of embodiment, expose with clarity the repressive action of power. Other dialogues, in this case the dialogue of emotion, expose with clarity the productive action of power. And indeed, these repressive and productive aspects work in dialogue with each other.

Alongside these attempts to understand EBHC and to understand power, the thesis has implications for sociological methodology. I categorise it as discourse-analysis, but I appropriate ideas from anthropology to locate it in a hybrid genre (for which I use the label 'literary ethnography'[3]), in which writing (in dialogue with reading) is the most important empirical endeavour. I also take a sceptical view of pure-philosophy when it appears in sociological writing. To draw attention to the problematic nature of this relationship, I take the step of removing my own purely-philosophical analyses to an appendix.

1.3 Overview of Thesis.

The body of this thesis has a three-level structure, each level of which contains two chapters, making six main chapters in total. In addition there is a short concluding chapter at the end. The first level, chapters two and three, can be thought of as characteristically descriptive. The second level, chapters four and five, can be thought of as characteristically methodological. The

[3] This label has been used before, but not in the way I use it.

third level, chapters six and seven, can be thought of as characteristically analytic. The distinctions between levels are not stringent: chapter three is more interpretive than chapter two, and feeds directly into concerns of method. Chapter five is analytic as well as methodological; it demonstrates the practical value of the dialogical analytic method. Chapters six and seven are analytic in different ways; chapter six analyses for absences, chapter seven analyses for presences in the discourse.

Chapter two is an orthodox literature review in which I follow the history of EBHC as a sequence of literary events which can be recovered and reported with a minimum of interpretation. This establishes a substantive basis for the study of EBHC. I focus primarily on the beginning and early history of evidence-based medicine (EBM), but I also include as an exemplar an account of evidence-based practice (EBP) in physiotherapy. Chapter three is a literature review with a broader license for interpretation. Its follows the history of EBHC as a topic in sociological writing. This body of literature I report for its content, but I also comment upon it as a sociologist commenting upon what other sociologists have done, particularly highlighting their polarisation around issues of politics and philosophy and their inattention to the issue of unifying perspectives on EBHC.

In the second level, chapter four is an orthodox-style methodology chapter in which I set out the justification for my own study of evidence-basedness as discourse analysis. After making an argument about methodological reflexivity, I reflect upon my own path through the discourse and report the basic terms of what I have done to analyse it. I then focus on the political and philosophical concepts which sociologists have used to analyse the idea of evidence-basedness (making reference to the philosophical content of the appendix). I explain that these concepts have operated together in a dialogue which builds upon the dialogues established in clinical EB-literature. I justify dialogue as the key principle for my analysis of EB-discourse, and also discuss embodiment and emotion as dialogues crucial to EB-discourse.

In chapter five I work through the implications of dialogue as key analytic principle. In this chapter, and chapters six and seven, the tripartite division of material for analysis – from medicine, physiotherapy and sociology – comes into play, and issues of power are to the fore. I use Bakhtinian ideas to compare dialogical forms across the three sectors of the discourse, each being analysed in itself and in comparison with the others. I use Foucauldian ideas to typologise power. Combining these, I produce a Foucauldian-Bakhtinian theory of dialogical power. The theme of dialogue remains prominent, as does the influence of both Foucauldian and Bakhtinian

theory, in chapters six and seven, in which I pursue an account of the specific mechanisms of dialogical power in EB-discourse.

In chapter six, on embodiment, I argue that the ideological power visible in EB-discourse is derived in dialogue with a material source, which is embodied. This can be illustrated by saying that dialogical power works by splitting our minds from our bodies, giving us to believe that the two are indeed separate, and that our minds take precedence. In this way power makes our bodies strange to us. In chapter seven, on emotion, I argue that the rational power visible in EB-discourse has its basis in emotion, and that emotion is what powers the discourse. Power encourages us to believe that our reason is separate from our emotion, and makes our emotions strange to us. This can be illustrated by saying that we channel our actions through reason; but the more we try to reason, the more do we become unwittingly subject to power through our emotions.

Something the reader will notice about the three-level structure is that it necessitates repetition, going over the same body of literature three times. What is different between each level is the depth of reading. Starting with a shallow reading allows the reader to become familiar with EB-literature. Reading again for structure allows the reader to see patterns within it. Reading again for absences and underlying energies brings the reader to an intimate understanding. In this approach, tiny fragments of discourse can yield multiple insights by the end which were scarcely imaginable at the start. Before beginning this journey, I offer a perspective on EBHC designed to set the scene for the arguments to come.

1.4 A Future-Oriented view on EBHC, Power, and the Morality of Critique.

In the present, we can look back at transformations in the history of health and medicine and make comment with the privilege of hindsight. In future times, people will likewise be able to pass judgement on how we have acted collectively with regard to issues of health. EBHC is seen as having been instrumental in a thorough transformation of healthcare institutions to accord with the conditions of late modernity (see Moreira 2012). The foreseeable future will likely echo this interpretation. People might say, it was through evidence-basedness that healthcare became truly modern. Through evidence-basedness, health institutions were able to establish systematic links between knowledge of population-level responses to treatments, and the

treatments applied to individuals in clinics. They might say that through evidence-basedness, robust bureaucratic efficiency and stability was achieved in healthcare.

There are other possibilities for what the people of a more utopian future might say about our collective actions in relation to our health. One such possibility concerns the social generation of health problems. Since the industrial revolution we have seen, from epidemiological observations, that health problems occur with greater frequency and severity at lower levels of socio-economic status. Relative poverty causes relative illness. We have also known that societies with steeper social gradients are subject absolutely to worse health than societies with relative equality[4]. Even without formal studies we can surmise that many health problems do not occur naturally and inevitably, but as a result of things which collectively we do to ourselves. The people of the future might reasonably ask why, even when we knew that we were often the cause of our own bad health, we were reluctant to protect ourselves. Why did we think treatment so much more important than avoidance of illness?

We can answer our future selves to the effect that we are not free to think thoughts unbounded in their possibilities for change. Especially in healthcare, we are not free to exercise our sociological imaginations, as C Wright Mills (1959) encouraged us to do. Only with an effort of will can we imagine the health problems of individuals in relation to the social system which produces them. The institutions which are powerful in our society do not produce knowledge which helps us to think in such terms; in fact we are incentivised to think of illness in terms of individual and technical aetiology. For many of us, our livelihoods depend on addressing the problem of what we can do individually about illness after it has occurred, not what we can do collectively to counteract its social genesis. In the UK, even the relative beneficence and equality of access to healthcare is currently under threat from a government trying to optimise profit-making opportunities.

The role of evidence-basedness in directing us away from thinking creatively about the social genesis of illness, and towards thinking along conventional lines, can be seen in a recent UK-government report on health inequalities. The Marmot Review (2010) proposes strategies for reducing health inequalities in a way characterised by a rhetoric of evidence-basedness. It is concerned to effect changes in healthcare to offset social inequality, but without the need to affect social inequality itself. This ambiguity is crystallised in the summary statement:

[4] See Phillimore et al 1994, Coburn 2004, Wilkinson and Pickett 2010.

> 'the lower a person's social position, the worse his or her health. Action should focus on reducing the gradient in health.'
>
> Marmot 2010:15.

The gradient in health is to be targeted then, but the gradient *per se* is not. Health gradients are detachable from economic gradients, and as such are to be addressed *after* their occurrence using Evidence derived in contexts of inequality and applicable to contexts of inequality. This ratifies the institution of healthcare as an ongoing analgesic for the pain of social inequality.

In the context of healthcare, expressing political awareness can be seen as an abuse of position or a neglect of professional duty. Thoughts and actions are constrained and directed by the material and ideological conditions in which people live and work. In professional roles as clinicians, researchers, and analysts of health the primary concerns are to be assured that the things done to patients, who are ill, are correct. Professionals seek to act with the best of intentions. To take an idea from Wittgenstein (1968), professionals would like to be convinced not merely that what they do *seems* right, but that it *is* right. They need to believe, in good conscience, in the rightness of what they do, and so the problem of evidence-basedness for health treatments is to them a compelling one.

Besides, it is not just professionals who must have faith in modern healthcare. People who go to the doctor when they are sick also have a need to believe that they will receive proper treatment. It is possible, as Parsons (1951) has argued, that their sincere investment of hope in the doctor and in medicine is an important condition for their social recovery. The doctor, by the authority of medicine, is appointed to authenticate their suffering and validate their return to health. Even if this system does sometimes lead the public to an exaggerated belief in the healing capacities of medicine and the heroism of doctors, is this really a problem? And if EBHC is what it takes for the majority to be assured of the benevolence of medicine, is it not rather unkind to put it under the microscope of critical scrutiny?

This scrutiny is justified for a number of reasons. EBHC and EB-discourse may restore collective faith in the healthcare system, but at what cost? The case of Michael Marmot, above, suggests that a rhetoric of evidence-basedness can be used to subdue critical voices which logically it should not. I show in chapter two that it is concerned with treatment, not prevention. As such it cannot address the basic problem of health inequality, but is proffered as an ideological panacea

for all ills in healthcare. There are other emergent ethical problems with EBHC itself which I uncover, but perhaps more salient than these is the problem that in the terms of its construction, EB-discourse might not be found convincing: because on careful examination, it does not make sense.

How can we (the people) renew our collective conviction that what healthcare does about illness is correct? EB-discourse, to simplify, provides two options. We can convince ourselves by thinking from the top down, bringing macro-scale data to bear on individual instances of illness after its occurrence. EBHC lets us use our knowledge of the forest to understand each tree within it. Alternatively we can think from the bottom-up, interpreting the micro-scale mechanisms of illness, again after its occurrence. Clinical expertise lets us understand each tree without classifying and checking its relation to the whole forest. Neither of these sides can be quite right. Neither makes sense except in comparison to the other. But they seem to exhaust all the reasonable possibilities for thought, and so set the conditions for a discourse which circulates indefinitely.

To borrow another philosophical metaphor (from Kuhn 1962) this paradigmatic discourse directs us to problems which, within the existing social-structural framework, we act as if we can solve. It directs us away from more imaginative thinking as to how the problems which seem urgent to us are produced, and how other problems are made to seem unreachable and irrelevant. It prevents us from trying to imagine a different world. This misdirection is not achieved once and for all, but repeatedly and continuously. It is achieved by mechanisms which, because they direct our thinking, are difficult for us to comprehend. Nevertheless we can try to comprehend them even while caught in their grip.

From this perspective, the attempt to understand the mechanisms of power demands considerable effort from us as subjects to power. The attempt to understand power itself is not innocent – it always carries, however distantly, the possibility of intervention and change. Maybe if we understand power we can arrange for it to work in ways which we experience as better than the ways which we experience at present. The desire to understand, even for understanding's sake, is born of this emotion; the desire to make things as good, for everyone, as they can possibly be.

Chapter 2

Literature Review Part One.

Clinical Perspectives of Evidence-Based Healthcare.

Synopsis.

This chapter covers the historical facts of EBHC discerned from the archive of clinical-academic literature. I begin by describing the pre-history of EBM, reporting critiques of medicine from the 1970s and 1980s which, in association with various understandings of science, created a context for EBM. I then go into detail on EBM itself, which means reporting how it was thought about by different people and groups in medicine. This means telling not just what was written, but how it was written; I take note of rhetorical styles as well as conceptual content. I begin by discussing the EBMWG (1992), the Sackett school of EBM-advocates and the issue of evidence hierarchies, and the polemical anti-EBM school, typified by the *JECP*. I follow Sackett to his 'retirement' from EBM-writing, and the continuation of the controversy afterwards. I then focus on two writers – Trisha Greenhalgh and Ross Uphsur – whose writing I see as having been significant for the development of the EBM debate.

I use Greenhalgh and Upshur to create a space to unpick the fine detail of EB-writing. In these passages I anticipate issues which are addressed in later chapters – relating Greenhalgh to rhetorical techniques and language-games, Upshur to the philosophication of debates about EBM, and both of them to the balancing-up of sides in the debate. Expanding the view of evidence-basedness outside the boundaries of medicine, to physiotherapy, I then give an overview of proceedings there which also serves to introduce themes that later become focal points for analysis. These include the internal-professional dynamics of EBP, which have been different in physiotherapy from in medicine; the suppression or expression of resistance and criticism; and the use of purely-political arguments, as opposed to practical and scientific ones, for or against EBP. This section unsettles the common sociological presumption that EBHC is only about medicine and EBM. Physiotherapy is established as a comparison-case which is used in later chapters.

2.1 Introduction.

This chapter tells a story of evidence-based healthcare (EBHC) as a sequence of literary events which took place from 1992 onwards. Before reporting the details of those events it is necessary to provide a context in which they can be understood. This is to demonstrate that EBHC is not detached from social history but continuous with the circumstances in which it developed. It did not arise anomalously as a chance occurrence, but as an explicable consequence of social proceedings. Indeed it was foreseen by sociologists, and in this foreseeing, sociology (with other disciplines) was itself implicated in the beginnings of EBHC. While identifying social and sociological contexts, and describing them in generous detail, I try to keep from analysing the literary events of EBHC at this stage. The first task is to provide a thorough report of what can be shown to have happened. Possibilities for the interpretation of these events will be explored in later chapters.

I begin by explaining how in a pervasive context of perceived threat to medicine, tension between ideas of science and of medicine gave rise to clinical epidemiology, and by association, to evidence-based medicine (EBM). It is important to recognise here, as a forerunner to considerations of science in later chapters, that an invocation of science is indeed important in the genesis of EBHC. A paradox appears, however: for the majority of the chapter is devoted to a report of clinical writing about EBHC in which the issue of science appears only sporadically, and always in entanglement with other concerns. The strategy I adopt is to give a broad flavour of clinical EB-literature, and to point out sociologically-interesting features as they arise. The chapter thus moves through four phases: a section on social contexts for the advent of EBHC; a section on polemical writing about EBM; a section on development of less polemical styles in medicine; and a section on EBP (evidence-based practice outside of medicine, for which I use physiotherapy as a case-study).

2.2 Before EBM.

Medicine, science and governmentality.

I begin the story twenty years before EBM, with Archie Cochrane's *Effectiveness and Efficiency: Random Reflections on Health Services* (1972). This work is often presented as a modern precursor

of EBM, and Cochrane identified as EBM's founding father[1]. However, while there are elements of *Effectiveness and Efficiency* which correspond directly with EBM – particularly the advocacy of RCTs as the totemic research method for medicine – there are other elements which make the connection problematic. For example, Cochrane's moral agenda and explicit concern with the cost-effectiveness of the NHS is at odds with claims made to cost-indifference and political disinterestedness in early versions of EBM. Cochrane's exhortations to statistical research are mixed with expressions of antipathy towards the NHS, such as this one:

> 'This was a national organisation which from one point of view could be seen as giving a blank cheque to both the demands of patients and the wishes of doctors.'
>
> Cochrane 1972:9.

These come alongside other ideological observations, casually given, which can be seen as politically insensitive:

> 'We would, I think, be well advised, before encouraging everyone to give up smoking cigarettes, to control our population increase. (…) It seems not unreasonable to try out a few possibilities now such as birth control and abortion.'
>
> Cochrane 1972:28.

Such 'random reflections' as these are indicative of the moral imperative which explicitly motivates Cochrane's project. They illustrate the importance of governmentality and population-surveillance in his manifesto for a radical clinical epidemiology. This does not match up with the assumption (which was to become widespread) that Cochrane's concern was to oversee the scientisation of medicine for science's sake, and his retrospective elevation to the status of scientific visionary[2]. A scientific aesthetic is part of this picture; but it is bound to the politics of criticism of state medicine and the government of populations. Cochrane espoused a particular species of science – quantitative epidemiology – in support of a quintessentially moral vision.

Cochrane's was not the only mainstream 1970s critique of medicine. Where his *Random Reflections* offered suggestions for how to improve medicine's effectiveness and efficiency, others

[1] The introduction to the 1999 edition of *Effectiveness and Efficiency* makes this connection explicit. A worldwide movement to accumulate RCT-evidence, founded in 1993, had been named in Cochrane's honour (the Cochrane Collaboration).
[2] See, for example, Kelly and Moore (2012).

were more generally suspicious of medicine as an institution. Chicago-School sociologist Eliot Freidson (1923-2005), for example, became a leading figure of a genre corresponding with this suspicion – the sociology of professions. Beginning with *Profession of Medicine* (Freidson 1970) and ending with *Professionalism: the Third Logic* (2001), Freidson has written prolifically on the social operation of the medical profession which, frequently-quoted, he characterised as being 'blind to its own shortcomings' (1970:371). He characterised medicine as seeking 'to create social meanings of illness where that meaning or interpretation was lacking before' (1970:251), and sketched a moral economy in which medicine, and doctors, are grasping, opportunistic and predatory.

Ivan Illich's *Medical Nemesis* (1975) was still more scathing. In this text, Illich turned the language of medicine against it, characterising it as an 'epidemic' (1975: chapter 1) which is at best useless, at worst a systematic infliction of injury on defenceless patients. Although polemical, Illich's text was symbolic of an apparently far-reaching loss of faith in modern western medicine. Its foundations are statistical, the early pages being extensively footnoted with population-data to demonstrate medicine's inefficacy. Here, in contrast to Cochrane (1972), numerical-scientific evidence is not the saviour of medicine, but its chief torment. Science cannot rescue medicine from charges of malevolence, but can only expose the moral corruptions of medicine with especial clarity. In relation to this question of science, Freidson (1970:251) had separated science from medicine in that being 'a consulting rather than a scholarly or scientific profession, medicine is committed to treatment rather than merely defining and studying man's ills'.

Cochrane, Freidson and Illich each imagine a different set of relations between medicine and science. Cochrane and Illich both include a distinctively quantitative-statistical science in their arguments; the former to protect medicine, the latter to attack it. Statistical critique of medicine was to be expressed with particular authority in the UK with the publication of the Black Report (1980). The Black Report demonstrated that socioeconomic inequalities are systematically related to differential outcomes for health. To put this more pointedly, the immediate medical causes of ill health – biochemical processes, exposure to harmful substances, supposed genetic predispositions – are enveloped within a prior social cause, specifically, the condition of (relative) poverty. This suggests that medicine itself has a political role; it is the treatment of

health problems at *great expense* and *after their occurrence*, done in such a way as to compensate for, and so to naturalise and disguise inequality[3].

The argument from health inequality has a different character from those which criticise medicine for failure to succeed on its own terms. It encourages thinking not in terms of how medicine can be better made to fulfil its current social-structural purpose, but how it can be re-imagined as thoroughly political. Medicine is made suspect for being part of the ideological fabric of an unfair society. The raw material for a health industry is people who become ill not at random, but systematically and regularly. The industrialised treatment of these patients is associated with the circulation of huge portions of economic capital. Recovered patients are released back into the social world, potentially to become ill and begin the process again.

This argument cannot be offset by scientific improvements to medicine: health services could be impeccably efficient and completely effective, and yet still be part of a system founded upon unequal relations. This contrast illustrates two poles of critique of medicine: one an instrumental critique (typified by Cochrane), the other an ideological critique (from health inequality), with others (Freidson, Illich) situated somewhere between the two. The significant point here is that in the 1970s and 1980s medicine was the target of multiple critiques; but only the instrumental critique became systematically influential, being channelled into EBM. A rhetoric of science has been a key element in separating these critiques, and elevating the instrumental critique above the ideological.

The Encirclement of Medicine and Quest for Medical Science.

Different strands of criticism of medicine in the 1980s were identified by Phil Strong in his article on 'the academic encirclement of medicine' (Strong 1984). Strong's focus is on the relationships between medicine and academic disciplines. He outlines models for this relationship which vary through the degree of equality between medicine and other disciplines, and the exchanges of knowledge, expertise and money between them. Strong creates an impression that critique of medicine can be subverted or neutralised by various means, and that disciplines compete against each other for rights of access to medicine. Medicine, in the middle

[3] The general figure of 'the patient' – the subject of medicine – is visible to this type of epidemiology. They are statistically describable as being, on average, of lower socio-economic class.

of this web of political intrigue, becomes all the more stable and secure. Apparent threats to medicine become stimuli for its preservation through managed change.

Strong concludes that genuine changes to medicine are more likely to be brought about by large-scale changes in the structure of societies and nation-states than by the efforts of particular disciplinary groups, whose concerns are to wear the crown of medical power, or to sit by the throne, rather than abolish this monarchy. There is one disciplinary group who, being adaptable to the perfidy of interdisciplinary relationships, emerge as front-runners in the race to assume the mantle of medicine. Statisticians, whose fluency in the powerful language of quantities allows them to translate their own objectives to mesh with those of any other discipline, are identified as having already made inroads into the medical power-base. A single technological invention – the randomised-controlled trial (1984:344) – accounts for this success. The RCT plays directly to the needs of pharmaceutical companies and treatment purchasers. Expertise in the administration of clinical trials puts statisticians in a strong position to strike bargains between their own disciplinary interests and the interests of medical people.

In the history of medicine, Strong (1984:355) subordinates science to politics. He notes that earlier waves of 'therapeutic nihilism' had resulted not in decreases, but increases to the prestige of doctors, aided by scientific ideologies. He explains that it was not until powerful parties had political, *rather than* scientific, reasons to institute change, that changes in the structure of medicine were instituted. Here medical and governmental power are placed in tension with scientific knowledge imagined to be pure. Foucault (1977:109), who generally took a cautious approach to questions of science, linked his interest in medicine precisely to its ambiguous scientific status. In 'Truth and Power', he explained his focus on psychiatry and medicine as follows:

> 'if, concerning a science like theoretical physics or organic chemistry, one poses the problem of its relations with the political and economic structures of society, isn't one posing an excessively complicated question? (…) But on the other hand, if one takes a form of knowledge like psychiatry, won't the question be much easier to resolve …?'
>
> Foucault 1977:109.

Georges Canguilhem (an early influence upon Foucault) had also been interested in the stable workings of medicine as an apparent science (see Tiles 1993:729). Mary Tiles summarises Canguilhem's philosophical understanding of medicine as follows:

> '..medicine [is rendered] distinct from sciences such as physics or chemistry (…) for here the patient, or man as potential patient, is both subject and object of study.'
>
> Tiles 1993:740.

While philosophers engaged theoretically with the problematic relations of medicine to science, there were those closer to medicine who pursued a more practical response. Professor Alvan Feinstein offered a concept of science custom-designed for the purposes of medicine:

> '… clinical decisions and evaluations can no longer be satisfactory if they depend on anecdotes and undocumented judgement (…). A suitable scientific approach is needed (…). *Clinical Epidemiology* is the name of the new intellectual domain that provides the basic scientific methods needed for decisions and evaluations in modern medical care.'
>
> Feinstein 1994:233.

Clinical epidemiology as conceived by Feinstein was an attempt to solve the problem of science-for-medicine[4]. His, Foucault's, Canguilhem's and Strong's accounts, as well as those of Cochrane, Illich and Freidson discussed above, demonstrate that science is important to sociological questions of medicine and EBM; but that the nature of this relation is complicated.

2.3 Early-Stage Medical EB-literature.

The Beginning of EBM.

The phrase'Evidence-Based Medicine' as a re-styling of clinical epidemiology was coined in 1992 (EBMWG 1992). Peter French (2002:253) demonstrates that after 1995, following a period of contemplation, literature making reference to EBM proliferated dramatically, so that by 2001 there were 5,612 publications on Medline[5] which included the term. Many of these were not specifically about EBM but were clinical studies for which the status of Evidence was claimed; but the number shows that the term had acquired popular currency in a short space of time. In 2010, Andrew Turner reported at MedSoc[6] some preliminary findings from a database

[4] Feinstein was cautious as to the transposition of knowledge from populations to individuals; but his clinical epidemiology was to be assertively transfigured into evidence-based medicine, EBM. Feinstein (in 1997) strongly dissociated himself from this development ; but by 1997, the cultural power of EBM was becoming established without need for his approval.
[5] A freely accessible, US-based database of biomedical research.
[6] BSA Medical Sociology Group, 1-3 sept 2010, Durham.

he had compiled of around 3,000 articles specifically about evidence-based healthcare practices. By July 2012, Sackett et al's (1996) definition of EBM had been cited more than 7,500 times, according to the publicly-accessible search-engine, Google Scholar.

The precursors of EBM can be traced as offshoots from Feinstein's clinical epidemiology. For example, Haynes, Sackett and Tugwell[7] (in 1983) had signalled their intentions with a piece on 'problems in the handling of clinical and research evidence by medical practitioners'. Here, Haynes et al identify clinicians as problematically incompetent in the interpretation of research, criticising them for their 'ambiguous argot of clinical equivocation' (1983:1971). Subsequently Guyatt and Sackett et al (1988) described a method (the N of 1 RCT) by which clinicians were encouraged to cultivate an experimental mindset in relation to individual patients. As well as being a prototypical form of EBM, this piece foreshadows the rhetorical features which were to become a theme of medical EB-writing. It is postscripted with the following stand-alone quote, not explained or commented upon:

> 'We are young when we expect variety, and indeed anything that promises variety or seeks change has youth. It is a curious paradox that we desire stability for our plans and require change for our souls' sake.'
>
> Guyatt et al 1988:503.

This paradox captures the changes the authors had in mind for medicine. Large changes were to be proposed, and changes which would allow for the expectation and desire for change to be stabilised and institutionalised; but at the same time, changes which would stabilise medicine and allow its institutional position to remain fundamentally unchanged.

The vision for change was set forth definitively by the thirty-one members of the evidence-based medicine working group (EBMWG 1992). In this article, the replacement of The Way of the Past (marked by intuition, unsystematic experience and pathophysiologic rationale) with The Way of the Future (marked by evidence from clinical research) is narrated (1992:2420). The authors claim for this transition the status of a Kuhnian Paradigm Shift[8]. They specify a Former Paradigm, under which clinical experience, pathophysiologic principles and 'traditional *scientific* authority' held sway, and a New Paradigm under which these authorities are rejected (ibid:

[7] Their textbook 'clinical epidemiology: a basic science for clinical medicine' (1st ed. 1985) had its third edition in 2004.

[8] The Kuhnian Paradigm Shift is here invoked in support of a claim for scientific status, rather than in critique of orthodox linear or cumulative concepts of scientific progress (see Kuhn 1962). The claim was rebutted damningly by Couto (1998).

emphasis added). The New Paradigm lessens the value placed on Authority in general and emphasises physicians' regular consultation of 'original literature' and development of independent appraisal skills.

In this context of proclaimed Newness, there is a simultaneous re-instatement of certain traditional and clinical knowledge which 'can never be gained from formal scientific investigation'. Pathophysiological Understanding remains necessary to judge the applicability of research results, and as a 'conceptual aid'. Likewise, emotional sensitivity to patients' needs is emphasised. These elements are subordinated, nonetheless, to the enthusiastic learning of New Skills in Role Modelling, Critical Appraisal and recognition of Criteria for Methodological Rigour (or 'Rules of Evidence' – quotes 1992:2421). In Role Modelling, the ability to specify (quantitatively) the strength of evidence for clinical decisions, for example 'how many patients one must treat to prevent a death'[9], is important for inculcating in others a positive attitude to EBM (1992:2422). Critical Appraisal requires that clinical problems be seen as appropriately receptive to being 'sorted out (…) by going to the original literature' (1992:2423). Methodological Rigour is divided into criteria for diagnosis, treatment and review.

'Barriers' to the dissemination of EBM are addressed from the outset. For the most part, these are classed as misapprehensions and misinterpretations of EBM which can be corrected by careful explanation (1992:2423). Where people perceive EBM as a threat, or as an inefficient use of clinical time, it is a problem of attitude and aptitude (and an inclination towards convenient 'Cookbook Medicine'), to be resolved by effective Role Modeling and development of Appraisal Skills. Barriers to the practical implementation of research findings are considered as problems purely of accessibility and institutional constraint; these are expected to dissolve in time as EBM is progressively systematised.

David Sackett and the *BMJ*.

After the EBMWG piece, David Sackett began to write as an editor of the *BMJ* (see Sackett 1994; Sackett and Cook 1994; Milne and Sackett 1995; Cook and Sackett 1995[10]), indirectly arguing the case for EBM. From 1995 onwards, such articles became more frequent and more direct. For example, Sackett and Rosenberg (1995), 'on the need for evidence-based medicine', is a

[9] The 'Number Needed to Treat': see Cook and Sackett (1995).
[10] See also Sackett and Rennie (1992) in *JAMA*.

passionate espousal of the virtues of EBM. Davidoff, Haynes, Sackett and Smith (1995) celebrated the launch of the journal *Evidence Based Medicine* in an editorial for the *BMJ*[11]. Collaborators of Sackett's also produced similar pieces among themselves, an example being Rosenberg and Donald's (1995) 'EBM: an approach to clinical problem-solving'.

These articles provoked a quick and broadly negative response in the letters pages of the *BMJ*. Dearlove et al (1995) argued the inappropriateness of EBM for investigating certain clinical scenarios, specifically pain relief and side-effects of medications. Rowland and Shanks (1995) called for a broadening of the restrictive concept of clinical effectiveness to include patient satisfaction. A *Lancet* editorial (1995:785) 'deplored attempts to foist EBM' on medicine and admonished its advocates for getting above their proper position. Pearson et al (1996) expressed disappointment at EBM-advocacy being conducted largely through commentaries which themselves were unreferenced and unsubstantiated. Smith (1996) expressed reservations over the many types of evidence excluded from EBM. Others raised concerns over issues of ethics and scientific credibility (James 1996), publication bias (Dearlove et al 1996), decision-analytic clarity (Dowie 1996), equity and cost (Maynard 1996). Andrew Miles (1995:258) described EBM's development as 'inexorable' in the *BMJ*, while announcing the inauguration of the *Journal of Evaluation in Clinical Practice*, discussed below.

Sackett et al (1996) responded to these criticisms with 'Evidence-based medicine: what it is and what it isn't'. The signature motif of this piece is one of *integration* – the combination of different forms of knowledge into practice. This was, due to the definition given for EBM, to become comfortably the most heavily-cited piece in EB-literature[12]:

> 'EBM is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients.'
>
> Sackett et al 1996:71.

This definition has qualities which have made it the choice option for writers to explain economically what they mean by EBM. Other efforts to produce a pithy elucidation of EBM, for example Rosenberg and Donald's effort:

[11] *Evidence Based Medicine* carried mainly reports RCTs and meta-analyses, not arguments for EBM, which were conducted elsewhere.
[12] To July 2012, it had 7,448 citations on Scholar Google.

> 'EBM is the process of finding, appraising and using contemporaneous research findings as the basis for clinical decisions.'
>
> Rosenberg and Donald 1995:1122

have not been well retained. Later on, French (2002:253) produced a selective review of 14 definitions which had fallen into disuse, and used this to support an argument that EBM is, essentially, a meaningless term. Others would also mount critiques of EBM on this theme of meaninglessness, even while themselves doing much to invest EBM with meaning (eg. Loughlin 2009b, Charles et al 2011).

In Sackett et al's (1996) definition of EBM, the meaning of 'evidence' is not developed (it is the same word at both ends of the definition). In early discussions of EBM (eg. Sackett and Cook 1994) evidence is centred upon a particular type of pharmaceutical research associated with clinical epidemiology; the randomised-controlled trial (RCT) and the 'meta-analysis' of multiple RCTs. Sackett et al (1996:72) take up this discussion in their penultimate paragraph. Here are the key points of their view:

> 'EBM is not restricted to RCTs and meta-analyses. (…) When asking questions about therapy we should avoid non-experimental approaches (…). The RCT has become the 'gold standard' for judging whether a treatment does more good than harm. (…) If no randomised trial has been carried out for our patient's predicament, we must follow the trail to the next best external evidence (…)'.
>
> Sackett et al 1996:72.

What is presented here, amid other things which EBM is not, is something which EBM is not restricted to; it is not restricted to RCTs and meta-analyses. But explicitly, it is in relation to RCTs and meta-analyses that the value of other evidence sources is to be judged.

This stance was elaborated in an editorial by Sackett and Wennberg (1997), under the sub-title 'It's time to stop squabbling over the "best" methods'. They criticise propensities towards disputation of methods in themselves, and the neglect of reference to 'the question being asked' which, they argue, '*determines* the appropriate research architecture, strategy and tactics to be used – not tradition, authority, experts, paradigms or schools of thought' (1997:1636, emphasis added). In this opening section, Sackett and Wennberg deny any space for interpretation or flexibility in empirical activities; methods are a direct consequence of questions. They renounce

the legitimacy of any other influence on methods; not just the usual bugbears of EBM (tradition, authority and experts) but any human agency at all (paradigms and schools of thought are excluded). They begin the debate, then, by occupying a nihilistic attitude towards any kind of discussion over research methods, before proceeding directly to just such a discussion.

Evidence Hierarchies and the Qualitative/Quantitative Divide.

When the above exchanges were taking place in the *BMJ*, the same writers and others had elsewhere been working with ideas of the relationships between research methods, and formalised them into *hierarchies of evidence*. An early example is Cook et al (1992)[13] in the journal *Chest*. These authors first make a direct opposition between validated results from RCTs and from clinical experience, cataloguing the reasons (related to placebo effects, natural tendencies to recovery, and bias) why experiential knowledge is unreliable. They construct a hierarchy without any reference to qualitative methods which would access such experiential knowledge, as follows:

Level I:

- Randomised trials with High Power (low false-positive and false-negative error).
- Meta-analyses of high-quality trials.

Level II:

- Randomised Trials with Low Power (high error).

(these may be combined meta-analytically to yield Level I evidence).

Level III:

- Non-randomised concurrent cohort comparisons (subject to bias).

Level IV:

- Non-randomised historical cohort comparisons (subject to bias and systematic temporal differences).

Level V:

- Case series' without control subjects.

Cook et al 1992:306S-307S.

This hierarchy is focused on methods in which truth is investigated as being independent of the contextualised and qualitative interpretations of both patients and clinicians. Other hierarchies

[13] David Sackett is the fourth listed author of this paper.

would include qualitative methods, but always at lower levels; either distinct from, or as an accessory to, clinically-applicable quantitative data. One such is from Hadorn et al (1996), for whom the problem of taxonomising methods is more easily reducible to the avoidance of bias. Their hierarchy runs thus:

Section A

-Level 1. Multi-centre RCTs of over 100 patients; meta-analyses with quality rating.

-Level 2. Single-centre RCTs under 100 patients; meta-analyses of such.

-Level 3. Well-conducted cohort studies, meta-analyses of such.

Section B

-Level 4. Well-conducted case-control studies

-Level 5. Poorly-controlled experimental studies; potentially biased observational studies; case-reports.

-Level 6. Studies conflicting with the weight of evidence.

Section C

-Level 7. Expert opinion.

Hadorn et al 1996:750

The highest level attainable with qualitative data in this hierarchy is level 5, and qualitative investigative methods remain excluded. The purely qualitative category (expert opinion) is admitted only at the bottom rung, so as to be marginalised; even badly conducted experimental studies (level 5) are thought preferable. Also notable is the implication that evidence is judged in the light of an already-known 'weight' of other evidence, as supportive or conflicting (level 6). Efforts to produce similar hierarchies for qualitative methods have followed. Popay et al (1998), for example, outline a plan for a qualitative hierarchy based on criteria of sampling strategies, data collection and data content, theoretical perspectives, and generalisability.

Later, the value of both quantitative and qualitative hierarchies was to be called in question. Petticrew and Roberts (2003), adopting a 'horses for courses' approach, advocate the replacement of hierarchy by a matrix, or typology of health-research types. Evans (2003) builds a hierarchy around standards of effectiveness, appropriateness and feasibility for interventions. In broadening the hierarchy and de-emphasising RCT research, he also presents it as 'a guide rather than a set of inflexible rules' (2003:83). Pope et al's (2007) textbook-guide is concerned with the 'synthesis' of methods, and less committed to rigid hierarchisation and categorisation. Although the earlier quantitative hierarchies might, as Roberts (2006:123) says, have been

'largely discredited and rarely used except to prop up straw men', the idea of hierarchy remains important in developing discussions of evidence. Daly et al (2007), for example, expand quantitative hierarchisation-principles into qualitative cases. They use generalisability and reliability as criteria to rate qualitative approaches for evidential applicability, just as if they were quantitative.

The *Journal of Evaluation in Clinical Practice*.

The adversarial articles of Sackett and others in the *BMJ* created an opportunity for a sustained critical response. From 1995 onwards, this niche was filled principally by the *JECP* and a group of writers whose voracious antipathy to EBM produced a catalogue of objections and a rich rhetorical legacy. An editorial by Miles, Bentley, Polychronis and Grey (1997)[14] written in response to Sackett et al (1996) is representative of this genre. The attack on EBM in this piece, as a 'product of the radical chic that well characterises the personalities of many of the advocates of this new movement' (1997:83) is direct, polemical and angry. Miles et al accuse these advocates of cardinal sins against clinical medicine, concerning their uncritical devotion to science as a clinical arbiter, and presumption of the authority to identify 'best' evidence. They identify EBM with the creation of a 'bald dichotomy' which obscures practical excellence, and manifesting of a devotion to 'platitudinous principles' rather than understanding.

Mixing religious and other metaphors, they characterise EBM-advocates as the 'statistical high priests of a new *cultus*' who operate through the Machiavellian seduction of health service management (ibid). They further admonish these advocates for making claims which are 'ostentatiously biased', and mock EBM for being 'highly effective in precipitating intense irritation' (1997:84). The authors invoke a lack of evidence for the applicability of EBM except in artificially simplified cases, accuse EBM advocates of slandering clinicians who raise objections, and express the hope

> '… that (advocates) confess that not everything of value in healthcare is amenable to quantitative measurement, (and for) the screaming baby of EBM to be consigned to the nostalgic formaldehyde of medical history.'
>
> Miles et al 1997:85.

[14] This was not the first in the string (see also Miles et al 1995; Polychronis et al 1996a&b, Charlton 1997).

Somewhat incongruously however, they finish not by anticipating the fulfilment of this hope, but a continued and vigorous debate. They identify a legitimate question in relation to science, about 'whose science, how it is synthesised and with what authority changes in clinical practice (…) are judged suitable for immediate use (…) in the clinical encounter' (1997:85). The *JECP* was to contribute consistently to this debate as it grew.

Every year from 1997 up to the present, there has been an issue of the *JECP* devoted to critical writing on EBM. In the late 1990s and early 2000s, these special issues featured articles, co-authored (with others) by Miles, Polychronis and Grey, attacking EBM with vitriolic fervour[15]. Miles et al (1998) for example, developed a strand of criticism adhering to a moral principle of science:

> 'EBM is unscientific because (…) it glorifies imperfect experimental designs over clinical experience and rejects the unquantifiable in medicine (…); anti-scientific because it avoids (…) the democratic consensus-building of science (…) and manifests some of the most authoritarian stances and magisterial disdain of criticism ever seen in clinical science'
>
> Miles et al 1998:258.

In the same article, the authors position themselves heroically as spokespeople for a silent majority of medical colleagues, who are prevented by fear from arguing against EBM, and who find themselves alienated and vilified by the practices of non-clinical researchers and their supporters.

Repeating their own (1997:84) caricature of EBM-advocates as 'dazzled scientists who set out to dazzle, rejoicing like aerobatic children vaulting through the statistical stratosphere', Miles et al describe meta-analyses (1998:259) as 'the unacceptable face of statisticism' which insists on combining data without justification. They declare that clinicians are 'likely to receive these studies like garments from a plague village'. In Miles et al (1999:98), they suggest that insofar as EBM had made gains, it was due to 'a predilection for rhetorical wordplay' which had temporarily obscured its 'unsure philosophical and methodological foundations'. But again, while finding little to recommend EBM, and predicting its imminent demise, they end by stating that the debate was not concluded, and that its continuation was of vital importance. They dedicate the edition to doctors who are 'passionately concerned with the preservation of noble hippocratic ideals' (1999:101).

[15] A selection of 'Miles et al' pieces are given in the references section.

2.4 Developments in the Literature of EBM.

The Quarrelsome and Contrary Nature of Medical EB-literature.

In a developing debate which is academic, and concerned with acts of caring for people who are ill, the rhetorical character of these exchanges ought to attract sociological attention. Calling for an end to rhetorical wordplay is an incongruous move for the *JECP* writers to make. While Sackett and colleagues had a stirring literary style, it is Miles and colleagues who are the more ostentatious in their deployment of poetic flair. The care they take in constructing baroque put-downs and brickbats for their adversaries equals the domineering proclamations made in the name of EBM. After Onion and Walley (1998), Miles et al identify a beneficent Practical School (PS) which prioritises clinical knowledge, and a nefarious Scientific School (SS) of EBM'ers, which degrades it (1998:259). The configuration of protagonists of EBM as the 'SS' has a symbolic connotation with nazism[16].

Such underhand rhetoric as this indicates tension between a jocular type of masculine rivalry, and more vicious ill-feeling. The cocktail of pointed sarcasm with methodological and philosophical theorising, politicised posturing and academic presentation makes for a disorienting reading experience. The early publications of the *JECP* offer a vivid insight into an intense mixture of concerns expressed during the early years of EBM. Sackett's (1997a) article in the *Lancet*, 'evidence-based medicine and treatment choices', demonstrates the contrast of rhetorical style with the *JECP* cohort. Here Sackett uses a dramatic narrative to respond to Maynard's (1996) critique that EBM is naive to issues of cost-management in healthcare.

In this anecdotal scenario from Sackett's experience, a patient is dying of cancer, and their last hours are skilfully and compassionately managed. Clinicians balance an ethical imperative (the patient's wishes) against the high cost of keeping them alive, in an evidence-based way. The confident re-assertion of EB-principles in an emotionally-difficult situation comes with strategic aggression, as Sackett sardonically invites Maynard to join his clinical team (1997:570). The cadence of this article, and selection of such an emotive dramatic example, leaves the reader without time to draw breath. As the narrative hurries along, Sackett leaves no room for any 'what-ifs' or critical analysis. Through skilled storytelling, the cause of EBM is furthered theatrically and with charisma, but without addressing the issues which had been causing controversy.

[16] This foreshadows a controversy over 'micro-fascism' instigated by Holmes et al (2006), in the context of evidence-based nursing.

Another curious thing about EBM literature from the *BMJ* and the *JECP* is the encompassing tendency of each faction to self-reference. For example, Haynes and Haines (*BMJ* 1998), in a short article on 'barriers and bridges to evidence based clinical practice', draw upon twenty-nine other articles. Of these, more than half (seventeen) are from sources associated with EBM advocacy: the *BMJ*, *JAMA*, the *Annals of Internal Medicine*, *ACP Journal Club*, *Evidence-Based Medicine*, *Archives of Internal Medicine*, and *The Cochrane Library*. Nine are co-authored by one or the other of Haynes and Haines themselves. None are from sources critical of EBM, even though by 1998, there was no difficulty in accessing critical literature. Conversely, Miles et al's later (*JECP* 2006) 'state of the debate' article made reference to forty-seven others. Of these, forty-four were from the *JECP* and thirteen featured Andrew Miles as a lead or co-author. Just one pro-EBM article was included: the EBMWG (1992).

These attributes suggest a highly polarised debate, and a lack of acknowledgement by each camp of the contribution of their interlocutors[17]. The *BMJ* and *JECP* were, it is also notable, not the only places where EBM was discussed. A heavily-cited[18] summary of early criticism of EBM is Feinstein and Horwitz (1997) in the *American Journal of Medicine*. This article highlights a continued legitimate practical reliance on types of evidence other than RCTs and meta-analyses. Because it makes individual cases invisible, Feinstein and Horwitz explain, RCT data lacks the fine detail which would make it clinically useful. The combination of RCTs into meta-analyses glosses clinical variations further, and camouflages the systematic patient selections and exclusions which are made in large-scale trials. This conjures a new subject, the averaged patient, who is clinically unrecognisable. The logic used to make clinical decisions consequently reverts to an understanding of causal mechanisms – or as they are known in the literature, pathophysiologic principles.

These pathophysiologic principles are inseparable from individualistic parameters which must be assessed in the light of contextualised experience. With these factors recognised, the certainties to which advocates of RCT methodology are argued to aspire[19] seem likely to be transient (they have a 'coffee future' (1997:532)). For Feinstein and Horwitz (1997), EBM thus presents a dual threat to good practice; by suppressing clinically-relevant methodologies, and by diverting clinicians away from their patients and into the library. On the subject of authority in EBM, they further explain how faceless presentation, particularly of meta-analyses, disguises the acts of

[17] This is characterised as 'denial rather than refutation' by Goodman (2000).
[18] 470 citations on Google Scholar, Sep 2012.
[19] The issue of whether EB-advocates really do aspire to timeless certainty is discussed in the appendix.

interpretative judgement used by particular (yet difficult to identify) individuals to produce them. This means that claims made for EBM to transparency and egalitarianism are unjustified.

Finally they highlight the potential abuse of EBM for corporate or private ends. This is consonant with their view of the 'dogmatic authoritarianism' of those who coerce EBM into practice, particularly by withholding support for preventive and prophylactic (rather than curative) interventions not suitable for RCTs (1997:534). Coming from Alvan Feinstein, the founding-father of clinical epidemiology, these criticisms (ironically) carry an authority of their own. Also notable in this piece is a transition from an argument based on knowledge-translatability and a philosophy of practice, to a political and moral argument. EBM comes to be presented as a conspiracy among different kinds of potential corruption.

These issues can be found expressed (although perhaps less succinctly) by others in the *JECP* and *BMJ*. This can highlight that the *BMJ* was not purely pro-EBM in the way that the *JECP* was, to begin with, anti-EBM, a point well illustrated by David Grahame-Smith's (1995, *BMJ*) piece, 'evidence-based medicine: socratic dissent'. Here Grahame-Smith imagines a dialogue between a naïve Socrates and a cheerleader for EBM, Enthusiasticus Meta-analyticus. This comic set-piece masks an earnest dialogue in which Socrates exposes the flaws in Enthusiasticus' outlook[20]. In the last two sentences Socrates warns of a deadly danger:

> 'Beware, Enthusiasticus, that you are not used as a dupe in a political game of health economics. Remember, hemlock may be down the line.'
>
> Grahame-Smith 1995:1127.

Through the later 1990s critical literature on EBM proliferated, and frequently communicated this suggestion of edginess, urgency and threat.

The Continuation of Well-Rehearsed Debates.

In the later 1990s EBM-advocates still made regular appearances, and also manifested a sense of threat, or aggression, in different ways. An example is Straus and Sackett's (1999) 'applying evidence to the individual patient', in the *Annals of Oncology*. Here, Straus and Sackett pursued

[20] Grahame-Smith (1998) later wrote a chastened piece expressing some regret for his earlier daring – which had 'got (him) into trouble' (1998:7) – but in which he nevertheless identified himself with a critical position on EBM. The trouble alluded to has to do with Grahame-Smith's (1998:7) claim to have written his (1995) dialogue with his tongue in his cheek.

their (1996) theme of integration to answer the charges of incommensurability between epidemiological data and clinical practice. They use a specific clinical scenario, that of a 65-year-old man with lung cancer, and describe a step-by-step process for his evidence-based treatment. This involves a successful literature search; a favourable comparison between the patient and the ones in the study found; a favourable consideration of feasibility of treatment (chemotherapy); a favourable consideration of likely benefits and risk factors; and a process of 'decision support' which recruits the patient into the decision to proceed with treatment, or not (1999:29-31).

The majority of this article is given over to the discussion of decision support – ways to 'enhance the communication of evidence to the patient' because – after all – 'he is the one with the disease' (1999:31). The matter here is the likelihood of different responses being achieved through different means of presentation. For example, it has been found that patients are more likely to prefer chemotherapy over surgery if presented with a probability of dying, as opposed to a probability of living. Straus and Sackett (1999) thus choose a simple (single-pathology, clear diagnosis) case to develop their formulation of evidence-based care. They choose a case for which a trusted meta-analysis is available, and they choose a therapeutic technique which is well-established. They direct the substance of their discussion away from any EBM-related controversy towards the manipulation of the naive patient into a narrowly-restricted choice. The active process of establishing the context and precedents for the scenario described is obviously, not carefully, hidden from view.

From the point of view of the debate which had been developing, this response is aggressively provocative. The formulaic proceduralisation of EBM given is simplistic, and the configuration of patients' input purely in terms of rational-numericised strategy disregards patients' own decision-making resources in a way likely to attract concern. Meanwhile, the channelling of a general debate into consideration of such a specific and limited scenario is frustrating for those familiar with the exchanges in other sections of the literature. And the neglect to address criticisms of EBM, such as political objections raised and accusations of moral improbity, is suspicious. It is of sociological interest that EB-advocates would write something which plays directly into the hands of their respondents, adding more incendiary fuel to a fire of controversy which was already burning vigorously.

The story of Dr David Sackett has a nominal finishing-point. In the latter 1990s Sackett had been engaged in re-stating the original terms of EBM. 1998 saw two pieces written with Sharon Straus. 'The evidence cart' (Sackett and Straus 1998) is a suggestion for how to enable the use of

research evidence in hospital wards; by having a trolley, stocked with printed information, ready to hand. 'Using research findings in clinical practice' (Straus and Sackett 1998:339) meanwhile, steadfastly repeats the model for EBM; 'evidence can be applied efficiently and effectively to our patients' problems'. Sackett's role in EBM had by now been well-served, and others were positioned to sustain the debate in other ways. He made his exit with a further flourish, and a return to rhetorical form. 'The sins of expertness and a proposal for redemption' (Sackett 2000) is autobiographical and confessional, reflecting on a career spent as an expert. It subverts the religious themes (of sin and redemption) which had been used elsewhere to belittle EBM.

As Sackett here renounces his own expert status, and pledges never again to speak of EBM, he makes a martyr of himself. He urges other experts to relinquish their prestigious positions, and in doing so makes a bid to enshrine his own place as a charismatic, even immortal leader of a movement. This could put one in mind of religious stories of heroic self-sacrifice, were it not so tongue-in-cheek a move to make. While Sackett would not write again using the terms of EBM, he continued the polemic against expertise (Sackett 2002a) in a barely-disguised continuation of themes from EBM. In 'clinical epidemiology: who, what and whither' (Sackett 2002b) he addresses his own legacy, situating himself in relation to Feinstein and presenting EBM as a successful, victorious, and finished project. The discussion was not finished, but Sackett's place as its chief instigator was well-established.

With Sackett having thus spoken, articles re-stating the case in favour of EBM became less common, but articles debating the issue of EBM did not. The *JECP* in particular prolonged the discussion without the necessity of further advocacies in other journals, and began itself to feature more moderate accounts, even if accompanied by critical commentaries (see for example Jenicek 2006 and Upshur 2006). Alongside conscious maintenance of the controversy, a thawing of oppositional relations was sometimes apparent. Lake (2006 in *JECP*), for example, purveys a gently ambivalent management of possibilities, using mollifying language and cliché to validate both sides of the argument:

> 'Unfortunately it would appear that there are now opposing camps with entrenched positions suggesting that the time is right for a fresh approach to facilitate a move forward but not throw the baby out with the bath water.'
>
> Lake 2006:433.

Articles authored (with others) by Andrew Miles from this period of post-Sackettism show that such equivocation could still have a hard edge. Miles et al (2004) is victorious in tone, looking back on EBM as a necessary debate which had 'done medicine a great service', but only because it was a nonsense which had clarified how medicine should not be understood (2004:138-9). Miles et al (2006) is a re-invigorated attack on EBM, in which the 'almost sexual excitement some colleagues appear to experience when hearing the words 'evidence-based'' (2006:244) is made fun of. Miles et al (2008:639) confide that EBM 'lies in ruins', but nevertheless re-state their determination to progress the debate, which is being displaced by an unforeseen concern for patient-centred care.

An Escape from Polemic: Trisha Greenhalgh.

While the *JECP* school sought to continue the controversy in the same stylistic and conceptual terms, other figures had been steering it in different directions. A comparison can be drawn between Trisha Greenhalgh (who wrote at first for the *BMJ*) and Ross Upshur (who wrote later for the *JECP*). Her textbook 'how to read a paper' (1997, published by *BMJ*) has been a commercial success, whereas his status as an authority has grown more gradually through a series of journal articles. Both of them employed styles more circumspect than those witnessed above, and both negotiated ambivalent paths through EBM, becoming more openly sceptical as the years passed. Greenhalgh was a GP, whose commitment to clinically-derived knowledge is consistent through her work. Upshur was qualified as a physician, but had a prior degree in philosophy which, combined with later training in epidemiology and public health (from McMaster University, the place of EBM's inception), placed him well to develop a philosophical commentary on EBM.

Taking Greenhalgh first, Traynor (2007:303) describes her as 'once an advocate [of EBM] but later a more measured voice', which simplifies her trajectory. There were more than hints of dissent in her writing from the start, and demonstrable attempts to alter the course of EBM even while ostensibly supporting it. For example, she agitated for the 'evolution' of EBM into context-sensitive medicine (CSM) while it was still new (Greenhalgh and Worrall, *JECP* 1997). She led qualitative studies into folk models of diabetes (Greenhalgh et al 1998) – not an orthodox EBM thing to do – and in a commentary on a meta-analysis, presented an un-disguised critique of meta-analyses in general (Greenhalgh 1998). Particularly interesting is her formulation with Brian Hurwitz of 'narrative-based medicine' as an alternative to EBM built on

clinical stories (Hurwitz and Greenhalgh (eds) 1998, Greenhalgh 1999). Her article 'narrative based medicine in an evidence based world' (Greenhalgh *BMJ* 1999) can be read as keeping a foot on either side of the institutional divisions inscribed by EBM.

In this (1999) article her clinically-led perspective, supported with examples from general practice, constitutes research evidence as being always at risk of irrelevance, and redeemable only with practical expertise. She emphasises 'deductive narrative' (1999:323) as the essential framework for clinical decisions. In support of this, she treads the familiar path of the impossibility of moving from general to specific cases, but also uses a dramatic tale of her own. This is the heroic story of Dr Jenkins, whose clinical intuition led to a diagnosis-by-telephone of meningococcal meningitis, which saved a girl's life. The factor which enabled this diagnosis – 'a feat we would all be proud to replicate just once' (1999:325) – was the use of the word 'strangely' by the girl's mother. Although Greenhalgh makes an honourable mention for 'research evidence' – meaning a sound knowledge of disease characteristics – this is of a pathophysiologic, not clinical-trial type. In any case, it is clear that the doctor's personal expertise in communication was what saved the day.

Greenhalgh (1999) goes on to develop a four-fold theorisation of clinical encounter using the literary and discursive idea of 'text', and anticipates a growth of research into 'the narrative of shared decision-making' (1999:325) in which she was herself to be instrumental. In her conclusion, however, she – strangely – saves EBM from further indignity, and redeems it by making recourse to the common evidence-based literary tendency of stating what it is that she is Not Saying:

> 'Appreciating the narrative nature of illness (…) does not require us to reject the principles of EBM. Nor does such an approach demand an inversion of the hierarchy of evidence (…).'
>
> Greenhalgh 1999:325.

She explains that it is only within an interpretivist paradigm that clinicians can meaningfully draw on the concept of evidence. With a twist of lexical dexterity, Greenhalgh criticises EBM by endorsing it as something which does not make sense without a pre-existing clinical context. This is done deftly so as to disguise its critical implications.

This raises, again, a question of sociological interest. Why would Greenhalgh (1999) spare EBM in her last paragraph, having subjected it to merciless critique in her first eighteen paragraphs? To what end is such ambivalent presentation? Greenhalgh's scepticism of EBM was to become

clearer as she moved away from the *BMJ*. For example, her (2002a) 'Intuition and evidence – uneasy bedfellows?' in the *British Journal of General Practice* moves to formalise the unconscious influence of intuition on clinical action. While balancing the demands of conflicting knowledge types, she recommends 'creative writing and dialogue with colleagues' for clinicians to 'revive and celebrate clinical storytelling' (2002a:395).

Other works continue this theme: Greenhalgh (2002b) strongly advocates the inclusion of qualitative methods into the evidence-base for diabetes. Greenhalgh et al (2005), in *Social Science and Medicine*, a foray into sociological writing, advances a narrative approach to the history of research evidence. Greenhalgh and Russell (2006) is an account of health policy-making as social drama, which advocates an awareness of language-games for understanding debates about evidence. Greenhalgh and Russell (2009) is a more direct argument against evidence-basedness for policy-making, which makes a call instead for socioloinguistics and argumentation theory. Finally, Greenhalgh and Heath (2010a&b) discuss qualitative approaches to assessment of doctor-patient interactions, moving towards a surveillance of the doctor-patient relationship as the key site of clinical knowledge production.

Towards Philosophy: Ross Upshur.

I now turn attention to Ross Upshur. For those interested in the philosophical aspects of EBHC, there are few elements of interest for which reference points cannot be found in his work. His first piece for the *JECP* (Upshur 1997) is a denunciation of the use of Gödel's Proof to criticise EBM, and a recommendation to use the Quine-Duhem thesis and the pragmatism of C.S. Peirce instead. He (1997:202) explains that Gödel's proof (that mathematics is not reducible to a finite set of axioms) had been misguidedly used to argue against EBM on the basis of EBM's perceived proximity to ideals of mathematical proof. The Quine-Duhem thesis relates to the under-determination of interpretations by data which, in practical terms, means that clinicians must acknowledge the uncertainty inherent to practice: 'any sign of dogmatic certainty is a warning sign indeed' (1997:204). C.S. Peirce's abductive pragmatism offers a pathway to making clinical decisions based on the implementation and evaluation of practical *and* research knowledge, subject to continual revision, towards the 'sharpening of clinical reasoning' (1997:205).

Upshur scorns both identified sides of the debate for their epistemological intemperance, and offers a compromised model for critique of EBM. His warning against dogmatic certainty echoes

accusations made against either faction by the other, and his pragmatism puts research evidence and clinical expertise on an equal footing. EBM-critics might be suspicious of injunctions to the analytic sharpening of clinical reasoning: it was clear from other writings that clinicians felt that they should be the ones to sharpen their own reasoning, if indeed such sharpening was necessary. Upshur's recondite article is a departure from the hubristic writings of those he criticised, to the extent that neither can be comfortably taken at face value. The use of mathematical theorems to argue against EBM is, perhaps, to be read in the same climate of dramatic hyperbole as the EBMWG's (1992) claims to having orchestrated a paradigm shift.

It might be that Upshur's (1997) elevation of the debate onto a purely philosophical plane, with which few could critically engage, is itself partly satirical or subversive. In any case, its invitation to the EB-protagonists and antagonists to put aside their differences did not find its mark. Similar comments might be made about Upshur's 'priors and prejudice' (in *Theoretical Medicine and Bioethics* 1999) in which he advances a Hermeneutic account of medical reasoning. Using Gadamer's idea of 'hermeneutic circle' together with Bayesian probability theory, he imagines the clinician as an interpretive agent who mediates between various sources of information and draws revisable conclusions. He states his wish to 'draw attention away from unproductive discussions of simplistic dichotomies such as whether medicine is art or science' (1999:325), implicitly rebuking other writers for their theoretical unsophistication.

The approach here is to usurp EBM with a hermeneutic model of clinical reason. This offers a theoretical defence against EBM which could have been attractive to those protective of clinical autonomy, but which, again, was not readily taken up[21]. Maybe Upshur became conscious of singing in a philosophical register too high to be audible to many EB-writers. For his tone was to change, and his citation frequency to rise, in his next article for the *JECP*, 'seven characteristics of medical evidence' (Upshur 2000). There he laments the polemical nature of EBM, a topic which he says is 'quintessentially philosophical' (2000:93), and takes greater pains to link his epistemological insights to clinical conditions. Meanwhile his theoretical interest switches again, this time to fallibilism.

The characteristics of evidence which he delineates are phrased in a way which stylistically undermines the credibility of EBM. For example, he says it is 'inherently provisional', 'contrary' and always expected to be superceded (2000:94). The protean nature of evidence means that it

[21] To October 2011, Upshur (1999) had 14 citations on Scholar Google, and 5 of these were by Upshur himself.

is unable to keep up with itself, and so always incomplete and restricted (2000:95), and its collective nature pushes it out of reach of the individual (rational) mind (2000:95). His philosophical pronouncement of fallibilism thus sounds like a sublimated critique. Evidence is fallibilist; therefore it is fallible. However his characterisations of evidence as provisional, defeasible and emergent amount to criticisms only for those with a prior commitment to ideas of science as definitive, insuperable, and deterministic. Upshur himself refuses any such commitments. His prioritisation of philosophy permits him to keep readers in suspense by avoiding the endorsement of any position on EBM, for or against.

Removing his arguments onto a purely-theoretical plane sets up an interesting dynamic in Upshur (2000). It allows him to detach his arguments from the worldly concerns of evidence implementation and maintain an ambiguity of intent, and so straddle the chasm of evidence in a fashion similar to Greenhalgh's earlier work. As is not the case with Upshur (1997) and (1999), EB-antagonists and protagonists can both read the 'seven characteristics' (2000) with approval. However, notwithstanding the intricacy of Upshur's philosophical investigations, his conclusion is a political incitement to research:

> 'How we learn good clinical judgement, how we impart it to trainees, how we allocate scarce resources and communicate it to our patients (…) is an essential task for future health care research.'
>
> Upshur 2000:96.

This is a ratification (albeit on modified, clinic-centred terms) of the EBM project, and a call to practical rather than theoretical action. Upshur himself was to heed this call as his writing became more oriented towards practical and policy recommendations, and more critical of EBM. In 'meaning and measurement' (Upshur et al 2001), he (with others) joins in the debate over evidence hierarchies, proposing a four-way typology which is inclusive and tolerant of diversity. The purpose of this typology is to avoid the ranking of research types (2001:93), but it is implicitly critical of EBM, for the preferred methodologies for clinical medicine are qualitative, personal and narrative (2001:94)[22].

Upshur (2002) focuses on the concept of 'base' for medicine, and linking this to problems with foundationalist epistemologies, deconstructs EBM in favour of a more nuanced, multi-

[22] Upshur (2003) is a still more direct sceptical commentary on the lack of rationale for evidence hierarchies.

perspectival understanding of health care. Upshur and Tracy (2004) present four challenges to EBM which are supported by narrative examples from clinical practice. The necessity of embodied expertise for reconciling research evidence with the demands and expectations of patients is considered. Finally, 'looking for rules in a world of exceptions' (Upshur 2005) is a personal retrospective account of writing about EBM and engaging it in practice, candid and confessional in a way similar to Sackett (2000). Here, Upshur delivers a damning expert appraisal:

> 'The true failure of EBM is that it has stopped where the most urgent problems arise (…). That EBM has drawn attention to its own inherent limitations has not stopped its own efforts at self-congratulation. It is hoped that those interested in solving the current problems in health care can do so in an atmosphere unfettered by the restrictions imposed by EBM.'
>
> Upshur 2005:489.

Upshur's loss of faith conveys a sense of disappointment that his philosophical insights did not always gain traction, for he came to the disillusioned view that EBM is 'not a philosophical doctrine' (2005:477). Nonetheless, he had done much to extend the reach of discussions about EBM. The development of debate away from the narrow confines of 'research' versus 'practice' and into philosophical territory was important for its continuation. It is to this broader interest, the expansion of evidence-basedness beyond EBM, that I now turn.

2.5 Beyond Medicine: Evidence-Based Practice, EBP.

When crossing the borders of medicine into other health-professional contexts, evidence-basedness became evidence-based practice (EBP). Its influence has been felt in all health professions, but the profession which I choose to investigate in this thesis is physiotherapy. Physiotherapy was the field in which I first encountered the idea of EBP. There are practical reasons for choosing it to build a case-study for this thesis. The physiotherapy literature on EBP is small and easy to manage in comparison to, say, the equivalent nursing literature. It is well self-enclosed and does not cross over much into other disciplines, or into other genres of literature within the same discipline. More important though are theoretical reasons to be interested in physiotherapy. As a discipline which is definitively concerned with bodies,

physiotherapy offers a fast route to socio-theoretical concerns with embodiment. The usefulness of this approach is made clear in later chapters.

It did not take long for physiotherapists to become concerned with EBP. An early appraisal was Tracy Bury's[23] (1996) editorial 'EBP – survival of the fittest'. There, Tracy Bury uses Darwin's theory of evolution alongside market-fundamentalist economics to set out her view of the changing industry of healthcare. Welcoming the possibilities of EBP for ensuring good practice, her enthusiasm is packaged with bloodthirsty resolve:

> 'those who learn to adapt to the changing environment will survive, those who do not will become extinct. (…) Unless the profession learns to base its practice on evidence (…) it will not find itself to be the fittest!'
>
> Bury 1996:75

> 'We must not be frightened to make extinct those areas of our practice which are shown to be ineffective.'
>
> Bury 1996:76

In this dire situation, of nature red in tooth and claw, the keynote of 'extinction' is both passive and active. On one claw, extinction is something that will happen *to us* if we do not become evidence-based, and on the other, extinction is something we must do *to them* (to practices, or to people who practice wrongly) if we are to save ourselves. EBP is synonymous here with danger, and with fear. Physiotherapists had reason to be frightened, if not of EBP itself, then of each other, as a study by Turner and Whitfield[24] (published twice – Turner and Whitfield 1997 and 1999) shows. Stating their aim to 'benchmark' the state of the profession (1997:110), they conducted a survey of therapists' reasoning strategies, with emphasis on journal readership.

Finding that research evidence was influential in a mere 5% of cases, Turner and Whitfield delivered a damning verdict on physiotherapy, predicting that the profession would not survive 'the current climate of budget-driven medical care' (1999:245). They summarily rejected the validity of all approaches deemed non-scientific. While they successfully demonstrated the minimal role for research evidence within physiotherapy, this was done by disguising their own evidential preferences from respondents, who were presented with a neutral choice between

[23] Bury's textbook with Judy Mead – 'Evidence-Based Healthcare: a Practical Guide for Therapists' (1998) – became a standard text for training allied health professionals.
[24] Pat Turner was a physiotherapy tutor, Allan Whitfield a graphics tutor.

types of reasoning. While the interpretation of these results is consequently problematic, the study is of sociological interest in relation to the nature of discourse around EBP in physiotherapy. Conditions of possibility were set for a witch-hunt orchestrated not from the outside (by doctors or nurses, for example) but from within.

Physiotherapists' 'responses to' EBP.

Turner and Whitfield's study was answered by several others re-affirming commitment to EBP in physiotherapy. Jette et al (2003), Stevenson et al (2004), Iles and Davidson (2006) and Grimmer-Somers et al (2007), conducting surveys with clear research values, obtained more positive impressions of physiotherapists' attitudes to the use of research evidence. In Jette et al (2003), 90% of respondents believed EBP to be necessary, and 79% believed it to improve patient care (2003:790). Iles and Davidson (2006) reached similar conclusions of positive attitude, identifying time pressures as a significant barrier to EBP. Grimmer-Somers et al (2007) identified a progressive shift towards evidence-uptake compared to previous surveys. Stevenson et al (2004) had taken a different approach, conducting a randomised trial to measure the effectiveness of an EBP-training programme for changing attitudes to EBP.

These survey-studies are problematic. Their use of quantitative methods to investigate a qualitative subject, namely therapists' perceptions of EBP, (and in the latter case, a randomised-controlled trial based on a convenience sample of 30 therapists), attests an unexamined commitment to narrow ideals of numerate scientificity. This is reflected in the taking-for-granted of quantitative-positivistic EBP as the correct way to practice, and an overriding concern with ways to discipline the profession according to such values. Given the middling response rates in the three surveys (all close to 50%), such studies might systematically discriminate against those sceptical of EBP, who would be less likely to participate in a survey gathering evidence about Evidence. A study conducted using an interpretive approach was reported separately in physiotherapeutic (Barnard and Wiles 2000) and sociological (Wiles and Barnard 2001) literature[25].

In the journal *Physiotherapy* (Barnard and Wiles 2000), the authors used the concept of Evidence to structure their report, and found differences in views between grades of physiotherapists. Junior physiotherapists and seniors working in university hospitals defined the 'evidence' in EBP

[25] Sue Barnard was a physiotherapy lecturer, Rose Wiles a medical sociologist.

as being scientific-research-based, and as taking precedence over knowledge from practice. Senior physiotherapists from community settings and those in management granted preference to knowledge from practice, with research playing a confirmatory role. For these therapists, reflection on practice and attendance at developmental courses were key to EBP. Seniors acknowledged a central role for patients' views in clinical reasoning, whereas juniors were committed to the exclusive expertise of the professional. Seniors were more likely to question the value of research evidence *per se* or to be 'fearful' of it (2000:121); a tendency noted by juniors as a barrier to change.

In *Sociological Research Online* (Wiles and Barnard 2001), conflict between generations of physiotherapists, rather than differences in the interpretation of Evidence, is heavily emphasised. For the sociological audience, the authors highlight (2001:8) that patient-benefits were not seen as an important factor in the justification of EBP (in contrast to their presentation to physiotherapist readers). There is confirmation between the two of a dissociation (which arose also in Jette et al 2003) between the political and practical utility of EBP: the political benefits perceived in paying lip-service to EBP were weighed against a practical preference for clinically-derived knowledge. Physiotherapists who explicitly ventured objections to the evidence-based approach did so with trepidation.

Bithell (2000), at this time, made RCTs the focal point of her analysis of EBP. Arguing that variability is a legitimate part of practice, she arraigns RCTs for the use of large homogenised populations to investigate a statistically disciplined patient (2000:59), and for the suppression of that very variability which makes physiotherapy responsive. She makes an anti-pharmaceutical argument locating the exaltation of the RCT with its origin in drug testing. This allows her to dissociate physiotherapy from a model of evidence ascribed by implication to medicine:

> 'delivery of a pre-specified and invariable treatment to each patient is not physiotherapy as we know it.'
>
> Bithell 2000:58

She does not extend this defence of contextualism into a generalised assault on ideals of empiricism and universality, but makes commitment to EBP girded by a different understanding of science. This is the science of the clinic – the advocacy of research conducted on the basis of clinicians' views and needs, and the call for clinicians' expertise to be granted the authority to decide the value of research evidence.

Hurley (2000) is more provocative in distinguishing clinicians, who deal with the multiple and conflicting interests of real practice, from researchers who deal with the simplifications and idealisations of physiologic rationale. Although he encourages clinicians to educate themselves in the ways of research, he places the main responsibility for collaboration on researchers, urging them to 'get out more' from their 'ivory towers' (2000:340), presenting problems of translation between research and practical contexts as a matter of miscommunication between these mutually exclusive groups. In a final paragraph rich in metaphors, Hurley 'comes out of the closet' and 'denounces himself as an untrendy heretic' because he does not subscribe to the new orthodoxy of EBP (2000:341). But this impulse to dissent is immediately retracted:

> 'Of course I believe in the concept of EBP, and it is impossible to argue against its desirability and the need for it.'
>
> Hurley 2000:341.

In this passage, there is an uncomfortable sense that the author is unable to let their own voice be heard. Expressing dissent to EBP was evidently difficult for physiotherapists in a way which had not been the case for the doctors of the *JECP* school. In drawing back from criticism, Bithell (2000) and Hurley (2000) both diminish their own perspectives.

The resulting feeling of hopelessness is well-illustrated by Herbert et al (2001). They decry attempts to formalise criteria for systematic analyses, and bewail the problem of publication bias in EBP. These problems they resign, urging clinicians to use caution, and to trust only those studies which 'provide more certainty than the reader already has' (2001:205). In relation to the problem of skills, they refer therapists to pre-appraised material, including systematic reviews, in spite of the preceding warnings. Their view that 'much of clinical practice is far from optimally effective' (2001:204) is admittedly unsubstantiated. Likewise, their recommendation that

> 'time spent busily applying ineffective or harmful therapies would be better spent seeking out and critically appraising best evidence'
>
> Herbert et al 2001:204

… begs the question, central to EBP, of whether therapies are ineffective or harmful. They contradict themselves by explicitly privileging research evidence over clinical experience, and then re-asserting that research evidence 'informs, but does not dominate clinical decision-making' (2001:203). This uncomfortable position is distilled into a conundrum:

> 'it makes sense to make decisions on the basis of expected outcomes, even though we know that the expected outcome will probably not occur.'
>
> Herbert et al 2001:208.

This indicates a paralysis in reasoning, and demonstrates how EBP-related writing can become riven with contradictions, with a tendency to self-abasement. Herbert et al's (2001) conclusion that EBP is the best model for practice comes not on the basis of comparison with alternatives, but the unexamined supposition that there are no alternatives.

The Suppression of Critique.

This reluctance to criticise EBP within physiotherapy endured while objections to it were developed in more detail. For example, Grimmer et al (2004) raise various issues with EBP for physiotherapy. With regard to RCTs, they identify three main factors which obstruct the translation of (general) research into (specific) practice: the simplified composition of study samples, which is preoccupied with generality; focus on specific settings, which conversely limits generalisability; and the use of outcome measures determined by research interests. Thus RCTs lack applicability through being simultaneously too specific and too general, and too far removed from clinical realities. Interpretative or qualitative dimensions would be necessary to salvage research for application in clinical contexts. Additionally, real interventions are unlikely to be conducted in isolation from each other, but rather in concert as part of a 'package of care'. This is incompatible with an evidence-based method which depends on separating interventions to assess their effects.

Despite all this, Grimmer et al (2004) claim to be supportive of EBP, stating that:

> 'there is no need to debate the appropriateness of the philosophy of providing care based on current best evidence.'
>
> Grimmer et al 2004:191

Soon afterwards, Schreiber and Stern (2005) conducted a review of EBP literature which is more aggressively convinced, but in which ambivalent tension is clear. For them, EBP is identical with Science, to the strict exclusion of everything else. The buck for applying Science

stops with the clinician, who is the 'interface', but whose capabilities for understanding are lamented:

> 'the transition to EBP will not readily occur if clinicians do not know about the evidence, do not understand it, do not believe in it, or do not know how to apply the findings.'
>
> Schreiber and Stern 2005:5.

EBP here is not something to be used for specified benefit, but a primal entity-in-itself which clinicians must uphold or else face unspecified harsh consequences. Reducing them to an 'interface' carries a query as to whether, ultimately, they might be bypassed completely. The apparent persecution of clinicians, underwritten by a rigid distinction between Science and Non-Science (and endorsement of the evidence hierarchy), comes with a manifesto for their re-disciplining in accordance with the 'reinforcement of desirable practices' (2005:9). Proselytizing strategies are an explicit part of EBP as presented by Schreiber and Stern (2005), accompanied by open acknowledgement of the crucial importance of *belief* in ratifying EBP. They see the practical application of research evidence as a moral responsibility.

In the writings of Bithell (2000), Hurley (2000) and Grimmer et al (2004), there is a palpable sense of something being not-said, just as in Herbert et al (2001) and Schreiber and Stern (2005) there are voices being not-heard. So a curious thing about Emma Stack's (2006) *Physiotherapy* editorial, explicitly sceptical of EBP, was that it did not appear until a decade after Bury's (1996) 'survival of the fittest'. Stack (2006) emphasises the importance of adaptable approaches in physiotherapy, noting the motivational and empathic role of the physiotherapist and caricaturing the evidence-based practitioner as 'devoid of charm and spouting *p* values' (2006:128). She notes difficulties with the concept of placebo in physiotherapy, which 'leaves few patients unaware that they have had it' (2006:128). This technical problem with RCTs she uses to illustrate the 'seduction' of physiotherapy by science, at the expense of practical craft knowledge. Although she concludes that physiotherapy is itself a placebo, (albeit an 'ultimate' one), this indicates a positive re-definition of the term, rather than accession to scientific ideals which she rejects.

Jones (2006), by contrast, makes her argument against EBP on explicitly political (rather than practical) grounds. Having identified encroachment by nurses, occupational therapists, exercise physiologists and generic rehabilitationists as the major threat to physiotherapy, she discusses the

cost-effectiveness of distributing work in various ways. She dismisses the capacity of evidence to settle such disputes, emphasising instead the need to compete politically:

> '…humility has been the bedrock of care underpinning the profession, but it is an inappropriate virtue for commercial competition'
>
> Jones 2006:2.

She therefore argues for political training in undergraduate programmes, which would equip physiotherapists to 'advertise our unique capabilities' (2006:3), rather than committing to scientific ideals which would not necessarily be protective.

This again implies an understanding of science as being essentially non-political. Jette (2005), on the other hand, sees science as a political weapon. This impassioned editorial piece is an open testament of the political nature of EBP in physiotherapy. It discusses the '75% rule' in American healthcare[26], which requires health services to ensure that 75% of their clients are afflicted with one of a medically-selected range of 'serious medical conditions' in order to secure funding. The only way to challenge this agenda is with empirical evidence, and so Alan Jette is clear that the 'peril' that the profession faces if it continues to practice with inadequate evidence is loss of financial support and expulsion from acute settings to 'less costly' ones (2005:303), with an accompanying loss of status. Practical considerations and benefits to patients are peripheral to this argument, if not explicitly excluded, in favour of the financial and prestigious gains envisaged.

Conclusion.

The historical starting-point for the question of medicine (and healthcare) becoming Evidence-Based was closely related to science: theorists had made distinctions which separated medicine from science; medical people answered with ideas for how to make medicine properly-scientific. EBHC rapidly became a popular idea in reference to which the scientificity of healthcare could be thought about. The first thought of a sociologist approaching this development might

[26] The relevance of the 75% rule to the argument is not clearly explained. While used symbolically to illustrate the power of medical classifications over the context in which physiotherapy operates, it does not contribute directly to the argument that physiotherapy could challenge medical directives with research evidence.

reasonably be to think in scientific terms, and to bring already-established sociologies of science to bear on the phenomenon of EBHC. The major conclusion from this chapter is that such a commitment to sociology of science (nowadays called Science and Technology Studies, STS) is not necessarily helpful in the case of EBHC. Science as a social phenomenon does feature in EBHC; but the sociologist of EBHC cannot be confident that what they are principally studying is a matter of science.

Indeed, indications from this chapter are for the most part that science is but a superficial theme in EBHC. Sure enough, science is drawn upon rhetorically in service of arguments constructed. Ideas of science are implicit in positions around EBHC, but rarely do clinical EB-writers examine these ideas and question their use of the term science. Even more rarely is their own approach to EB-writing recognisably scientific. In early medical EB-writing, a general unconcern for the meaning of science is clear enough to be obvious, but still worth stating. Those who have developed discussions of EBM away from the polemical mainstream have done so not by pursuing an understanding in terms of science, but in terms of social interaction and narrative (eg. Greenhalgh) or in terms of philosophy (eg. Upshur). Science must still have a role in EBHC; but the nature of this role is mysterious. It is a question to be addressed sociologically.

Other conclusions to take from this chapter are firstly that clinical EB-writing provides rich and dense material for sociological study. At points I have given reasonably thick descriptions of this writing, and still there is much that I have not included. By hinting here and there at possibilities for sociological analysis, I have tried to convey the impression that such possibilities are many. In chapter 3 I examine which such possibilities have been taken up by sociologists, as a route then to elaborating my own strategies in chapter 4. Secondly can be taken the conclusion that while medicine, as EBM, is at the centre of EBHC, it is not all-encompassing. Sociologists (as I will show) have mainly confined their researches to the medical case. My case-study of EBP in physiotherapy finds similarities with the medical scenario, but also differences.

Sometimes it feels as though there are anxieties in physiotherapeutic-EBP – relating to the status of a whole profession and recognition of its value – which are spoken out loud, while the equivalent anxieties in medicine are concealed. Themes of practical, political and financial aspects of EBHC, tensions between sectors within professions, and efforts of professions (as if they were sentient beings) to persuade themselves of particular values, can be laid bare in physiotherapy perhaps more easily than in medicine. The suppression of critique of EBP in physiotherapy, compared to the proliferation of critique of EBM in medicine, is too striking not

to mention even at this early stage. But it is not yet time to compare the two cases. My suggestion so far is that sociologists of EBHC should not confine their inquiries to the medical case, when there are comparisons to be had with proceedings in the context of other professions, closely related.

Chapter 3

Literature Review Part Two.

Sociological Perspectives of Evidence-Based Healthcare.

Synopsis.

In this chapter I continue my review of literature on EBHC by focusing on sociology, my own discipline. I move gradually towards an approach which is more critical and interpretive, less purely-descriptive than in chapter 2, because I am concerned to discover what dilemmas have been encountered, and which questions have and have not been asked, by sociologists of EBHC. I report upon sociologies of research methods and change-management; the dissociation and removal of the sociological writing-viewpoint from the clinical; overtly critical sociologies of EBHC; sociologies of EBHC-as-politics, and tensions with epistemology; perspectives on EBHC from sociology of professions; macro-sociological perspectives on EBHC; sociologies of RCTs as technologies of knowledge production and boundary-regulation; and finally, philosophy as a means to sociological explanation of EBHC.

In the final sections and conclusion, I state my intent for locating the present thesis in relation to what has gone before. In trying to avoid re-treading the paths followed by others, I identify some problems to address. First is the relationship between the political and the philosophical in sociologies of EBHC, which has not previously been sensitively handled. The second is the relationship between different types of sociology which have been applied to EBHC, which I characterise as meso- and macro-sociological, and as sociologies in-EBHC and of-EBHC. I identify a need to develop analytic categories which facilitate the dissolution of these existing conceptual boundaries, and which make it unnecessary to rely upon the same patterns of thought which have so far been maintaining discussions, both clinical and sociological, of EBHC.

3.1 Introduction

In this chapter I continue the work of reviewing academic debate over evidence-based healthcare (EBHC) by following it into the discipline of sociology. Both form and content remain important in this narrative: both what has been written, and how it has been written. I show that the sociological development of EB-writing has substantially complicated and diversified the debate. In sociology, EB-writing has moved away from a simple dynamic of research-versus-practice in the construction of individual attitudes to clinical decisions. It has moved towards other concerns, including the use of meta-analyses to construct clinical guidelines as evidence-technologies, the proper interpretation of EBHC in relation to health professions, and the broader social context in which EBHC is situated. Regarding these concerns, sociologists have produced territorial claims and counter-claims which implicate the relations between disciplines and professions. They also implicate the relation of sociology, as a discipline, to the social institution of healthcare.

In the context of these manoeuvres, I make a distinction between sociologies in-EBHC and sociologies of-EBHC. Sociologies in-EBHC are concerned to support or discredit EBHC, to drive it in one direction or another; sociologies of-EBHC are concerned with making sense of EBHC before deciding what to do about it, if anything. This takes after a distinction between sociology in-medicine and of-medicine, which despite being problematic, is still well-recognised (Williams 2003:134). This distinction means positing a difference between EBHC itself and the discourses used to describe and analyse it, which quickly becomes difficult to sustain. Analyses of evidence-basedness (such as this thesis) are themselves in the process of becoming part of evidence-basedness. However, for communicating how the topic of EBHC has moved beyond the confines of 'research' and 'practice' to become a debate in sociology more broadly imagined, it is a helpful notion to keep in mind. The sociological debate is arranged in relation to dichotomies other than research-versus-practice.

As sociologists have departed from the original controversies of EBHC, it has become increasingly difficult to know what is precisely meant by referring to EBHC. Yet it is a terminology which, after 20 years, retains currency. The first EBHC-sociologies were attached to clinical debates (particularly over quantitative and qualitative research), and I begin with these. They connect to discussions about the management of change in healthcare, and dilemmas for sociologists locating themselves in relation to it. Sociology also became a forum for expressions of clinical dissent against EBHC, and for the intensification of anxieties about its rightness and

wrongness. In these discussions tension emerged between the politics and the philosophy of EBHC. Focusing first on politics, I split the proceedings into two sections: the micro- and meso-politics of clinical interactions and professional sectors, and then the macro-politics of global neo-liberal marketisation. Finally I address the question of philosophy, but I do not assess its relationship to issues of politics until chapter 4.

3.2 Taking EBHC Seriously (1): Concordance.

Qualitative Methods and Change-Management.

In chapter 2 I reported the views of writers who suggested that the basic ideas of EBHC were naïve, or insincere, or impractical – at any rate, not worth taking seriously. In sociology too, some were sceptical of the usefulness of 'evidence' as an idea which could focus debate. Roy Carr-Hill (1995) in an editorial for *Social Science and Medicine*[1] was dismissive of attempts to remove judgement from any form of decision-making, and made a comparison with law. In law, he argued, evidence is the starting point for thought, but does not end thought. 'Would it not be seen as rather silly', Carr-Hill asks, 'to promote evidence-based law?' (1995:1468). As the clinical literature grew, it became clear that sociologists also – even if using evidentialism as a standard view from which their own position could be differentiated – were investing their serious attention into the ideas of EBHC. An aspect of EBHC which particularly caught their eye was the absence or mishandling of qualitative methods in evidence hierarchies.

The mishandling of qualitative methods could potentially impact upon social researchers' ability to influence the production of evidence for healthcare. Initially, sociological advocacies of qualitative methods refrained from criticism of EBHC which had given rise to the regimental hierarchisation of research methods. An example of this type of appeasement is Green and Britten[2] (1998), published in the *BMJ*. In this article, a need is identified to assist the transfer of scientific knowledge into the humanistic realms of clinical practice, and to 'widen the scope' of evidence-baded medicine (EBM) (1998:1230), both of which could be achieved by employing qualitative approaches. Green and Britten provided a guide to basic principles of qualitative research which assumed not just an absence of prior knowledge, but an aversion to such methods. They explained that qualitative methods are systematic and rigorous, properties which

[1] Refined and repeated in *Journal of the Royal Society of Medicine*, Carr-Hill 1998.
[2] Judith Green and Nikky Britten were writing here as sociologists.

set them apart from anecdote. Similarly, Popay and Williams (1998:36) welcomed the advent of EBHC, to which qualitative research could make a 'unique' contribution, albeit one they anticipated being difficult to understand in narrow scientific terms.

In such cases, qualitative researchers were positioned as outsiders to medicine, and doctors as sceptical and ignorant of social research as a valid type of enquiry. The emphasis on the bridging of a gap between evidence and practice involved the naturalisation of this gap, and blocked any critical consideration of how such a gap had come to be taken for granted. In this context, critical thoughts were prohibited. Green and Britten (1998:1232), for example, wrote that 'the limitations of trials (…) should not lead to cynicism about research evidence'. Popay and Williams (1998:35) meanwhile expressed their sense of a darker threat through a metaphor; the 'gingerbread man' possibility of social scientists being 'gobbled up by the powerful wolf' of Big Science. Continuing these themes, Pope et al (2002), in a subsidiary journal of the *BMJ*, gave descriptions of interview-based, observational, and narrative methods, imploring researchers to give credence to qualitative techniques.

Pope et al (2002) emphasised the use of qualitative methods as adjuncts to quantitative-scientific ones, to be judged by quantitative standards and used in support of EBM. While qualitative health research is valuable in itself, they argued, it particularly offers an aid to the management of change in healthcare (2002:151). This management of change became a strong theme in sociological reactions to EBM; a theme compatible with established sociological critiques of medicine, and amenable to empirical investigation. Wood et al (1998), for example, used four acute-care initiatives as case studies to investigate processes of institutional change; Armstrong (2002) interviewed eighty GPs to discover behaviours of change at the level of the individual physician; and Summerskill and Pope (2002) conducted interviews and focus groups to examine difficulties with change through evidence-implementation, in relation to doctor-patient interactions.

An interest in the management of change, although resonant with the agenda for evidence-basedness, implies a complicated orientation to EBHC itself. Wood et al's (1998) poststructural analysis of evidence implementation diverged confidently from conventions of evidence-basedness, using theory-led language not common elsewhere in EB-writing. They urged a shift away from notions that evidence and practice are diametrically opposed, to 'incorporate evidence and practice in a more immanent relationship and perhaps to recognise that this has always been so' (1998:1737). This tension is evident also in Summerskill and Pope (2002), who

equivocated between the need to ensure the delivery of evidence-based secondary prevention and to preserve the doctor-patient relationship on its current model. In these cases, a qualitative approach comes with the expression of doubts about EBHC, but also with the endorsement of an agenda for ongoing change in clinical practice, with which EBHC is associated.

Placing Sociology in the EBHC-debate.

This ambiguity of loyalty is illustrated by Dobrow et al (2004). They sketched a vision of 'context-based evidence-based decision making' which emphasises the utilisation of evidence. They distinguish between philosophical-normative and practical-operational conceptions of evidence. In the first case, evidence is conceived as knowledge that is contextually independent and judged by its inherent quality (reliability and validity), leading to rigid hierarchisations of evidence. In the second, evidence is conceived as being emergent, contingent, revisable, incomplete, and inseparable from context. They invoke a two-tiered model of context, a mathematical continuum for locating evidential approaches, and a three-stage processual schema for evidence application. But their argument has a simple outcome. It is that the clinical environment is scientifically determinable and therefore suitable to the 'strictly-research' approach of EBHC, whereas health policy and management decisions (in the disciplines from which Dobrow hails) are less well determined and require a less restrictive conception of evidence.

Dobrow et al (2004) exemplifies a tendency among writers identified as sociologists to downplay the confrontational aspects of EBHC, which in medical contexts had been prominent. A special issue of *health* (2003:vol 7(3)) further illustrates this conflict-avoidance, and the removal of the writing-self from the controversy. It featured 'local' empirical studies of EBHC (Dopson et al 2003, Gabbay et al 2003), historical-social narratives of EBHC (Pope 2003, Mykhalovskiy 2003), and a theoretic-philosophical account (Cronje and Fullan 2003). These writers all managed to maintain support for evidence-basedness in healthcare while not applying it to themselves, and so not facing its implications from a first-person perspective in the way which writers from health professions do. Such writing is reliant on displacement of the author

from the actions being examined, which says, 'others should apply these principles to themselves, but we should not apply them to ourselves'[3].

Pope (2003) helps particularly to demonstrate this problem. She analysed EBM using Herbert Blumer's 'social movements' perspective and Freidson's work on health professions, having conducted interviews with surgeons. She reported on the strategies used by surgeons to defend their practice from the *threat* of EBM, strategies in which a distinction between art and science was pivotal. On these arguments, she takes an ambivalent view. They are reported sympathetically with the insight that EBM had 'sown the seeds of its own opposition' (2003:279)[4]. EBM is criticised for lacking a response to the contingencies of clinical practice. However, emphasis remains on strategies of ensuring professional dominance, rather than taking the surgeons' testimonies as empirically justifiable and sincerely-held. A point of difficulty for Pope (2003) is the apparent origin of EBM within medicine, which invites an analysis of intra-professional dynamics. Pope (2003), like others from the special edition of *health*, encounters a dilemma of being an outsider to intra-clinical confrontations, but still having to take sides in the EBM debate.

EBM led sociologists to write under a dynamic of 'them-and-us'. Taking a view on changes inside medicine meant having to become implicitly aware of the position of one's own discipline. Gabbay and le May (2004) offered an innovative approach to the disciplinary evidence-divide. This piece published in the *BMJ* (later the basis for a book, Gabbay and le May 2010) used anthropological techniques to investigate clinical knowledge management. The 'over-rationalism' of EBM is thought to underestimate the influence of local contexts on the implementation of research evidence. The finding that 'clinicians rarely accessed, appraised and used explicit evidence directly from research or other sources' (2004:1018) does not lead to the disparagement of clinicians (as it led Turner and Whitfield to their mass-critique of physiotherapists in 1997), but to the formulation of the concept of 'mindlines'.

These mindlines are networks of communication among clinicians, medical opinion leaders, patients and pharmaceutical representatives. They have roots in the immediate embodied experience of practice, and their functioning requires pervasive trust. Through the mechanism

[3] This designates a distinction between social analysis outside the clinic, and natural action inside the clinic. It supports the construction of the clinic as a natural and determinable space, rather than a cultural and contingent one.
[4] This was the first inspiration for my interest in EB-discourse as dialogue.

of mindlines, clinical knowledge is socially constituted within the clinic. Rather than disrupting these mindlines, as EBM had originally been envisaged as doing, they should be exploited:

> '…the potential of networking as part of professional development must be recognised and fostered, and appropriate information must be targeted … to the relevant individuals.'
>
> Gabbay and le May 2004:1020.

This upholds the impulse to institute the evidence-driven change of healthcare, but in a way which preserves the integrity of the clinic and positions social researchers within the process of change, as knowledge-brokers. Sociologists imagined in this way are expert in the manipulation of micro-social relations, but not well-placed to ask critical questions of healthcare institutions.

3.3 Taking EBHC Seriously (2): Critique.

In juxtaposition with these qualified endorsements of EBHC, more sceptical and critical sociologies were written. Even those who, like Carr-Hill (1995), found in EBHC something ridiculous, also found that it demanded their attention. In such cases, the muted incredulity of reactions to the 'obviousness' (Denny 1999:247) of EBHC produced writing with a satirical character. Michael Traynor's[5] (2000) study of 'purity and conversion' in evidence-based movements is an example of this. Playing on religious themes found in writing on EBM, Traynor made a comparison between the discourse of EBM and the discourses of judeo-christianity. Explanation is given of the process of 'othering' in creating a privileged and powerful discourse (after Barthes, Derrida and Kristeva), associated with the purging of unwanted elements, and with purification and redemption. Traynor explains that in the Old Testament, the distinction between the human and the godly is made in terms of Dietary Intake, while in the New Testament, uncleanness comes not externally, but from within the subject-person themselves.

Traynor (2000) made comparison between these ideas and those presented in two EBM-related texts. In the first (Smith 1991 – a forerunner of EBM), there is a stark dualism of pure wisdom set against dangerous knowledge, and an individualised narrative of conversion. EBM itself is formulated as being pure and holy, and 'traditional' medicine equated with witchcraft. In the second text (Sackett et al 1996), such dualisms are substituted by reconciliation. The strategy

[5] Traynor's educational background is in literature and sociology, and his clinical-professional background is in nursing.

adopted removes the space for doubt, Traynor argues, by systematically quashing all possible objections to EBM. These texts, he suggests, mirror Kristeva's analysis of the transition from Old to New Testament. Clinicians are to be redeemed by the incorporation of pure knowledge into their internal selves. In sum, EBM is argued to delineate stable categories of knowledge, distinguished by their level of purity/holiness. This act is taken beyond the mere creation of order, to the annihilation of any possibility of challenge.

Traynor claims (2000:152) not to judge the usefulness of EBM, and to be concerned only with the structures of arguments used to promote it, but this does not match his condemnatory conclusion (2000:153) that EBM 'morally denigrates and intellectually disqualifies all other positions'. Finally, the political target of Traynor's detraction becomes clear, as he portrays EBM as a mechanism for the protection of the medical profession against external threats (ibid). Denny (1999) had also apportioned responsibility for EBM to those within a self-enclosed, self-determining profession of medicine:

> 'Although the discourse of EBM appears to question the individual authority of medical doctors, it actually reinforces such authority by regulating the conditions under which a physician may speak authoritatively (…).'
>
> Denny 1999:247.

Denny approached EBM as a discourse among doctors 'concerned with the regulation of medical authority in order to define and clarify what it means to be a doctor in relation to those who are not' (1999:248). EBM, he argues, enables doctors to collectively tighten their grip on power and knowledge in discourses of health.

Like Traynor (2000), Denny (1999) distanced himself from value-judgement on EBM, emphasising his concern with its consequences for the hegemonic dominance of a professional elite (1999:253). However, his is a position in which the orientation adopted towards EBM is one of suspicion. He did not take EBM at face-value as a route to improved practice, but looked for an ulterior motive and a deeper truth about EBM. While Denny (1999) and Traynor (2000) made a departure from clinical-professional literature in terms of method and rhetorical sophistication (explicitly deploying a discourse-analytic approach to the texts of EBM), they showed similarities of spirit with medical writing which had brought the moral motivations for EBM into question. Traynor's (2000) erudite piece particularly is an elaborate satire directed against the powerful institution of medicine. This critical perspective can be read more plainly in

his earlier piece in *Nursing Inquiry* (Traynor 1999:187), where he deployed arguments from feminist theory and SSK to attack EBHC as 'textually-based social control'.

The demeaning of EBHC through levity created tension within an argument that at the same time as being risible, EBHC is nonetheless dangerous and powerful. This tension is associated with the sociologisation of critical perspectives originating inside the clinic. Two later articles from sociologists working in health research, but closely connected to the clinic, illustrate this point. These are Grypdonck (2006) in *Qualitative Health Research*, and Lewis (2007) in *The Journal of Health Services Research and Policy*. Alongside ambivalent tension, these pieces display anger and resentment. Grypdonck's piece sounds a warning against the insidious threat to qualitative research posed by EBHC. Lewis's advances explanations for what he sees as the failure of EBHC to effect changes in healthcare practices. Grypdonck (2006) argues that evidence-basedness is destructive to qualitative research which is essential to good practice. Attempts to conform to the standardised criteria of quantitative research, she explains, endanger the integrity of language-based work. This blinds health policy-making to the views of patients, and excludes atypical and vulnerable patients by systematic averaging[6].

Lewis (2007) is more forthright in his derision for the supposed achievements of EBHC. The task for him is not to appraise its success – as it has 'achieved little traction among people who are neither stupid nor hostile to science and rigour' (2007:166) – but by offering a 'theory of indifference' to research-based evidence, to assert that such indifference is the norm. Rather than defend health practices however, Lewis (2007) occupies a dystopian and conflicted position. 'Our fondest hope', he explains, 'should be to turn medicine into a tautology, with computer-generated diagnoses, designer therapies tailored to our individual biological signatures' (2007:171). On one hand, he opts for a stricter model of EBHC; evidence needs to become less probabilistic and more patient-specific and clinically-driven. On the other, he warns that 'in those few domains where such success is even imaginable, healthcare will cease to be interesting to practitioners because their intelligence, wisdom and skill will have nothing to contribute' (2007:171).

Such speculation leads Lewis to a position of resignation, something which also seemed to affect Traynor as time passed. Again pursuing political and sociological understanding as a route to a less conflictual perspective, Traynor (2002), on '*the oil crisis, risk and evidence-based practice*', is

[6] This argument can be found elsewhere, before and since. Other examples are Morse (2006a) and Nelson (2008).

cautious and restrained. His creative passion of 2000 is replaced by a concern to naturalise EBP in a global economic context. In a later article about historical tensions between utilitarianism and transcendentalism in nursing which are reflected in debates over EBP (Traynor 2007), he became pessimistic:

> 'an exploration of (…) the enduring appeal of such oppositions is beyond the scope of this paper and there is unlikely to be a simple way of side-stepping any of them to reach a consensus about EBP *or any other issue*.'
>
> Traynor 2007:304 emphasis added.

Similar to the paths of Greenhalgh and Upshur through EBM, Traynor's trajectory is associated with changes in the expression of affective orientation to the controversy. But whereas they became more vociferously opposed to EBHC, his path was away from dissent and towards apathy.

EBHC as Turf-War and as Politics.

Helen Roberts (2006:122) has ventured that sociology is historically 'littered with turf wars', few of which have 'been turfier or more warlike than reactions of sociologists to the claims of evidence-based medicine'. This idea of turf-war well captures the mood of writing in which sociologists were concerned to find room for themselves in relation to a way of organising practice and thought, EBHC, which was either already powerful, or expected to become so. If sociologies of EBHC were warlike though, it was not easy to tell where the battle lines were to be drawn. The clinician was opposed to the researcher, clearly enough. Sociologists were themselves researchers, but not usually the type of epidemiological researcher lauded in advocacies of EBHC. Some sociologists had connections or loyalties to clinical practices, or were themselves also identifiable as clinicians. Those with an interest in management and policy perhaps hoped or expected that EBHC would be a way to further such agendas, but still could not be certain, and so welcomed it with reservations, as seen above.

Roberts' depiction of EBHC debates as a turf-war expresses the view that EBHC brings people (professionals, academics, policy-makers) to engage in conflict. This could be expressed more

formally[7] as the view that the essence of EBHC is politics. Among the first sociological commentaries on EBM was Stephen Harrison's (1998) technical account of its politics in the UK context of the NHS. Applying a supply-and-demand market-model of healthcare, Harrison discusses different types of risk associated with healthcare transactions in money-economies. Such transactions must be paid for, but the displacement of costs to third-parties (the state, insurers) creates an issue of 'rationing'. Formerly, Harrison explains (1998:18), rationing had been conducted tacitly, but subtle structural shifts in health institutions now brought it into the explicit domain. There is a political incentive for the explication of rationing to be performed by doctors rather than policy-makers, and EBM emerges as a convenient vehicle for recruiting doctors into this process.

Consequently, Harrison says, there is generated a network of bureaucratic institutions dedicated to designating 'effective' and 'ineffective' healthcare interventions. This process benefits healthcare purchasers fiscally, and simultaneously secures the prestige of the medical profession. Having thus rationalised EBM, Harrison (1998) sketches three lines of critique. The first concerns the assumption that clinical guidelines would guarantee their own implementation, which he says is 'extraordinarily naive' (1998:22). The second concerns the vulnerability of the 'effectiveness' model to dissent based on other criteria for rationing (1998:24). The third concerns the uncertain epistemological underpinnings of EB, in which realist-determinism is supposedly replaced by empiricist-probabilism in a manner incompatible with the realities of clinical practice. These three conceptual problems are potentially fatal for EBM, as ignoring them 'amounts to the assumption of consensus where there is none' (1998:26).

Having begun from a position of 'concrete' political specificity, Harrison's closing sections are theoretical and abstract[8]. The piece plays out a tension between actual politics – the contingent relations between social institutions – and philosophical considerations which undermine the functional aspiration towards political goals. This tension creates an awkward problem, because while EBM makes sense politically, it does not make sense conceptually and philosophically. The philosophical view moves Harrison's account away from neutrality about EBM, into a position of critique, comparable to critiques from within clinical disciplines. For sociological writers, making sense of EBM might mean trying not to take sides; but maintaining detached neutrality

[7] Perhaps with reference to Foucault's (2003:16) imagining of politics as 'the continuation of war by other means'

[8] See also Harrison and Ahmad (2000) for further development of these themes in relation to medical autonomy.

proves difficult. In this respect Harrison (1998) juxtaposes nicely with Judith Green's (2000) article on 'epistemology, evidence and experience' in *Sociology of Health and Illness*.

Green starts not with politics, but with the conceptual construction of Evidence as a route to strategic decision-making. Like others mentioned above, she presents her work as exploratory rather than critical. The delicacy of this operation is illustrated by her reporting of a reviewer's comment that her findings were 'unduly pessimistic' for EBHC (2000:458), to which she responds:

> 'This comment added to the data on how scientific evidence is constructed as rational and unanswerable, but also influenced the tone of the final report to make clear that this analysis is not offered as a critique of EBHC, but rather as exploration of how it is implemented in practice.'
>
> Green 2000:458-9.

Green reports upon the variability of objectives originating from different healthcare policy contexts. She discovers the intractability of evidence specificity: to be useful to any party, evidence must be specific to particular outcomes; but this specificity makes evidence irrelevant to other parties for whom different outcomes are targeted. Practices necessarily generate their own evidential cultures which exist separately from research literature, and have the potential to render it incidental. Professional expertise can clash directly with injunctions to use data, which 'form not a neutral resource of information, but a contested site around which professional identity can be demonstrated' (2000:465). Evidence is a conductor for the polarisation of disputes between disciplines which are mutually different by definition.

In this conflictual arena, both the validation and deprecation of evidential forms is associated with rhetorical dexterity, in which common-sense and personal experience are highly valued strategic resources. Evidence enriches and intensifies political conflicts rather than facilitating resolutions. The accusation of pessimism which Green reports is understandable in relation to her findings, and she uses it skilfully by feeding it back into her text to help make explicit her concern to preserve neutrality. However, concluding that:

> 'the challenge[9] for EBHC is perhaps to broaden the nature of the evidence base so that it reflects a wider set of outcomes than those associated with effectiveness and efficiency'
>
> Green 2000:474

… she repeats critiques of EBHC which were already established. As I have shown, EBHC depends, at least initially, on the idea of restricting, not broadening, definitions of evidence.

The tightrope of rhetorical-correctness which Green walks makes a sharp accompaniment to the keenly-felt and openly-expressed sensitivities over evidence which are her subject matter. Although she makes clear the political nature of evidence by her analysis, sticking tenaciously to the evidence-ness of evidence helps her distract from a critical-political viewpoint. The dynamic of tension in this article accompanies the difficult (impossible?) task of being critical while trying not to degrade the object of critique. Different from Harrison (1998), Green's (2000) relative success in sidestepping the politics of EBP-advocacy or detraction is facilitated by presenting her findings in the neutralising terms of epistemology; but her argument is that Evidence is not constituted in pure knowledge or epistemology, but in politics.

3.4 Defining the Politics of EBHC

Managerialism and Professional Autonomy.

Independently of Harrison and Green in the UK, Marc Rodwin (2001) in America advanced the opinion that politics was the principle most important to the understanding of EBM. Rodwin emphasised the potentially critical nature of this argument. As he says (2001:439), 'politics is portrayed as what EBM will avoid'. Presenting EBM as the financially-driven rationalisation of medical care which shifts power away from physicians, he explains that evidence is 'an instrument of politics rather than a substitute for it' (2001:442)[10]. In this account, EBM arises from the managerialisation and consumerisation of healthcare. With managerial challenges to medical dominance being established in sociological discussions prior to the development of EBM (see eg. Hunter 1994), it is easy to associate EBM broadly with agendas for the control of health practices by people other than doctors. Trinder and Reynolds (2000:8), for example,

[9] The notions of 'challenge' and 'barriers' recur across both clinical and sociological EB-literature: see eg. Tanenbaum (1999), Bhandari et al (2003), McKenna et al (2004), Grol and Wensing (2004). Challenge is usually, but not always, used more critically of EBHC than barriers.

[10] A similar point was made from within clinical medicine by Saarni and Gylling (2004).

locate the roots of EBHC in risk management and audit culture, and present it as a 'natural' product of these contemporary social trends.

In this context, sociologists focused on a theme of clinical autonomy for investigating the changing influences on clinicians' (especially doctors') practices. Nicky Britten (2001) investigated the challenges from government, patients and other professions to doctors' autonomy in prescribing pharmaceutical drugs. EBM is associated with guidelines and protocols which, she explains, potentially regulate the actions of individual doctors. Britten argues that doctors are able to claim an alliance with patients in order to protect themselves from managerial interference, but also, when necessary, to villify the 'demanding patient' (2001:488) as a threat to the integrity of their practice. EBM fits into a complex dynamic in which the autonomy of doctors is protected, rather than threatened. David Armstrong (2002) had presented EBM as a reflection of the intra-professional formalisation of control rather than something which impacts upon medicine from the outside. He argued that EBM institutes collective autonomy for doctors. They can then re-individualise their autonomy by recourse to the rhetoric of patient-centred care.

The issue of professional autonomy in relation to EBM has been followed intensively by Stefan Timmermans. In 'From Autonomy to Accountability' (Timmermans 2005), he considered whether practice guidelines constitute a threat to the power of clinicians to determine their own actions. His view is that because the production of guidelines is dependent on professional consensus, and because clinicians themselves determine the manner in which guidelines are to be applied, they do not. In fact, guidelines reinforce collective autonomy by producing the appearance of orchestrated changes to practice. Timmermans does see guidelines as possible harbingers of a future shift to accountability and a general erosion of trust in medical healthcare (2005:497). Situating this struggle in the context of a history of failed attempts at standardisation though, he is pessimistic for the prospects of guidelines breaking the professional monopoly on health practice.

Timmermans and Mauck (2005) focused more closely on a problem of doctors' non-adherence to guidelines. Characterising EBM as a struggle for the 'soul' of medicine (2005:20), they explain that the presumption in EBM of an autonomous clinical decision-maker, whose personal reasoning can be influenced by Evidence, is misconceived. In fact, clinical decisions are made collaboratively by clinicians in community with other stakeholders. Guidelines can achieve change only if they become a collective 'scientific rallying point' (2005:26). This jars against the

the concerns of Timmermans and Angell (2001). Interviewing paediatric doctors, they drew up an account of their respondents' practical use of evidence in terms of uncertainty-management. They suggest an individualistic typology where clinicians use evidence in ways which are active, variable and personal. Speaking of a 'legacy' of EBM (2001:356), they report the development of skills of judgement, which affects both the following of protocols and the disregard of research evidence.

Timmermans and Mauck (2005) contrasts also with Timmermans and Kolker (2004) on the 'Reconfiguration of Medical Knowledge', which presents guidelines as having indeed been rallied behind (2004:182). Guidelines are thought to reflect a shift in the epistemology of medicine, from pathophysiology to epidemiology (2004:183). Against the taking-for-granted of the self-determining power of medicine, Timmermans and Kolker (2004) scorn Freidson's theory of professional power. They ironically proffer the idea of 'evidence-based sociology' for making sure theories are empirically verified. This contrasts again with Timmermans (2008), which finds value in Freidson's theory of 'market shelter' for explaining how EBM made medicine responsive to a changing social world, turning a 'potential threat to autonomy into a tool to strengthen the field's scientific foundation' (2008:183).

Reading across these pieces uncovers discontinuities, as Timmermans (with various others) explores different perspectives on EBM and medical professionalism. Across sociological writing on EBM and autonomy however, there is broad consensus that EBM does not threaten the individual or collective status of medical professionals. McLaughlin (2001:361) succinctly summarises the view that EBM provides a rhetorical resource available to doctors and health policy-makers both, for 'constructing their identity and narratives for the future'. While EBM (and EBHC) does this for doctors and their associates, it evidently serves a parallel purpose for sociologists, being a prism for the focusing of ideas about professional power. Standardisation, autonomy and practice variation were themes which facilitated a connection between management and policy agendas and social theorising.

Another example of this connection is from Moreira (2005), who identified the *reduction of variability* in clinical practice as the key policy objective of EBM. Moreira conducted ethnographic observation of clinical guideline production. Making a distinction between political and non-political factors affecting the behaviour of guideline writers, he uses the idea of 'repertoires of evaluation' to describe the contributions of different members to the productions of the group. The major conflict reported by Moreira (2005:1981) was not between doctors and

non-doctors, but between GPs and consultants, who 'compete to have their visions accepted by researchers, often by attempting to enrol the patient's accounts of illness experience.' Moreira (2005) indicates a complex interplay between pragmatic-political concerns and epidemiological-scientific ones, in which a diversity of knowledge forms generates a 'technical document' (2005:1984). The social processes at work in such collaboration transcend the political interests of any particular group.

Other sociologists re-focused attention on the internal workings of professions, particularly medicine. Traynor (2009), following Jamous and Peloille's (1970) work on indeterminacy and technicality in professions, asked whether EBM can be explained as a systematic move towards technicality driven by lower-status sub-groups, including epidemiologists, within medicine. His finding that this is the case, supports him in de-emphasising the policy and managerial agendas, and shifting attention back towards a medically-driven model for understanding EBM. This contrast shows how the processes of EBM appeared differently to sociological thinkers; in Moreira's case in the sphere of guideline production, in Traynor's case in the sphere of clinical interactions. This reflects Clancy and Cronin's (2005) emphasis on a distinction between Evidence conceived as a *global* entity, and the practical application of such knowledge, which is fundamentally *local*. Different types of conflict were apparent to sociologists in each context.

The writings from Green (2000), Timmermans (various), Moreira (2005) and others reflect a sociological interest in EBHC as it affects and is affected by the politics of health professions. Such sociologies remain connected to clinical activities, and as such might be thought of as sociologies-in-EBHC rather than of-EBHC. Nevertheless they are concerned with thought categories which are detached from the original dichotomy of research-versus-practice from which EBHC was sprung. Autonomy as opposed to accountability, and politics as opposed to science and philosophy, are distinctions which come into particular focus in such writing. Within these parameters there is considerable scope for debate; but there are also other sociologists who adopted a broader contextual perspective for understanding EBHC. Being further removed from the clinic as the site of practice, these can be thought of more as sociologies-of-EBHC. They involve attempts to understand EBHC less in terms of activities within and between health professions, and more in terms of national and global social conditions. I turn attention now to these broad-context sociologies.

Market Economics and Global Politics.

Whether EBM is considered as primarily intra-medical or primarily managerial (extra-medical) in origin, there remains an issue of the broader conditions under which it gained purchase. In this respect, matters of localised guideline production and application, and of national healthcare policy-making, are surpassed by matters pertaining to international corporations, particularly pharmaceutical ones, which supply medical industries for profit. Timmermans and Oh (2010:S100) discuss the relationship of mutual dependency between pharmaceutical companies and medical professionals, in which doctors 'gatekeep' the supply of drugs to patients. The local effects of this relationship are detectable in micro-sociological accounts of EBM, for example Gabbay and le May (2004:1017) noted distrust of pharmaceutical representatives among doctors. Here it might be surmised that doctors are institutionally reliant upon the act of prescription, and beholden to the drug products which they are in a position to prescribe.

Sociologists have developed various accounts of the pharmaceutical industry itself[11]. Concerning the link between EBM and pharmaceuticals, De Vries and Lemmens (2006:2694) approach it by investigating the potential of industry influence as a 'threat to objective evidence'. Unreservedly supportive of EBM, they are nevertheless concerned that clinical trials can unexpectedly work 'to the advantage of industry interests' and 'transform EBM from a challenger to a protector of corporate agendas' (2006:2704). A less credulous view on EBM can be found where writers from within medicine have produced a lay-sociology of their own. Doctors have characterised their relationship with corporations as an 'uneasy alliance' (Bodenheimer 2000) between 'uneasy bedfellows' (Smith 2003). An insight into this unease in the context of EBM comes from Choudhry et al (2002) who surveyed the authors of clinical guidelines to assess their interactions with the pharmaceutical industry.

Following this direct route, likely if anything to underestimate pharmaceutical influences, Choudhry et al (2002) nonetheless found that almost all guideline authors were involved with pharmaceutical companies. Other medical writers too have expressed concern over the relationship between pharmaceutical companies and doctors as mediated through clinical-trial Evidence and EBM (see Steinman et al 2001, Melander et al 2003). Howard Kushner (2007), examining 'the Other War on Drugs', explored this theme through sociological and other literature. He sees EBM as providing the means for the pharmaceutical industry to tighten its

[11] Some such accounts relate to power and scientific fact-making (Busfield 2006), transparency of links between companies and consumer groups (Jones 2008), and more general sociological perspectives (Williams et al 2008).

grip on a system of healthcare which was already well under its control. As medicine becomes thoroughly commercialised, the influence of drug companies, who dictate the terms of Evidence, becomes harder to counteract; but Kushner is optimistic that Regulation can protect medicine from pharmaceutical EBM.

The relation between pharmaceuticals and EBM has captured popular interest. UK science-journalist Ben Goldacre (2008, chapter 10) has written of pharmaceutical companies 'pulling the wool over [doctors'] eyes' (2008:188). Goldacre lists ways of tinkering with clinical trials (which are usually funded by drug companies) so as to produce desired results. His insights into the devious tactics used by pharmaceutical companies do not lead him to a critique of EBM, of which he is an ardent supporter[12]. Goldacre (2008:184) also identifies pharmaceuticals as the third biggest profit-making sector of the UK economy. In a capitalist market-economy, it is in the interest of the State to see that such industry succeeds. This is the case elsewhere too, and might offset Howard Kushner's hope that state governments would bring moral arbitration to relations between pharmaceuticals and medical practices, for the purpose of protecting standards of care.

While some point a general-accusatory finger at pharmaceutical companies for manipulating EBM, it is possible to widen this sphere of influence to Corporate Interests or a 'best buy' imperative associated with the marketisation of healthcare in capitalist economies. Links between the ascendancy of a healthcare marketplace and an increasing generalised social demand for objectivity, such as made by Greenhalgh (1999), implicate the consequences of living in a profit-based neo-liberal economy. Writing from a nursing perspective, Mantzoukas (2007) argues that funding agents are able to define the parameters of evidential acceptability to suit their own ends. The sensitivity of such issues is illustrated by some harsh equivocation in clinical literature. For instance, Straus and McAlister (2000) first identified EBM as a direct consequence of restricted expenditure (2000:838), only to assert soon after that it is cost-indifferent (2000:839).

[12] Ben Goldacre is an established cheerleader for EBM and for RCTs in other policy contexts. For example, he appeared on BBC Radio 4's 'Material World' on 28/6/12, during which he used the following 'is-not' strategy (a trope familiar from chapter 2, and further discussed in chapter 4):
BG: 'for planning on applying ideas to the real world . . they've decided to do randomised trials, out in the real world' (…) 'think how much good could be done, in the UK and the world, if we did more RCTs of policy interventions'
Presenter: 'can you give a simple example of a randomised controlled trial?'
BG: 'well, in some ways it's easier to think of what happens if you don't do a randomised trial . . .'

Saha et al (2001) showed that cost-analysis can easily enough be incorporated into EBM; and later Bogdan-Lovis (2010) explained how EBM can be deployed as a sales technique to point consumer-patients in the direction of the cheapest option. Both of these present financial benefits as fortunate by-products of EBM, as opposed to having been active factors in its genesis. May (2007) presented a theoretical sociological view of these issues. The systemic changes of late modernity, he argues, lead to a new kind of healthcare which leaves the Parsonian paradigm of doctor-patient interaction behind. The clinical encounter is now defined by 'corporate professional practice'. Just previously, May et al (2006) had made a case linked more explicitly to EBM. Technological solutions, related to modernisation and bureaucracy, bring non-human elements directly into 'the symbolic drama of the consultation' (2006:1028). They give rise to *technogovernance* as a new form of governmentality, where technology is active in conditioning clinical behaviour patterns.

May's two pieces together demonstrate the potential for macro-social features of late modernity not just to contextualise EBM, but to contribute explanatory analyses of it. This dynamic can be applied at the practical level of evidence production and application, insofar as Evidence derived from any population is for export to other populations in different places. This has consequences unacknowledged in most EBM-related writing, observed briefly by anthropologist Helen Lambert (2009):

> 'The growing need for population-based evidence for clinical interventions has led to a rapidly rising worldwide demand for human subjects for clinical trials.'
>
> Lambert 2009:18.

Appreciating that Evidence has to come from somewhere might provide a material anchor for the arguments from May et al (2006) and May (2007), in which corporate practices and technogovernance can be presented as rootless, free-floating and self-guaranteeing. Lambert's point also suggests ethical problems, where malleable populations are required as the raw material for evidence production. The imperative for evidence-basedness presupposes a well-established research industry, and a ready supply of research subjects for RCTs. This indicates a need for a global and post-colonial anthropology of EBHC.

EBHC, Neoliberal Governance and the Meaning of the RCT.

As a global phenomenon, EBHC is within reach of existing anthropological ideas. Neoliberalism, although it is a broad-brush term 'often invoked without clear referent' (Wacquant 2010:212), could be a pivotal concept for investigation of EBHC in relation to economic deregulation and the transformation of healthcare into a free transnational marketplace. International organisations (such as the WHO, alongside pharmaceutical corporations) and the technocratic discourses they deploy might be targeted for deconstructive analysis[13]. The key problematic of such a project is the reconciliation of local activities – health practices and individual perspectives upon them – with phenomena which appear place-transcendent and global. Collier and Ong (2005) have proposed the term 'global assemblage' to describe the articulation of global cultural forms in specific situations and places. Erikson's (2012) analysis of health statistics as the girders of 'Global Health Business' does just this in the context of EBHC (although without using EBHC as a term of reference).

Erikson (2012) uncovers the work done by statistics to 'enable health endeavours to become business enterprises' and to re-route human behaviours in accordance with profit-making norms which are 'not innocent' (2012:367). This power of statistics and numbers to govern micro-level social behaviours is something which seems largely to have escaped the notice of sociologists of EBHC[14]. Their attention has been drawn instead towards the role of the RCT as the central data and knowledge-producing technology of EBHC, and a method which can be skilfully manipulated to produce Evidence of a particular type. The fear tacitly expressed is that once RCTs have been produced according to corporate need, their passage into guidelines and practice is assured. Carl May's (2006) auto-ethnography of government health policy meetings brings this into question.

May reports on proceedings between 1998 and 2004 in which policy-makers became progressively more sceptical of the merits of RCTs as an influence on their decisions. The justification for this scepticism, while expressed from the perspective of funding management rather than clinical practice, is not different from that repeated *ad nauseam* by clinical writers. It is that RCTs are estranged from the realities of healthcare practice. This estrangement is not an accident: the *modus operandi* of the RCT is precisely to erase the local contingencies of practice which obstruct the path to Truth. May (2006:520) notes an aesthetic of *elegance* among trial-

[13] Annelise Riles (2004) has begun a project of *unwinding technocracy* in the context of financial organisations, which could be similarly applied to the technical processes of EBM.
[14] I make a move towards addressing it in chapter 6.

designers which typifies their abstraction from concerns of utility. These researchers are sketched as an isolated elite who operate with conventions of knowledge production unrecognised by the policy-makers for whose benefit their works are supposedly produced.

This raises a question as to the discursive and rhetorical role fulfilled by RCTs, which were a bulwark of EBM as originally advocated. Timmermans and Berg (2003:chapter 6) discuss RCTs in relation to risk, focusing on the notorious case of thalidomide, which was found to cause birth defects after its release onto the market. RCTs ought to prevent harmful drugs reaching practice, but this aspect of their usefulness is rarely discussed in literature on EBHC[15]. A context in which sociologists have considered RCTs in detail is in relation to health professions other than medicine, and particularly complementary and alternative medicines (CAMs). Three studies make this move in the directions of chiropractice (Villanueva-Russell 2005), acupuncture (Jackson and Scambler 2007) and RCTs as boundary-regulation devices generally (Derkatch 2008).

The main point of discussion for Jackson and Scambler (2007) is whether the view of EBP as a 'levelling of the playing field', which enables CAMs to prove their effectiveness, is plausible. Resistance from acupuncturists to EBP was based on scepticism of research values, which were seen as narrowly reductionist rather than holistic and person-centred, and as being 'disembodied' (2007:427). The article is sympathetic to alternative therapies, and observes that a consequence of EBP for such therapies is that even in resistance, they are forced to define the basis of their knowledge, which had hitherto been an open issue. Villanueva-Russell (2005:559) had assertively made just this point, urging chiropractice to 'define *for itself* what [its] parameters are, and how to legitimate and validate these knowledge claims' (original emphasis). She sees the vitalism of chiropractice as irreconcilable with the positivism, empiricism and politicised-economism of EBM. In both of these pieces, EBM sharpens perceptions of contrasts between professions understood as being, or urged to become, coherent autonomous units[16].

EBM thus consolidates a situation where CAMs are connected to medicine by being differentiated from it. Derkatch (2008) further instatiates this situation. She uses the idea of scientific rhetoric to frame her analysis of RCTs. She reports appraisals of CAMs conducted by RCT-styled reasoning as being regularising, idealising, unifying, implicated in authenticating

[15] Timmermans and Berg's (2003) piece is the only example I can find to directly discuss this point.
[16] This is significant in the case of acupuncture, which had already been partly incorporated into the practices of allopathic professions (particularly physiotherapy – see Alltree 1993, Hopwood 1993), and therefore might have had the potential to blur inter-professional boundaries.

performances of scientificity – in short, all the things which CAMs are defined by not being. Derkatch (2008:379) acknowledges that medicine has produced critique of the RCT method, but explains how it also makes use of safety and efficacy as 'god-terms' (powerful and flexible last words) which re-define the boundaries of ideological exclusion as and when required. She argues that the rhetoric of RCTs is used to 'black-box' the issue of efficacy so as to preserve the status of CAM-practitioners as strangers to biomedicine.

The combination of RCTs and other research into meta-analyses and systematic reviews has also received sociological attention, notably from Moreira (2007). He identifies techniques of *disentanglement* and *qualification* of data in producing systematic reviews. Qualification is particularly a process of 'changing the political meaning of data' (Moreira 2007:183). This process of evidence production is linked inalienably to the political organisation of healthcare, and so the focus is again on interactions between science as pure-knowledge, and politics. Moreira explains that there is conflict between the rhetoric of trial-authors and the aims of the systematic reviewers. Reviewers neutralise the power of the author through the application of selection criteria. Texts are inoculated by reading them in terms defined by the study protocol. Each paper included is effectively re-written and data re-calculated. Meta-analytic results are then re-entangled with political-clinical factors.

The relationship between regulatory conventions for practice established within the clinic, and those imposed from outside, was discussed by Cambrosio et al (2006) under the title of 'regulatory objectivity'. Clinical objectivity is now dependent, they say, on 'entities and protocols produced and maintained far outside the intimate encounter between doctor and patient' (2006:189). These endogenous forms of regulation, like the 'global assemblages' of Collier and Ong (2005), connect local practices with global trends. The political balance and tension addressed explicitly in this article is between the inside and outside of the clinic. But once again, there is an additional, unheralded tension in the term *objectivity* between a political understanding (where objectivity is collective and conventional) and a more purely-philosophical kind of objectivity (which is absolute). This gives me an opportunity now to discuss sociologists who have written about EBHC in terms of pure philosophy.

3.5 EBHC and Philosophy.

In chapter 2 I reported philosophical discussions of EBM, especially those of Ross Upshur. The EBMWG's (1992) introduction of EBM as being a Kuhnian paradigm shift shows that the controversy over EBM had philosophical themes from the beginning. Like other debates in EBM, precursors of such philosophical discussions can be found in polemical pieces from writers linked with clinical medicine[17]. The nature and purpose of this philosophication is not something sociologists have generally been eager to analyse, preferring to focus on the political nature of the problem. Sociologists with philosophical inclinations however, have tended to join in with the philosophising of EBHC rather than reflecting upon it critically. In this type of writing the nominal identity of the writer as sociologist or clinician can melt into the background. In the context of EBHC it seems that anyone can become a pure-philosopher (without necessarily reflecting on their reasons for doing so).

As an example, Maya Goldenberg wrote pieces on EBM for *BMC Medical Ethics* (Goldenberg 2005) and *Social Science and Medicine* (2006). The first of these is a defence of ethics against the encroachment of evidence-basedness. Goldenberg locates a flaw in evidence-basedness which is due to its objectivist commitments and masculine bias. Drawing upon feminist theory, she argues that such commitments are incompatible with the normative mandate which sustains efforts at ethical policy-making. The launchpad for Goldenberg (2006) is the 'lessons learned' from post-positivist philosophies of science. EBM shows that those who have not learned these lessons require assistance to help them catch up. In contrast to practical objections to EBHC from clinical sources, Goldenberg's (2006) argument is to show that EBHC is without a sound scientific-theoretical foundation. She challenges it using the category of experience to differentiate between a masculine, objectivist science and a feminist, embodied and contextually-situated science.

Empiricists regard universal experience as foundational, whereas Goldenberg's preferred (feminist and phenomenological) approach values plurality of perspectives and so reclaims experience for subjectivism. Evidence-basedness is to be preserved using 'experiential givenness' to develop a new scientific method (2006:2629). At later points, Goldenberg seems to revert to the bottom-line thinking which she has criticised:

[17] Examples of this, which for reasons of space I have omitted, are Shahar 1998, Couto 1998, Ghali and Sargious 2002. Sehon and Stanley (2003) gave a more earnest philosophical account.

> 'health interventions that recognise the social and political context (…) have consistently *proven* to be more effective in improving health outcomes'
>
> Goldenberg 2006:2628, emphasis added.

This recourse to insistence that clinical effectiveness can be proven restores an underlying impulse to evidence-basedness. Goldenberg (2006:2624) laments the 'misplaced effort (in EBM) to separate science from values', and comes to an ambivalent position where science is something to be rejected wholesale, but still desired. She also discusses the nature of illness experience, and, separating the 'existential' aspects of illness from the technical, advocates the re-integration of the patient into clinical reason, and inversion of the evidence hierarchy (2006:2629). She concludes with a discussion of politics in distinction to science, evidence and philosophy: 'political issues are not resolved [by EBM] but merely disguised in technocratic consideration and language' (2006:2630). Ultimately then, this philosophical account of EBM remains grounded in familiar problems, and in a struggle to mitigate political effects.

The association of EBM with positivism is something sociologists (eg. White et al 2002, Villanueva-Russell 2005, Goldenberg 2006) have asserted rather than elaborated upon. Positivism is, in current times, a pejorative term (see Willig 2001:3) and practitioners' levelling of accusations of positivism against EBHC is usually a prelude to criticism[18]. For a critical discussion of this connection one must look to medical writers Djulbegovic, Guyatt and Ashcroft (2009 in *Cancer Control*) who restored positivism to respectability for their defence of EBM. They identify affinities between positivism and EBM: predictive power as a test of theory, restriction of theory to observable reality, and disregard for causal explanatory mechanisms (2009:161). On the other hand, they explain, strict logical-positivism is too narrow a doctrine to encompass all the epistemological needs of EBM[19].

While various other philosophical connections (notably to falsificationism) can be made, Djulbegovic et al (2009:166) conclude after all that EBM is 'not about developing a new scientific or philosophical theory' but is a model of practice, and one which they say 'has become coherent'. Although unsuccessful, their philosophical explorations seem to provide the backing

[18] see Upton 1999, Welsh and Lyons 2001, Walker 2003 in nursing; Webb 2001, Humphries 2003 in social work; Oliver and Connole 2003 in education.

[19] They use the inobservability of results from meta-analyses to make this point. It is tempting to comment that there are more obvious ways available for doing this. As Keat and Urry (1975:9-12) explain, positivism is supposed to provide a model for scientific explanations which are universally applicable. EBM involves particular entities (such as drugs, patient-types) which are non-universal.

for this conclusion which is to assure the legitimacy of EBM[20]. Sociological writers, too, have implied the legitimacy of EBHC by their efforts to make sense of it philosophically. An example from Cronje and Fullan (2003) helps illustrate this effect. Cronje and Fullan (2003) see EBM as an orchestrated purposive effort to forge a new model of rationality for medical practice. Working around the idea of rationality, they draw on the philosophies of Harold Brown (for classical rationality) and Jurgen Habermas (for dynamic negotiation and the 'ideal speech situation') to outline the conditions for a 'cooperative search for the truth' (2003:363).

Highlighting continuities between these philosophies, the arguments for EBM associated with David Sackett, and attempts to bring 'the patient' back into clinical decisions, they present EBM as a process of dealing with philosophical problems in pragmatic terms. Concluding (2003:365) that 'ultimately, the test of any definition of rationality' is 'its compatibility with the pragmatic needs of its community', they construct a functional account of EBM which is consensual rather than conflictual. Emphasis on the philosophical in EBM allows Cronje and Fullan (2003) to validate the controversy and dissociate it from the politics of disciplinary power, by imagining stakeholders in medical practices as working constructively and collaboratively towards the ongoing achievement of rationalisation in clinical proceedings.

Kelly and Moore (2012) also later conducted a philosophical discussion of EBHC around the issue of rationality, but in relation to the production of clinical guidelines. Their theoretical authority is derived from the enlightenment philosophies of Emauel Kant and David Hume (for rationalism and empiricism), so that, while being sociological, sections of their paper are close to being purely philosophical. The authors explain that pursuing this philosophical resolution, while it might seem far-removed from the actualities of health policy decision-making, helps to 'illuminate the *real* tensions' (2012:16, emphasis added) experienced by policy-makers grappling with the difficulties of evidence application. The juxtaposition of EBP with a 'very old intellectual divide, well-known to Enlightenment philosophers' (2012:16) is referred to as getting it 'off the hook' of accusations of philosophical naivety (2012:9).

This reprieve is achieved by a careful balancing-up of Kantian and Humean analytic and synthetic *a priori* judgements with *a posteriori* empirical knowledge. Such an approach elevates discussion of EBHC to new heights of theoretical sophistication and historicisation. Kelly and Moore (2012) use the orthodox ideas of evidence hierarchy and bias to uphold a philosophical distinction

[20] Recall that, in a similar way, Upshur's extensive philosophications of EBM elevated the discussion to a more sophisticated plane, even though Upshur ultimately grew disillusioned with them.

between practices which are and are not evidence-based. They contrast 'the processes of *inductive* reasoning associated with clinical activity' with 'the *deductive* reasoning associated with the mechanics and techniques of EBM' (2012:14, emphasis added). Their Kantian/Humean synthesis shows that the contemporary dilemmas faced by health policy-makers match up with the concerns of classical philosophy – that they are 'quintessentially and inevitably difficult' (2012:15).

Critical engagement with this argument requires a considerable capacity for analytic philosophy. There are issues as to whether Kelly and Moore's (2012) distinction between real things and observations of things is robust; as to how far their theme of elimination of bias can withstand scrutiny; as to how assertions like 'meta-analyses produce a truer result than a single observation' (2012:12) are to be understood; as to whether their elision between sense-data and empirical data is faithful to the philosophical concerns of Hume and Kant; as to whether deduction can be cleanly excluded from clinic-based reason, and induction from evidence-based reason; and other difficulties. The key point however is the implicit outcome of philosophical proceedings for Kelly and Moore (2012), which is that the debate over EBM can be made philosophically legitimate, and indeed resolved using philosophy. The unexamined alternative possibility is that it cannot.

I have pure-philosophical contributions of my own to make on the topic of EBHC, which are set out in the Appendix. I keep these separate from the main body of the thesis, in which it is their sociological significance (rather than philosophical technicality) which is made clear. Before doing this I note that in sociological EB-writing, philosophy has been a means of channelling debate away from agendas which are more obviously political. This has the effect of legitimising the debate over EBHC as a whole, and to an extent, EBHC itself by association. Writing philosophically has also enabled the presentation of generalised forms of thought which don't appear to be discipline-specific. But while addressing philosophical generalities, pieces such and Cronje and Fullan (2003) and Kelly and Moore (2012) preserve without question the disciplinary conflicts of research-versus-clinic and evidence-versus-practice upon which the debate is originally built.

3.6 Appraisal of Sociological Perspectives.

Positioning the Present Thesis in Relation to Previous Sociologies of EBHC.

The question of where sociology stands in relation to EBHC is part of a question as to where sociology stands in relation to medicine and healthcare generally. Reflecting on Roberts' view of the debate over EBM as a turf-war, it is noticeable that in comparison with other sections of the literature, sociological writing has been peaceable. Sub-disciplinary allegiances have been muted, often dressed in the neutral rhetoric of social science and sometimes camouflaged by philosophication. Mykhalovskiy and Weir (2004) provide a contrast to such restraint: they give a triumphant account of EBHC, and chastise social scientists for their slow and misguided responses. (The accusation of 'lagging behind' (2004:1060) is familiar from other domains of EBHC literature). They review the sociology of EBHC in terms of political economy, humanist, and post-modern approaches (all of which have themes which are political in nature, rather than philosophical).

Gathering recommendations for sociologies of EBHC, they prefer Foucauldian genealogy and specific discursive analyses of EBHC as knowledge practice. These are to address the details of EBHC as manifested clinically, the place of patients in EBHC, and its textual mechanics. The clinic is to be studied as the milieu in which different sources of evidence collide; the patient seen as a site for evidence production; and the textually-mediated character of EBHC given fine-detailed analysis in terms of production, dissemination and consumption of evidence. In these pronouncements upon what is and is not correct practice for sociologists of EBHC, the object of derogation is not an easily-identifiable 'other side' who would criticise EBHC where Mykhalovskiy and Weir (2004) support it, but those whose analysis is based on methodological principles with which Mykhalovskiy and Weir find fault.

As the sociological debate has grown in complexity, it has become less clear that it is appropriate to assign writers to one side or another – but remained clear that writers see themselves as being on a 'side' in relation to EBHC (whatever it may now be taken to mean). The present thesis has elements which Mykhalovskiy and Weir (2004) approve; a Foucauldian-genealogical focus on textual mechanics, and a committed interest in the configuration of the patient. It also has elements which they disapprove: critical scepticism of ideas relating to science and mathematics; and a suspicion of power which is not assuaged by assurances of power-productivity and

optimistic patient-centredness[21]. It has something further which they do not consider; a proclaimed interest in philosophy as a counterpoise to the political arguments which are exchanged over EBHC.

In the course of the above philosophical discussions a paradox emerges. On one hand, philosophy stands over and above disciplinary distinctions. It is accessible to everyone – researchers, clinicians, sociologists, policy-makers. In this sense it transcends boundaries and seemingly sublimates discussion of EBHC into a domain of pure reason. On the other hand, philosophical ventures are attached to disciplinary perspectives, and so can make disciplinary loyalties clearer. This can be illustrated by a brief detour into Bayesianism, where statisticians have advanced a statistical philosophy not just as a basis for conducting EBM, but also towards its theoretical justification. Issues of probabilistic decision-making are directly addressed by Bayesianism (Dennis 1996, Kaplan 1996). Bayesianism can readily be applied to the analysis of clinical trials (Berry 1993) and in the context of clinical reasoning (Gill et al 2005), and has been presented as a general philosophical basis for EBM (Ashby and Smith 2000).

Ashby and Smith's (2000) argument for Bayesianiam as a basis for EBM has been cited by others in the field of medical statistics, but has not been taken up within clinical and policy discussions of EBHC. This indicates that not just understandings of what EBHC is, but also understandings of how it is theoretically justified, are streamed by discipline. For sociologists just as for others, engaging with EBHC has meant engaging with its philosophical as well as its political aspects; but not, so far, in a critical and reflexively-aware way. Towards a sociology in which care is taken to understand EBHC before becoming involved with EBHC, I pursue a greater awareness as to the purposes served by this engagement. There is something suspect about trying to construct an after-the-fact philosophy of EBHC which is not sociologically grounded. After all, EBHC has become culturally established without agreed-upon philosophical justification; and it is set to continue, irrespective of old philosophical justifications which are discredited or new ones which are added.

[21] Mykhalovskiy and Weir (2004) invoke Foucault's productive model of power to support their positive view of EBHC, and assert a possibility for harmonising the EBHC and 'patient-centred' discourses.

The View from Politics.

In light of the literature reviewed in this chapter, it can be stated confidently that the 'political' view of EBHC has been valuable for sociology as a disipline. A recognition of politics of EBM within-medicine and about-medicine is descriptively useful; and expanding this political sensitivity to other domains, such as complementary and alternative medicines (CAMs), allows for EBHC to be mapped in different social levels and contexts. Political factors are used both to make sense of responses to EBHC, and also as causal explanations for the genesis of EBHC. Politics seems to 'lift the lid' off evidence-basedness across its implications and situations, by making it navigable in terms of insides and outsides which correspond to different social institutions, and by securing it in broad social context. Such accounts indicate that EBHC is a thoroughly political phenomenon. What can be the problem with this?

First, there is a reflexivity problem in which, by being projected outwards, a concern with politics influences researchers to imagine themselves as non-political. Consider for example Barry (2006) who contrasts biomedical with anthropological approaches to evidence for alternative medicine. Barry (2006:2648-9) criticises the rhetoric of EBM principally for its 'deeply political' nature, which systematically de-values alternative therapies. To counteract the myopic tendencies of EBM, Barry advocates anthropological techniques which accord value to homeopathy users' accounts of effective therapy. Acknowledging the strengths of her argument, it carries the implication that the validation of alternative therapies is somehow more pure and less political a project than the validation of capitalist-industrial medicine. In fact both projects are politically embedded. This indicates a problem which cannot be resolved merely by enjoining analysts to recognise their own political interests, if there is something inherent to 'politics' which blinds their reflexive vision.

Not only does a preoccupation with politics blind researchers' reflexive vision; it also leads them to attribute political motives to others which others might legitimately protest. In the act of writing, writers might be aware of their own political motives; but this does not preclude them from producing arguments which they believe to be not just politically correct, but purely correct. If writers do not present their own ideas as matters just of politics, and do not see them as matters just of politics as they write, then some other parameter is needed to understand why participants in discourse do the things they do. There is an associated question as to how participants process their political awareness into writing, especially if the political consequences

of EBHC are complicated and hard to predict. Rather than being conscious and explicable, there might be an element of this processing which is non-conscious, sub-conscious or instinctive.

Failure to appreciate these subtleties of EB-writing can lead not only to misattributions of motive, but also to conspiracy-type theories. Then reified entities, such as The Medical Profession or The Pharmaceutical Industry, are imagined as knowingly orchestrating EBHC for their own nefarious purposes. Without denying that such entities do exist and work generally to protect their own interests, a risk can be detected of sociologies presenting the entirety of social phenomena around EBHC as having been choreographed amongst figures too powerful to be named. Such accounts, being basically psychological in the attribution of explicit motives, miss the point of sociology. An accusation of psychologism can perhaps also be used to trouble the persistence of 'autonomy' in sociological accounts of EBM in relation to medicine. The idea of autonomy continues a theme from medical and health-professional EB-discourse where professionals are explicitly protective of their autonomy which they perceive to be threatened by EBHC.

Within sociology, techniques for bringing the concept of social autonomy into question are well-established. Nikolas Rose, building from Foucault's work on subjectivity, is a spokesperson for such concerns. In Governing the Soul (Rose 1990:244), he discusses 'technologies of autonomy' which reflect an imperative to freedom through which modern selves are made governable. In this understanding, personal autonomy is essentially a mythical and unachievable ideal. Rose's arguments might not be directly transposable into the analysis of EB-discourse, but they are a sign at least that autonomy ought not to be used uncritically as a concept for sociological analysis. It is perhaps because those concerned with a politics of professional power are themselves bound to a particular political pespective, preoccupied with doctors as individual custodians of power, that they are reluctant to question the sense in which clinicians can be thought 'autonomous'.

Here a preoccupation with political concerns leads sociologists away from a broader critical perspective. The category of politics channels support for thinking about EBHC in the same way as established in clinical writing, rather than making space for deep critique. Sociologists, understandably where their work is dependent upon a reification of The Clinic, have preserved and naturalised the binary opposition of evidence against practice. This opposition, like the idea of autonomy, might not at first seem an easy one for sociologists working within the field of health to deconstruct, but to do so is not impossible. Fox (2003) and Hammersley (2003c), for example, have successfully brought it under scrutiny. This is made easier by those who identify

the patient as the site for all evidence production; for if research and practice have the same embodied source, one must see their separation and opposition as something contrived rather than something natural.

Some sociologists have noticed that the original idea in EBHC, the purification of practice by evidence, can be interpreted as a de-politicisation (albeit a de-politicisation which is insincere or unsuccessful). They have not appreciated though that the idea of politics, because it is carried inside the dichotomy of evidence and practice, might be rendered unsuitable for critical use. It can only perpetuate the debate between evidence and practice by reaffirming its conceptual grounds. Its value lies in description, for which purpose it is essential; without political distinctions within and between professions, the mass of EB-writing could not make sense. One might even say regarding EBHC, that everything is political. But if everything is political, the idea of politics has no outside for EBHC; and then its capacity for making explanatory distinctions is severely limited. Some of this limitation can be alleviated by recourse to philosophy; but not all of it, as I explain in chapter 4.

Conclusion

Just as EBHC poses a question to clinicians, it poses a question to sociologists as to what they should do about it. Are they with it, are they against it, or what else are they? In this chapter I have reported a selection of sociological answers to the EBHC question. Some used the controversies of research methods and practical expertise to locate themselves inside EBHC. In doing this, they found room for themselves inside the clinic, or on the outside looking in, and so contributed to the construction of clinical boundaries. While such writers made clinical sociologies, others tried to stand on the outside and interpret. One route to making sociologies from the outside of the clinic was to use politics as a guiding principle; and very often where politics was used, philosophy was not far behind. Political sociologies-in-EBHC were usually focused on EBHC as it affected health professions; but also there have been sociologies-of-EBHC which look first to broad global social conditions for an explanatory context.

A comment I would like to make upon these proceedings is that like the clinical writings reported in chapter 2, they are highly repetitious. At many points the arguments made in sociologies of EBHC are the same as those encountered previously from clinicians. Sometimes they are expressed in an idiom sociological rather than clinical; but not always so. It does not

appear that sociologists are aware how repetitious this discourse has become. Engaged for the most part in finding new ways to express over and again the same set of anxieties, sociologists' fields of vision have been restricted within sub-disciplinary enclaves. Averting their eyes from the 'big picture', sociologists of EBHC have lacked awareness of their functional role in perpetuating and proliferating discourses around EBHC. This is perhaps most clearly evident in relation to philosophical sociologies of EBHC. Here sociologists, heedless of clinical endeavours to philosophise the controversy, have produced their own philosophical accounts without reflexive consideration of the sociological implications of doing so.

At the same time, sociologists of EBHC can be categorised quite easily into those concerned with meso-level phenomena (relating to professions and sub-professions) and with macro-level phenomena (such as global trends to neo-liberalism and capitalist-industrial healthcare). These two types of accounts both have merits, but they can only be considered as giving partial sociologies of EBHC. It is not clear how they connect to each other, and neither of them can elucidate the micro-level proceedings of EBHC. New guiding principles are needed for thinking about EBHC in ways which can transcend the parameters which are so well established. In seeking new parameters, there is still a place for philosophy in sociologies of EBHC; but philosophy is to be pursued under sociological supervision, not to replace the sociological-political perspective but to enhance it. In doing this I strive to avoid taking sides in other people's arguments over EBHC, arguments which circulate endlessly and, so far, lead not to any sociological resolution.

Chapter 4

Methodology and Conceptual Framework.

Synopsis.

In this chapter I justify my selection of analytic categories for understanding Evidence-Basedness discourse. This is done in three stages. In the first stage I explain what is meant by thinking of evidence-basedness as a discourse, and my reasons for doing so. I develop an understanding of discourse analysis in general and specifically in relation to debates around EBHC. I identify the choice of analytic categories as the most important step in, and distinguishing characteristic of discourse analysis. I then proceed to investigate possibilities for analytic categories in EB-discourse. In the second stage, I discuss the relationship between the categories of politics and philosophy which have been used in sociologies of EBHC. I show that these categories work together in dialogue to guide and restrict the possibilities of thought around EBHC.

I also use philosophical insights (which I present in the appendix) to support the derivation of dialogue as the most important structuring principle of EB-discourse. In the third stage I develop this understanding, leading to two further analytic categories, embodiment and emotion. These follow from the observation that EB-discourse is of *rationality*, but has aspects which are recognisably *irrational*. The categories of embodiment and emotion are validated as being marginal to the dialogue of rationality, but are anchored empirically in the discourse itself. Each poses methodological problems to which I propose solutions, and explain the techniques used for the investigation of each analytic category.

4.1 Introduction.

Evidence-basedness Discourse: the Problems of Coherence and Unity.

In previous chapters I presented evidence-based healthcare historically as a series of literary events in chronological and conceptual order. In the context of these discussions, the acronyms EBM (evidence-based medicine), EBP (evidence-based practice, and the general EBHC, evidence-based healthcare) refer to ways-of-doing which are argued for and against. For example, clinical writers describe how they envisage EBM being enacted in practice, or they develop theoretical critiques of EBP as practical method. Here in chapter 4 I develop a different perspective on the push-and-pull dynamic of such discussions. This acknowledges that both apparent 'sides' contribute to the ongoing debate, a debate which is sociologically important as a whole and not just for the isolated contributions of particular groups within it. I make use of the idea of discourse to clarify this. I use the phrase 'EB-discourse' to refer inclusively to the set of discussions and patterns of thought which are centred around EBHC.

EB-discourse includes both advocacies and critiques of EBHC, ambivalent pieces in which advocacy and detraction come together, and equivocal pieces which might not fit into either category. As I indicated in chapter 2, EB-discourse has been well-sustained for twenty years and remains influential in the upkeep of healthcare as a social institution. In making this claim, the distinction between EBHC and EB-discourse becomes important. The claim that EBHC has led to institutional changes in medicine might be true, but is controversial and requires historical elaboration in terms established in EB-discourse. The claim that EB-discourse is implicated in the upkeep of healthcare, meanwhile, is weaker, and more-or-less self-evident.

All sorts of people – doctors, other clinicians, policy-makers, researchers – have joined in with EB-discourse on the understanding that it affects their work. From a sociological point of view, people's sustained interest in EBHC is sufficient to guarantee the influence of EB-discourse on social life; it is agreed to be important and influential, therefore (by definition) it is important and influential. EB-discourse serves a functional social role which protects the status of health institutions. Across the discourse, a range of possible perspectives on EBHC is articulated within a range of plausibility (the Foucauldian range of the *thinkable*). The process of this articulation is the operation of power within this social context, for it is the means by which seemingly disparate elements are amalgamated into a collective and functional social act.

One way to approach this functionality might be through an idea of consensus, asking how consensus is established. Harrison's (1998:26) scepticism of EBM comes partly from his identifying a 'presumption of consensus where there is none'. Similarly Turner's (2010) review of EBM literature sought to establish *coherence*, or a hidden consensus to be clarified by reading across the debate. In the present thesis I observe, instead, that consensus has not been necessary for the maintenance of EB-discourse. Perhaps, on the contrary, it is the continued lack of consensus which makes EB-discourse powerful. Consensual resolution in EB-discourse would be of sociological interest (if it could be established empirically); but the present concern is with the mechanisms by which EB-discourse began, and by which it is sustained in different fields of social life.

There is a field of research for the analysis of discourse – discourse analysis – which informs the present study, along with other traditions of research method. Some explanation is needed when thinking of the EB-debate as a discourse. While 'discourse' is an old term, its modern sociological use is strongly associated with the legacy of Foucault, particularly after *The Archaeology of Knowledge* (1969) and *The Order of Discourse* (1970). In *The Archaeology of Knowledge*, Foucault considers problems of discursive unity and discursive formation. Returning to the paradigmatic case of medical discourse, he discusses the difficulty of formulating the discursive rules by which particular statements are made; especially when the objects of discourse are always in the process of changing. (The objects of medical discourse, for instance, are different in the late twentieth from in the early nineteenth century).

In the case of EB-discourse, this problem of discursive unity is less troublesome. Where Foucault was talking about following the history of discourses across centuries, I have followed EB-discourse over just two decades. It may still be argued, though, that by 2012, EBHC meant something different from what it meant in 1992. In this respect Foucault's (1969:35) comments on discursive formation are helpful. If discursive unity cannot be found in the coherence of concepts, perhaps it can be found in their 'simultaneous and successive emergence, in the distance that separates them and even in their incompatibility'. The analyst is to look for order not in *chains of inference*, but in *systems of dispersion* of ideas (1969:37). EB-discourse shows encouraging signs for such a project: the recurrence of linguistic tropes in various contexts; the multiple repetition of similar ideas in slightly different forms; the apparent incompatibility of two opposing sides whose underlying similarities are concealed.

This is helpful for thinking about discourses as groups of statements which form a kind of unity without the need for consensus or overarching coherence. There are other reasons to be confident of evidence-basedness as 'discourse'. It exists primarily in the form of written language; in academic literature, in fact, a highly codified and formally regulated literary style. These writings offer an unbroken fossil-record of its past, convenient for research purposes. It is easily isolated in this literature from related discourses. When written about, it is usually the main topic for discussion, with contributions from other discourses being juxtaposed but separable. In this respect it occurs as a distinctive discursive form. It is also self-limiting and self-referring; EB-writings are connected by reference to other EB-writings, forming a set of texts which is highly self-enclosed. This particulate nature fosters discursive peculiarities and unwritten rules which appear relatively specific to EB-discourse, and relatively slow to change[1].

I have said that it is with regard to the collective maintenance of healthcare institutions that EB-discourse is an expression of power[2]. To make this observation is to step outside the boundaries of EB-discourse, in which the anxieties presented concern only the statuses of entities within the terms of EBHC. For example, some are anxious that EBHC would open the way to marketised healthcare, would silence the patient's voice, would erase the skills of clinicians. Others are concerned that resistance to EBHC would impede modern progress, would put patients at risk, would preserve professional monopolies. Many are caught in ambivalence between countervailing sub-powers. Nobody worries that both sides, and everything in between them, are dangerous.

In *The Order of Discourse* Foucault (1970:52) writes of 'anxiety about this transitory existence which is destined to be effaced, (…) anxiety at feeling beneath this activity powers and dangers that are hard to imagine.' He is conscious of danger 'in the fact that people speak, and that their discourse proliferates to infinity.' To perceive this all-encompassing danger is to recognise that it is discourse as a whole, not just sectors within discourse, which is powerful. How is the powerful discourse of evidence-basedness to be approached for analysis? Foucault (1969:38-39) recommends, 'instead of going over with bold strokes lines that have already been sketched', an advancement into unfamiliar territory and unforeseeable conclusions.

[1] EB-discourse is also self-constituting. Each piece of EB-writing is a contribution to its own subject matter, an example of the thing being written about. Each piece adds to and consolidates the store of things which can be thought and written in EB-discourse.The *constituent* nature of discourse is a topic commonly discussed amongst discourse analysts (see eg. Phillips and Jorgensen 2002:20).

[2] This is a slightly different use of the term power than is made by eg. Vos et al (2002) when discussing inter-professional power relations.

4.2 Doing Research on EB-discourse.

The Need for Reflexivity.

Part of EB-discourse, especially that part involved with evidence hierarchies, is a contest for the general credibility of different empirical research methods. In this respect a warning must be sounded, about taking by implication a position within the discourse. This problem can be illustrated with examples of things written about EBHC. Some physiotherapeutic writers, for instance, investigated EBP using the (strictly-quantitative) techniques advocated within EBP. In so doing, they aligned themselves rhetorically with a movement towards EBP. Conversely, certain clinical-sociological writers (notably Denny 1999, Traynor 2000) identified with discourse analysis as a way of putting distance between themselves and the values of EBM. It has also been usual to find sociological advocacies of EBM which are themselves based on literary and qualitative methods, not EBM-style methods. This implies a separation between the sociologists writing and clinicians who are supposed to be adopting EBHC, a separation which generally passes unexamined.

This issue is one of methodological reflexivity – being aware of the position one is taking within a methodological debate by adopting methodological sensibilities. On the one hand, it is an urgent problem of practicing what is preached. It is difficult to maintain a position of neutrality when one's methodological preferences are displayed by example. In a fashion, this problem has been attended to in EB-literature, insofar as there are the beginnings of awareness of a difficulty in providing evidence for (or against) EBM (discussed in appendix). For the most part though, EB-writers have not concerned themselves with this issue. The first advocacies and detractions of EBM, even those arguing against Opinion, were opinion-pieces. This tradition continues, even if the rhetorical styles of EB-discourse have become more variable. Others' reluctance to pursue such reflexive awareness incentivises me to do so, as a way of insuring my work against conceptual vulnerabilities.

On the other hand, this problem of reflexivity can be tranquilised. I do not offer an account just of EBHC, in which context methodological commitments are painfully sensitive issues; I offer an account of EB-discourse, in which an ironically small amount of work has gone on methodological justifications. Even in writing a 'methodology' chapter, I am going beyond what has gone before in the tradition of writing on EB-discourse, so far as it is recognisable as such. There are also practical reasons why EB-writers have adopted a freewheeling attitude to methodological reflexivity; a strictly evidence-based account of EBHC would be difficult to

make coherent, having to constantly make reference to itself. Against the prospect of such hyper-reflexive tail-chasing, the best position to adopt is one of contingency and tolerance.

The research act starts with an outline of methodological predispositions; these are subject to refinement and qualification in ways responsive to what is found in EB-discourse (rather than being rigidly pre-determined, as are the methods of EBHC). There remains a need to be clear on how arguments about EB-discourse are constructed, while replacing a static conception of research-method and research-topic with something more fluid. This study is conducted on EB-discourse, but is also *part of* EB-discourse, and so there is continuity and feedback between the research act and the research content. In EBHC there is perceived a need to label methods, to put them in order and discipline them. In researching EB-discourse there is a need to avoid such preoccupations, and to bring into question the linearity of research-time. This stepping away from EBHC is important for creating space in which things about EB-discourse can be observed[3].

My Personal Path Through EBHC.

A starting point for the present thesis can be found in the personal terms of what I have done. EBP caught my attention in 2005 when I was training as a physiotherapist. The first EB-literature I read was written by physiotherapists. My impressions of EBP were conditioned by my prior education in sociology of science. I had conversations about EBHC with doctors and health professionals, and university tutors. Sometimes I encountered well-developed opinions, but indifference and reticence were more usual. I became familiar with what seemed a never-ending supply of academic literature on EBHC. I formed the impression that this literature was disproportionate to the barely-detectable presence of EB-related discussions in hospitals and health-training universities. More slowly, I formed the impression that within the expanse of EB-literature, every perspective on EBHC had already been expressed; and yet people were continuing to write about it, sure that what they were writing was always something new and important.

It seemed to me as I began to research it that the significance of this social phenomenon, a discourse of evidence-basedness, lay in the mass of what was being written about it, not in some

[3] Tendencies to methodological labelling and loyalty become suspicious in a way which calls to mind Foucault. 'Do not ask who I am and do not ask me to remain the same', he wrote (1969:17). Placing value on difference of perspective, creating space for an ever-changing dialogical relation, calls to mind Bakhtin's commitment to a principle of dialogue (Bakhtin 1981).

other tangible reality which EB-writing was failing to capture. I decided to make the literature the raw material for my research, and to adopt a naturalistic approach. EB-writers, I supposed, were writing not so as to be read electronically by computer programs which would chop up all the EB-writings and splice them back together by counting them in different ways; but read by others interested in the narratives of EBHC. In such a naturalistic approach, the basic activities of research are reading, writing and literature-seeking. The naturalistic approach does not import technologies to mediate the processes of reading and writing, nor does it elicit the production of custom-made data[4].

This naturalistic approach to spontaneous discourse involves a type of immersion which is ethnographic. To be sure, some who write about EBHC also practice EBHC (or don't) in their clinical roles. Others imagine (or don't) what it would be like to practice EBHC when they write about it, or draw upon the testimonies of practitioners. What makes these people participants in EB-discourse is purely the act of writing about EBHC. By participating, I have become one of those who experience EB-discourse as a literary form of social life. The experience of EB-discourse 'from the inside' has been crucial for the development of analytical categories for this thesis; but the act of stepping beyond the boundaries of the discourse, to see it as a unity, is also crucial[5]. I have used myself as a means of collecting and expressing knowledge within and about EB-discourse, and it is in this sense that I claim for the thesis the status of a literary-ethnography.

The next problem to address is one of sampling from a large population of pieces written on EBHC, a population which I estimate in the order of 10,000 referenceable articles and books[6]. A statistical approach to such a population would be to sample pieces at random, but this is not a good idea for researching an academic discourse in which some pieces are more important than others. Some articles have been referenced thousands of times, others not at all. Some are written by recognised authorities and published in widely-read journals, others are not. Focus on pieces closer to the 'centre' of the discourse makes for the sense of a self-selecting sample; especially when many of these influential pieces are connected to each other by referencing. On

[4] Starks and Trinidad (2007:1373) refer to a *natural* environment in which discourse is produced, but perhaps *spontaneous* is a better word to recognise that textual utterances in EB-discourse are not provoked by the researcher in the sense which applies to interviews, focus groups and questionnaires (This reflects a caution raised by Hammersley (2003a:122) about interviews in general.)

[5] This matches the classic anthropological anxiety over the relationship between emic and etic perspectives (Eriksen 2001).

[6] Based on the number of references for Sackett et al (1996) which includes a popular definition of EBM. A search for "evidence-based medicine" on Google Scholar retrieves over two hundred thousand results.

the other hand, particular pieces which might appear peripheral are essential for making comparisons and contrasts, and demonstrating possibilities.

4.3 Discourse Analysis.

The Strength Through Flexibility of Discourse Analysis.

A label of 'discourse analysis' can be attractive precisely because it is imprecise. Hodge (1989), for illustration, counsels against formalism in discourse analysis, expressing a wish for diversity which typifies the field. Foucault's discursive method having been characterised as a 'kind of toolbox' (Foucault 1974[7]), the possibilities for different styles in the analysis of discourse are opened up. Some have mapped out these styles along different dimensions of conceptual space. For example, Phillips and Hardy (2002:20) use a continuum from constructivist (active, psychological) to critical (passive, institutional) on one axis, and from text (micro-linguistic) to context (macro-structural) on the other. Alvesson and Karreman (2000:1135) draw a similar map using continua from 'determination' to 'autonomy', and from close-range (micro, meso) to long-range (grand, mega) interests. Barker (2008:153-4) tabulates analytic types discretely in terms of responses to eight defining questions. Meanwhile Titscher et al's (2000:51) expansive map attaches traditions of theory and method to particular authors.

Discourse analysis is a diaspora of methods whose boundaries are open. Encompassing different possibilities allows the researcher to maintain flexibility to the demands of the topic (see Gill 2000, Hammersley 2002). As well as being compatible with an idea of literary ethnography[8], discourse analysis can include a notion of narrative which I make use of. Narrative analysis is well-established as a research method for sociology (Franzosi 1998, Lawler 2008) compatible with other discursive methods (Johnstone 2004, Taylor and Littleton 2006). Similarly, Billig's (1996[1987]) development of Rhetorical Analysis has appeal for studying EB-discourse as rhetoric. Billig's discussions of tactics of persuasion (1996:81) and of 'arguing against common sense' (1996:246), for example, are ideas relevant throughout this thesis. Both of these interests (narrative and rhetoric) have precedents in EB-discourse through the work of Trisha Greenhalgh

[7] See *dits et ecrits* 2001 edition, page 1391: '*Je voudrais que mes livres soient une sorte de tool-box dans lequel les autres puissent aller fouiller pour y trouver un outil avec lequel ils pourraient faire ce que bon leur semble, dans leur domaine*'. 'I would like my books to be a sort of tool-box in which others can seek and find a tool which they can use how they wish in their own area'.

[8] I use this term to mean ethnography-in-literature, rather than in creative personal writing, as it has been used by eg. Fine (1993).

(see Greenhalgh and Hurwitz 1998; Greenhalgh and Russell 2006; Russell, Greenhalgh et al 2008); and both require the development of analytic categories.

The process of developing analytic categories to a point where they can be confidently trusted is difficult to generally explicate. Writing about Grounded Theory[9], Charmaz (1990:1164) warns against premature commitment to categories, before the researcher has 'fully explored the issues, events and meanings within the research problem', and gained 'intimate familiarity' with it. In qualitative research it is tempting to make use of concepts like *saturation* and *exhaustion* as poetic expressions for reaching a relatively secure state of knowledge wrought from qualitative data. A problem with these terms is that they have recently come within reach of some uncritical evidentialism. Bowen (2008), for example, calls for claims of saturation to be substantiated by evidence; as if saturation were a quantitative and measurable state which is either achieved or not. Similarly Morse et al (2002) counsel qualitative researchers to regulate their studies for reliability and validity on a model attributed to mainstream science. Pope et al (2000:116) defend qualitative methods through assurances that they can be systematic and rigorous, if 'done properly'.

Assertively-phrased evidentialism is treated hygienically and forensically in the present thesis. Being something to be investigated, it cannot comfortably be presumed in the methodological justification. Most pressing is the need for contextual specificity, conceptual coherence (especially avoiding circularity), and the construction of arguments which are sustainable by standards which become clear as analysis proceeds. With regard to validity, prior claims need not be made with regard to projectability. The thesis concerns EB-discourse; any extension of its arguments to other discourses would need to be quarantined. With regard to reliability, the full exploration and intimate familiarity which Charmaz (1990) recommends are what is to be demonstrated through the ensuing examination of analytic categories. This means paying tribute to Grounded Theory, alongside other methodological influences, in a way which again puts value on methodological diversity[10].

Choosing analytic categories is the most important step towards the explication of method. Methods are flexible in their specifics, but analytic categories provide the conceptual framework for determining what types of things can be said about a discourse. Across different schools of

[9] Grounded Theory can be connected to Discourse Analysis – Starks and Trinidad (2007) present some similarities and differences between these methods.

[10] Valuing diversity, as opposed to unity and homogeneity, recalls another Bakhtinian idea, of heteroglossia, from 'Discourse in the Novel' (1981). Consciously deploying heteroglossia of method avoids the drawbacks of evidential monologism.

discourse analysis this is recognised. In the context of Critical Discourse Analysis (CDA), Kress (1990:93) states that any analysis will 'attempt to describe the categories which are generative in the production of discourse'. Titscher et al (2000:12) phrase this more strongly; 'one may say quite simply that every observation requires particular observational frameworks or categories'. In Discursive Psychology, the focus is on the everyday use of categories and constructions (Potter and Molder, 2005:2), and the discursive practices through which categories are constructed (Phillips and Jorgensen 2002:108). In Discourse Theory, as presented by Howarth (2000:12), meanings are understood as effects of the interrelational 'play of signifiers'. This protean nature of discourse compels theorists to 'modulate and articulate their concepts' to particular problems (2000:133), thus formulating flexible and responsive analytic categories.

Within EB-discourse, categories for thought are offered up – evidence, expertise, and autonomy, for example. These are, to use Foucault's terms, lines of explanation which have been covered with bold strokes. The first task of my analysis is to briefly draw out the further categories which have been used to make sociological sense of those basic categories; these are politics and philosophy, familiar from chapters 2 and 3. Going back over these two, and their relationship to each other, yields a new general category of dialogue. The principle of dialogue provides a framework for looking again at EB-discourse through a new sociological lens. It enables the identification of dialogues which transcend the dialogue of politics and philosophy; these are dialogues around embodiment and around emotion. These new categories disturb the original terms of EB-discourse. Distancing sociology from those original terms enables me to construct a sociological analysis which builds upon those which have gone before.

The 'Actual Doings' of this Discourse Analysis: Deep-Reading and Long-Writing.

I explained in chapter 1, but will repeat now, that this thesis is written in three layers. The first layer is basically descriptive of EB-literature, read with an attitude which is critical but not interpretive[11]. This second layer, concerned with a methodological framework for researching EB-discourse, is based on interpretations; an interpretation of debates around EBHC as discourse, and interpretation of that discourse in terms of dialogue. It involves a return to the same literature, reading it in a different way. The second reading identifies a structural pattern in EB-discourse and follows it to the development of dialogue as a general explanatory principle.

[11] In those chapters I have applied empirical values known in anthropology after Geertz (1973) as 'thick description'.

This general principle enables two specific dialogues, of embodiment and emotion, to be identified as especially important in EB-discourse. These are each investigated (in layer three) by returning again to the same body of literature, and re-reading it from these newly-developed perspectives.

The analytic technique of this thesis then, is one of progressively deeper reading. I return to the same set of data to produce successively different sociologies which are connected together. It is of necessity that the same set of data is used each time; for otherwise, the sociologies of dialogue, embodiment and emotion could not be arranged on top of each other. They would refer to different things. The sensibility for this analysis is to work not so much in-breadth – covering as much different data as possible, and each time expanding the horizons so as to be able to draw different conclusions. It is to work more in-depth – taking texts and fragments of text to pieces to find out how they work. Digging downwards, rather than sideways, is envisioned to excavate more valuable sociological truths.

This strategy brings risks, of repetition and of loss of contextual awareness. The issue of repetition I have addressed by keeping the range of texts as wide as possible (within manageable limits), and by using different texts to generate points of argument. This means negotiating a balance of tension; covering 'enough' texts, not too many, not too few. It means varying choices of exemplary texts between chapters, but choosing texts which are similar enough to each other to be representative of recurring themes of discourse (while also remembering that there are no accidents in discourse, and every text is significant). The issue of contextual awareness I have addressed by positioning each text in relation to its discursive setting, and each section of text in relation to the whole piece in which it was written. I experimented with different means of doing this; and found in the end ethnographic immersion in the discourse, and 'long' writing to be the most successful[12].

By long writing I mean the committed act of writing about EB-discourse continuous with reading it. Rather than first generating masses of decontextualised data from which elements can be plucked to fit into a tidy writing process, this technique generates masses of written text for editing and re-writing. Literature is re-read for data to fit into the writing; but the writing must alter to accommodate what is read. A dialogue is formed between writing and reading. Not only

[12] For instance, I began my research using grids to systematically record the contents of texts in relation to particular categories. I moved away from this method when I noticed that it repeatedly led me to make out-of-context analytical claims; but it remains useful as the basis for the descriptive claims of earlier chapters.

is this dialogue never finished; it produces much more text than is finally presented to the reader. This thesis of 90,000 words is the tip of an iceberg which, by counting previous drafts of writing, I can estimate close to 400,000[13]. The idea of writing as research method is not well-recognised in sociology or even in discourse analysis; but it does have precedents and emerging presence in anthropology[14].

Further specifics of how this discourse was analysed are best explained in relation to the three analytic sections of dialogue, embodiment and emotion. However there is one more influence to acknowledge which is present to analysis of dialogue, and also to analysis of embodiment and emotion as particular dialogues, and therefore present to all three. This is the deconstructive method associated with Jacques Derrida. As Eagleton (1996:115) explains, the deconstructive method means looking always to isolate the binary oppositions which structure patterns of thought in discourse; and by collapsing these oppositions, to escape from those patterns of thought. To use Eagleton's terms, my analysis by dialogue is more structural, being concerned to identify the binary oppositions which, across EB-discourse, are the bases for systems of dialogue. My analyses by embodiment and emotion are more post-structural, being concerned to show how these categories trouble the terms of discourse.

In each of these cases, following Derrida, I 'seize on some apparently peripheral fragment (…) and work it tenaciously through to the point where it threatens to dismantle the oppositions which govern the text as a whole' (1996:116). From Derrida can also be gained support for the idea of writing as research-method. As Eagleton (ibid) says, there is something in writing itself, as a socially embodied and performed behaviour, which escapes systems of containment. Writing is a challenge to thought structures, and something which cannot be kept under control. It is done so as to see what happens; it is an empirical act. With this in mind I now leave generalities of discourse analysis behind and embark on methodological explanations relating to my three categories. The first category, dialogue, is fundamental to the other two. To show how it was developed I must return to the matters of politics and philosophy which I have already discussed at some length.

[13] This is not a boast. Writing-as-research is extremely inefficient. But it ensures integrity between writing and the thing written-about, which in this case is imperative.
[14] See eg. Ely et al (1997) on 'writing towards understanding' and Wall's (2006) 'autoethnography on learning about authoethnography'.

4.4 Old categories: the Lines Already Sketched.

The majority of chapter 3, my literature review of sociologies of EBHC, reported sociologies of a political type. Towards the end of that chapter I pointed out some limitations of politics as an analytic category for EBHC. There is one more such problem to point out which leads towards the identification of dialogue as something which is of key importance in EB-discourse. In labouring the point of this dialogue somewhat, I suffer with the reader some repetition; but it is a crucial step in the argument of the thesis, and needs to be emphasised. The problem is that the political approach has encouraged sociologists to think of EBHC as a 'movement'. This can mean that particular groups are identified as benefitting systematically from the adoption of EBHC as a practical orthodoxy, and others as systematically resisting it. Or, it can mean that those who consistently advocate EBHC are in the process of overcoming those consistently opposed to it[15].

Neither of these suppositions can be shown to be generally true. When reading EB-literature (apart from the polemics of EBM) one does not always discover groups recognisably for-or-against EBHC, but usually encounters a mess of controversy and ambivalence. One finds that the vessel which carries EBHC is not those who make a movement for it, so much as those who insist that it is a movement which must be resisted. One could be forgiven for surmising that EBHC has still not yet happened; but that this not-happening has not stopped EBHC from having social effects. Further, originating the idea of EBM with a particular group of clinician-epidemiologists (the EBMWG 1992) cannot explain its acceptance as an idea by such disparate communities as have been drawn into the debate. EB-discourse, although unique in its specifics, must also be continuous with other contemporaneous discourses, and discourses which have gone before.

In this sense EB-discourse has no beginning nor end, but circulates open-endedly in both micro-social and macro-social contexts. Practitioners may debate the specifics of evidence without alluding to the influence of market economics; policy-makers may debate the generalities of evidence-basedness without a real concern for its repercussions within the clinic. These instances are part of the same discourse, which is not just one in which advocacy overcomes resistance; but in which advocacy and resistance work together in dialogue and are contained within each other. Often advocacy and resistance are found mixed together, and both are necessary for the discourse to persist and have social effects. The 'social movements' perspective encourages sociologists to think of only part of EB-discourse – the advocacy of EBHC – as being

[15] This approach was first introduced explicitly by Pope (2003).

productive. Instead they should be attentive to the importance of the whole discourse – advocacy and resistance and everything in between.

Sociologists attuned to the dialogical properties of language (following both Derrida and Bakhtin) might identify another dialogue which consistently appears in EB-discourse, between politics and philosophy. Although I have alluded to this dialogue in both chapters 2 and 3, there remains the task of properly theorising it as justification for using dialogue as a general analytic category. The duality of meaning of the term 'politics' can first be noted; political knowledge implying also the existence of non-political pure knowledge, which might be called philosophical[16]. This is a reason why analysts using politics as a category are likely to find themselves drawn also towards the question of philosophical knowledge, creating a new binary system of politics and philosophy. Although built upon the foundations of practice-versus-evidence, the politics-philosophy dyad leaves the evidence-practice dyad intact. One can work within the politics-philosophy system without having to question the basis for the distinction between evidence and practice[17].

To say more about the politics-philosophy dialogue, its philosophical side must be developed. In the appendix, I have pursued three lines of inquiry into EBHC which are purely philosophical. I first argue that both EBHC itself and EB-discourse cannot be conceptually defined by philosophy; that within both, incompatible philosophies can co-exist (specifically objectivism with conventionalism, and positivism with realism). I secondly argue that EBHC carries a hermeneutic philosophy which has been completely overlooked in EB-discourse, and that this hermeneutic philosophy is in fact more important in EBHC than those which have been acknowledged. I thirdly argue that EB-discourse contains what I call the Evidence Paradox; indeed, the evidence paradox may be a philosophical necessity for the discourse to have been conducted as it has been. The present task is to explain the sociological implications of these philosophical insights as support for the category of dialogue.

Interpeting Philosophical Conclusions Sociologically in Terms of Dialogue.

To take first the issue of philosophical indeterminacy in EBHC; it might seem strange that writers on EBHC have not made more of these technicalities. After all, the observations I make

[16] *Philosophy* in its linguistic origin meaning knowledge-seeking or knowledge-loving.
[17] Colyer and Kamath (1999) for example do just this.

in the appendix (part 1) are no more sophisticated than other philosophical contributions in EB-discourse. Non-objectivist elements are readily found in EB-advocacies; and the positivist-realist incompatibility cannot be disguised – it is visible as soon as EB-advocates make an exception of pathophysiologic rationale and rely upon causation in RCTs. It can be said about both of these problems that they do not fit into a simple dialogue in which evidence is supposed to be opposed to practice. They show that the category of evidence is divided on at least two axes; an objectivism axis and a realism axis. From the point of view of EB-discourse which is arranged politically by an opposition between research and clinic, this complication will not do. It spoils the grounds for debate. And so, it goes unseen.

The problem of the hermeneutic programme demonstrates a similar point, but at a conceptual level which applies more to EB-discourse than just to EBHC. The term of hermeneutics is occasionally used in EB-discourse, but only as a sieve to separate the interpretive sciences which surround EBHC from the proper science of EBHC itself. It is invariably those arguing against EBHC who make this use. As they do so they blind themselves to something which, once noticed, becomes plain; that without unacknowledged hermeneutic-type suppositions about the transmission of knowledge through texts, EBHC cannot exist conceptually. These suppositions are not adherent to any arguments about the nature of evidence itself; for whatever the content of Evidence, it needs to be transmitted through text. Once again, this goes unnoticed because it does not fit the terms of dialogue. It collapses a distinction which is basic to the discourse.

Together these cases highlight the philosophical transmutability of EB-discourse in accordance with political needs. Mutually-antagonistic philosophies can exist side-by-side, and their incongruity can pass unnoticed. Even something so conspicuous as the necessity of hermeneutics to EBHC can be accommodated and moved out of sight. The hermeneutic programme causes a further problem in relation to a principle of EBHC which tacitly asserts that evidence *can* become practice. Evidence is supposed to bridge a chasm between research and practice; but if clinicians are reconfigured as scriptural hermeneuticists, the chasm has only one side. There is no space to conceive of practical knowledge, nor any possibility of mediation between theory and practice. The hermeneutic clinician is stranded on the side of pure knowledge encoded in research literature, and practical knowledge ceases to exist. Ignoring the hermeneutic implications of EBHC is the only way to sustain the notion of a naturally-existing gap between evidence and practice, by keeping the sides separate.

By considering the evidence paradox, the necessary interdependence between these two separate sides can be demonstrated. Both advocates and critics are affected equally by it. Advocates need something other than evidentialism to support their advocacy; critics need some principle of evidence to support their critique. In this situation it might be that the only position which makes philosophical sense is a kind of agnostic ambivalence, or an acceptance that this debate about what can be known is situated within a condition of unknowability. But to accept unknowability is not in the repertoire of discussants; there are political reasons why they cannot accede to it. Therefore the dialogue goes on, and on. Advocacy and critique rely upon each other to survive. Although mutually opposed, they are not really separate but between them create unity, being dialogically bound together.

The three cases discussed show how philosophising EBHC can contribute to sociological analysis. Philosophical potentialites are identified within the discourse; but a sociology of politics is required to explain why some are put on display, and others hidden. All three cases help to show EB-discourse as a dialogical space in which different philosophies, and different readings of the same philosophies, can be balanced against each other. The principle of politics needs philosophy to give it an outside, so it can have meaning; but the principle of philosophy needs politics to have sociological use. Politics and philosophy are necessarily bound together in dialogue: a new dialogue built on top of the one between evidence and practice, but still a dialogue which circulates endlessly without resolution.

The preceding discussion and philosophical appendix do not exhaust the possibilities for philosophising EBHC. Rather than Kant and Hume for example, why should one not involve other rationalist philosophers (Leibniz and Spinoza, for instance), or other empiricists (Berkeley and Locke) in the discussion? Why not consider the changing predicament of the clinician in the proto-existential terms of Kierkegaard, or of Rousseau and the romantic preference for instinctive insight? Why not earnestly trace the roots of EBHC back to Aristotle and Socrates or, more provocatively, Jesus Christ? Why not link discourse to Wittgenstein's idea of language games? Or venture into philosophy of mind, perhaps using Kristeva's idea of symbolic order to define EB-discourse as a language system in which subjects struggle to make space for themselves?

Such philosophical ventures are tempting, but philosophical allegiances can too easily create diversions from sociology. What I have written is to show that EB-discourse is philosophically diverse; that philosophical content in EB-discourse is sociologically significant; and that

sociologically-attuned philosophy can be used to shed light on discursive mechanism. In chapter 6 I employ the notion of testimony from Kusch's (2002) Communitarian Epistemology, to make a sociological point about EB-discourse. In this case, as in the cases discussed here, philosophy is a tool used for sociology, rather than sociology being an appendage of or an excuse for philosophy. These points being now sufficiently covered, I move on to an elaboration of the unfamiliar territories I have been seeking. First dialogue, a topic on which I will be brief, having already gone most of the way to justifying it; then embodiment and emotion.

4.5 Analytic Categories to Proceed With.

Dialogue.

In chapters 2 and 3 I hinted sometimes at a relationship between politics and philosophy in EB-discourse, which I have now argued is one of inter-dependence and dialogue. Different types of emphasis can be placed on this understanding. From the hermeneutic programme, one can observe a possibility for collusion which underpins dialogical conflict. EB-advocates and EB-dissidents *can* collaborate by tacitly agreeing to attend to some philosophical facets of EBHC, and to ignore others. The evidence paradox, by contrast, suggests a more constrained social condition where participants, working under a condition of unknowability, have no choice but to collaborate. Their contributions depend on their being convinced that they can know things which perhaps, rationally, they cannot; and each position in the debate is reliant on other positions for certifying its validity.

Whether the dialogues of EB-discourse are thought to be contingent or necessary, there is interdependency between participants, indicating a functional wholeness where all contributions are important. It is through such discursive mechanism, of pervasive and multiple dialogue, that contributors to EB-discourse can together create something from nothing. They operate within a system of constructed distinctions. At the point where all distinctions – between evidence and practice, politics and philosophy, empiricism and hermeneutics collapse – they might appear to be having a conversation about nothing at all. By mechanisms of dialogue, participants are continually diverted from paths leading to this point. The importance of dialogue being thus concluded, it might now seem strange to go back to the start of EB-discourse, as I do in chapter 5, and read it all over again. To what purpose is this obdurate pursuit of dialogue?

The purpose is to give empirical weight to an argument which at this methodological stage is still greatly theoretical, and to discover how well the dialogical principle can be extended across all of EB-discourse. One may grant that the politics-philosophy dialogue is important in itself; and especially so for making the evidence-practice dialogue serviceable in non-clinical contexts. But are these the only dialogues that matter in EB-discourse? Even if they are, how do participants work with them in practice? What is it like to write EB-literature under different conditions of dialogue? These are questions which can only be answered by observation. Following the paths of dialogue through different texts is, fortunately, something with an established tradition in literary theory.

The usual way to study the relations between texts is by the methods of 'intertextuality'. This term was introduced by Kristeva in her analysis of Bakhtin (see Todorov 1984:60), and concerns the dialogical nature of the 'utterance' as the fundamental linguistic unit. It is through Kristeva that Bakhtin is connected historically to Derrida; and Vargova (2007) shows the compatibilities between the intertextual (dialogical[18]) methods of these three. In simple terms this method means seeing separate texts as part of a dialogically-constituted whole, and reading them in co-relation to each other. I use this method to compare texts which are connected to each other explicitly in the topics they address; but also to discover connections which are hidden, differences of handling between ideas, and linguistic tropes which recur in different contexts. There is also intertextuality within texts; each article (or piece of text) being itself composed of elements which can be separated.

Sociology has an analogous, but less well-established tradition. Arguing for a 'More Dialogic Analysis of Social Movement Culture', North-American sociologist Marc W. Steinberg has written that:

> ". . cultures constructed through contention are only partly the result of calculated action. (…) we must understand this process as *relational*. Rather than analyzing the culture of contention as divided between discrete dominant and dissident spheres we need to analyze how both are partly products of the other. (…) in protracted conflicts, both dominant and challenging discourses can mix together."
>
> Steinberg 2002:208. Emphasis and spelling forms in original.

[18] Intertextuality is not the same as dialogism; but to keep the terminology sociological rather than linguistic, I confine myself to speaking of dialogue.

Steinberg shows (in the case of workers' opposition to domination by their employers in early nineteenth-century England) that a subjugated group of workers were able to re-fashion the discourses used by employers to legitimise power. Concerning EB-discourse, it is more straightforward to argue for a dialogical approach because it is not clear which side (EB-advocates or dissenters) should be considered dominant. Both sides can see themselves as being in opposition to a certain kind of power.

The dialogical techniques in this thesis are generally taken without modification from the work of Bakhtin and applied in a straightforward way. For example, I use a distinction in chapter 5 between genuine and authentic dialogues, and rhetorical dialogues. This and the idea of double-voicedness, which I rely heavily upon, are off-the-peg Bakhtinian concepts (although the term 'quasi-dialogue' is a contribution of my own). I write in two places, and two different ways about the carnivalesque, another standard Bakhtinian form. In chapter 5 I use it in relation to irony and parody, in chapter 7 I use it in relation to hierarchy inversion and grotesque forms. All of these techniques involve a reading-style which aligns broadly with the grain of texts; reading for presences and connections, but also to some extent reading 'between the lines' for meanings which are not obvious.

Embodiment and Emotion: Routes to the Irrational.

I draw back at present from theorising the dialogical principle as a way of thinking about power, which is something for chapter 5. However it can immediately be asked on the basis of the dialogue between politics and philosophy which I have been at pains to expose (and also on the basis of other dialogues which I extract from the discourse in chapter 5); what type of dialogue is this? It is a dialogue between two types of rationality. To be politically concerned about the relationships between individuals and groups is to rationalise them; and to be philosophically concerned with truth, and to worry about what can and cannot be known, is to engage rationality. What then becomes of the irrational features and implications of EB-discourse which are excluded from this rational dialogue? While EB-discourse is itself 'about' rationality – the reasons for doing some things and not others – it is not rational to suppose that a dialogue between rationalities would be sufficient to give a full account of the discourse.

As I have shown, EB-discourse has a particular social spirit; and it might be argued that the spirit of EB-discourse – in which aspersions are cast on the integrity of various contributors, in which

emotive appeals are routinely made for ideological support, in which philosophy is used unreflectively as a way to compensate for politics – is scarcely rational. When looking for unfamiliar territories, it makes sense to look for categories which are conventionally excluded from the rational domain. These categories cannot be plucked from thin air, but must be present within EB-discourse; present, but occluded or made inaccessible. There are reasons both within and without EB-discourse to identify embodiment and emotion as categories which are present but marginalised or unaccounted for.

Emotion and embodiment are easily associated in opposition to rationality. Barbalet (2001:34) traces the association of emotion and embodiment to Descartes, who in allocating reason to the mind and emotion to the body, saw emotions as things done to us by our bodies. In such a Cartesian scheme of thought, 'the best thing to do with the emotion which subverts reason', Barbalet explains, 'is to suppress it' (ibid). From such a scenario can be drawn a justification for both embodiment and emotion as analytic categories for EB-discourse, which is a discourse broadly about rationality; for both emotion and embodiment are, in Cartesian thought, problematic for rationality. The routes to recognising their problematical nature in EB-discourse, and exploring them empirically, are different from each other. I will explain them now, taking embodiment first.

Embodiment.

The analytic category of embodiment in this thesis developed from a concern to discover the role of the patient in EB-discourse. A common move in EB-discourse is to raise the patient as a point of concern, and someone for whose sake healthcare is to become evidence-based, or not. Aside from being summoned at such times, the patient is difficult to locate in EBHC and EB-discourse. I began by using the patient as a theme for reading EB-literature, expecting to find them influential; the columns of empty boxes under the heading 'patient' in my research notes are testament to their absence from the substance of the discourse. A moment's thought raises this absence as a problem. The patient is absolutely necessary to practice and to evidence; and surely, no participant in EB-discourse would concede that patients ought to be unimportant. 'Of course', they might write, 'the person who *really* matters is the patient'. So, where are they?

At the same time the chronotopy of EB-discourse, in which imagined futures are pitched in dialogue against imagined pasts, raises further questions: is healthcare now evidence-based? If so,

when did the transition to evidence-basedness occur? If it has not occurred, how else has the experienced reality of healthcare changed while EBHC has been discussed? Surely, practices cannot have gone unchanged in this time. Based solely on EB-literature one cannot make an answer to these questions, which require a different type of empirical approach, one which accesses an embodied reality outside literary discourse. But one can expect such questions to have been asked within the discourse, in terms of perceived changes to embodied practices. And if they have not been asked (as generally they have not), then there is another absence uncovered; an absence of concern for the embodied and lived dimensions of practice.

Unlike the absence of the patient, the case of embodied practice is an occlusion, not a total eclipse; there are some mentions of embodied and tacit knowledge in EB-literature. These are the starting point for chapter 6, but do not provide enough material for an analytic chapter. They are just enough to show embodiment as marginal to EB-discourse. This marginality is a warning sign, which might (to adopt healthcare parlance) be called a 'red flag' for the patient. For how else is the patient to be connected to the physicality of clinical proceedings than by attachment between their selfhood and their body[19]? And if embodiment is (at best) marginal to discursive proceedings, how is the patient to become active in the discourse? The marginality of embodiment gives the analyst hope: if they can follow the trail of crumbs to find out what happens to concerns of embodiment in EB-discourse, then maybe they can also discover where the body of the patient is hidden.

The analytic technique required for embodiment in EB-discourse is not one which reads for presences, as was the case with dialogue, but one which reads for absences. This means identifying possibilities which could have been pursued in the discourse; asking at what points they could have been pursued; and asking what possibilities were pursued instead. What pathways are there in the discourse which divert attention from issues of embodiment? To discover these pathways requires a different kind of reading than in earlier chapters. Rather than dialogues between things said, the reader is looking now for dialogues between things said and unsaid. To find things unsaid in EB-discourse means looking outside its boundaries for ideas which cause trouble; as Alison Young (1990:160) puts it, to 'subject the monolith to the absences of the other'.

[19] Even in mental illness, it is arguably the patient's body in which orthodox healthcare is primarily interested (see Williams 2000).

Young (1990:163) uses the phrase 'reading against the grain' to describe this technique of looking for ways to re-think powerful discourse through the 'opening of closed systems'. A technique of reading against the grain implies thorough familiarity with the texts being studied. In order to challenge these texts, the analyst must have developed an instinctive awareness of the grain of texts, meaning the directions in which texts encourage one to think. To read against the grain has become an established idiom in literary studies. In sociology, Traynor (2006:65) identifies it as a known technique in poststructural discourse analysis, for destabilising ideologies. Plumridge and Chetwynd (1999:337), to give an empirical example, use it for analysing the self-understandings of drug users; it enables them to achieve theoretical distance from such accounts, so as the explicit content of text can be seen as a mediation rather than reflection of reality.

In a similar way, EB-discourse can be seen as something through which embodiment is mediated (to the point of invisibility) and which does not reflect embodiment in a straightforward way. So much seems clear enough; one can notice that embodiment, which one might expect to be a visible category in EB-discourse, disappears like a river going underground. One can read against the grain to bring it back into view. Alas, the topic of embodiment is one which brings its own complications for sociologists in general, and particularly for literary discourse analysts. These complications are discussed by Crossley (2007), for example, who recommends Mauss' concept of 'body techniques' for empirical analysis of embodiment. These techniques, Crossley argues, can allow sociologists to reach beyond representations and discourses of body, to embodiment itself.

Mauss' body techniques (Crossley explains) are ways to engage with embodiment through embodiment. They make the divide between mind and body possible to cross, but only if the analyst can participate with their research target in an embodied way. Strictly speaking, this is not possible for the analyst of EBHC who has restricted themselves to studying EB-literature. What is possible, though, is to observe and comment upon how participants in EB-discourse have themselves taken up issues of embodiment, or not. What results is not an account of embodiment specifically in EBHC or non-EBHC, for which body techniques would indeed be necessary. Instead it is an account of embodiment in EB-discourse, which reports how the discourse mediates ideas of embodiment. The discursive mediation of ideas of embodiment is a site of profound sociological significance, because it is the means through which embodied concerns are (or are not) represented conceptually. This (non)representation cannot but have repercussions for embodied social life.

The idea of dialogue in discourse-analytic research has two notable consequences concerning embodiment. The first is to highlight that embodiment is itself a dialogical category, its dialogical partner being disembodiment. Throughout chapter 6, it is in dialogue with disembodiment that embodiment is made sense of in EB-discourse. The second is to highlight that in accordance with a technique of reading against the grain there is, in chapter 6 particularly, a technique of writing against the grain of EB-discourse. Even more so than in other chapters, chapter 6 involves a writing experiment; to write about EBHC from a perspective outside the boundaries of EB-discourse. When writing away from the conventions of EB-discourse – into unfamiliar territory – one cannot be sure where writing will lead. As it turns out, writing about embodiment and away from EB-discourse leads back to the patient, and to wonder at the collective feat of their social construction.

The distinction between discursive and embodied social life is useful for explaining difficulties of accessing practical reality for sociological analysis. It is also useful for imagining aspects of discursivity which are embodied, aspects of embodiment which are discursive, and things which are neither fully one nor the other. Emotion, particularly, is something situated across both realms. The research activity of reading and writing EB-discourse does have an embodied dimension which is different from the embodiment of practice (and in comparison, trivial); but it has an emotional dimension which is not at all trivial, and which is immanently embodied. It is a short step from thinking about one realm of the irrational – embodiment – to thinking about another, emotion. Emotion, like embodiment, is a phenomenon which can be researched socially; but again this is complicated in discourse analysis by the opacity of the relation between emotion and discourse.

Emotion.

A difficulty with using embodiment and emotion as analytic categories – which is connected to their characterisation as irrational – is that both of them are by their definition difficult to access through language. They are resistant to rational thought, and resistant to being written about. This difficulty is easier to explain in the case of emotion, which can at least be considered as partly-mental, not wholly embodied and unreachable through linguistic expression. Emotions can have names attached to them, and can consequently be discussed as worldly phenomena. Consider, however, the following excerpt from a quote with which Sara Ahmed (2004a) begins her account of collective feelings:

> '"It is not hate that makes the average White man look upon a mixed race couple with a scowl on his face and loathing in his heart. (…) it's not hate, It is Love."'
>
> Ahmed 2004a:25.

Ahmed's use of this quote is to show the action of emotions as defining the surface-contours of social relationships – as binding people together or separating them through complementary emotional identifications. I would like to draw attention instead to the ease with which the speaker can make an emotional substitution (albeit a tenuous one) simply by swapping labels, hate for love.

This illustrates a basic problem with theorising emotions; they are slippery, nebulous, protean and transient. They are moving targets which language is ill-equipped to capture. They melt into each other and fall apart. One can claim different emotions as a justification for the same actions, but also one can use emotional tokens without an emotional basis. For example, the word for love is not the same as the thing, love, although it might be used as such. Nor is any emotion-word an adequate representation of its emotion as an embodied and experienced state of being. Sometimes it is only in hindsight, in view of their effects, that emotion-labels can be designated (as for example, when one retrospectively rationalises actions in terms of emotions: I must have been angry, I must have been scared).

Different from the naming of objects whose identity depends upon attachment to a conceptual label (see Kripke 1981), we might feel that emotions can exist in discourse without being named. As Barbalet (2001:24) notes, 'the absence of a word for an emotion does not mean that an emotion is not (…) influential'. He alludes to an emotional life outside of language, and a culturally-enforced blindness to emotions which prevailing conventions do not recognise linguistically as emotion (ibid). He writes also of emotions 'below the threshold of awareness' (2001:114) which, like a collective subconscious, are nonetheless effective in structuring collective and individual social actions. The threshold of awareness for emotions is both culturally variable, and variable within individuals depending on nuances of context. It is difficult then for sociologists to know what they are talking about when they talk about emotion.

In light of these theoretical difficulties, and also in light of disciplinary conventions where emotion is thought an individual rather than social thing, it is unsurprising that the weight of emotions-literature in sociology falls on theory rather than empirics. Through theory sociologists have engaged emotion enthusiastically in recent times. For example Jackson's (1993)

'Even Sociologists Fall in Love', is exploratory of the meaning given socially to an emotion in constituting subjectivity. Burkitt's (1997:37) 'Social Relationships and Emotions' proposes an understanding of emotions as 'complexes rather than things'. Shilling (1997) looks to reconceptualise emotions with reference to classical Durkheimian theory. Also Turner's (2009) overview of the topic is a history of sociology of emotions in terms of pure theory. These dextrous ways to make sociological sense of emotion do not offer much guidance for empirical approaches to emotion in social life.

How to Access Emotion Empirically.

Look again at the case of embodiment as something marginal to EB-discourse: its marginalisation is implicit. A good deal of reading is required before the reader can notice that embodiment is missing from the discourse. Then the issue arises as to which questions can and cannot be answered using a literary approach, as I have discussed. In the case of emotion, its suppression in EB-discourse is explicit. Granted this is not usually spelt out in so many words; but instances can readily be found where emotion is called out by name as a thing discredited, initially in the context of clinical reason, and then elsewhere. This suppression occurs within the terms of discourse, so is accessible to discourse analysis. And aside from the explicit discrediting of emotion there is a good deal more emotional content in EB-discourse, some of which is called by name but most of which is not.

Emotion existing outside the thresholds of awareness can be brought into consciousness by analysis. As something whose essence is in feeling but whose effects are discursive, I contend that emotion can only be accessed for analysis through its presence (identified by name or not) in discourse. To know that emotion is present and to judge its effects, the analyst must be able to detect emotion by feeling and express it as language. The idea of literary ethnography is crucial to this aspect of the analysis. It is only through personal immersion – through living the discourse – that this type of embodied awareness can be reached. This claim goes somewhat against the grain of conventions in the ethnographic tradition, and needs some further justification.

One classic (meaning now quite old) text on emotions (Lutz and White 1986) identifies emotion as something of burgeoning interest in anthropology, and something problematic. Like in sociology, the emphasis is on the re-conceptualisation of emotions as social phenomena rather

than addressing their empirical accessibility. Attention is given (1986:430) to ethnographers' own emotional responses to fieldwork; and while these responses have their uses, the emic-etic division between researcher and researched makes for an emotional asymmetry which has to be accounted for and managed. More recent articles show that related anxieties have not gone away. Holland (2007:195) recognises that emotion is necessary for knowledge; but seems also to resent this necessity, offering 'solutions to the pains of emotion work in the field'. Blackman (2007) uncovers a history of ethnographic research which has been hidden by researchers uncomfortable with its emotional content.

This latter piece, Blackman (2007), highlights an uncomfortable incapacity of social anthropology to come to terms with its own potential for emotional insight. Perhaps it is a discipline in which an attachment to scientific objectivity is still difficult to escape; and consequently the necessarily-emotional being of researchers is something which needs to be concealed, like a mark of shame. Blackman presents a positive and proud view of the emotions of fieldwork; but is still some way short of the position I argue for. This is that the enabling properties of ethnographic research can be celebrated as the best way, the only way, that a researcher-analyst can hope to understand the emotional dimensions of culture; through becoming an embodied part of that culture.

In this sense emotions are not a problem about which something must be done, but an invitation to understanding. Helen Allen (2006) has made a similar point in the context of nursing practice, and specifically in relation to experiences of infertility. Proposing the importance of an ethnographic approach to emotions-research in such a context makes intuitive sense in a way which in relation to researching a supposedly dry topic, EBHC, it probably does not. Sometimes I tell people that I research 'competing accounts of scientific rationality in the context of bureaucratic healthcare'. In general, their responses are not to anticipate the emotional richness of such a topic. For some researchers – and I refer here to myself as such a person – to recognise and acknowledge the influence of emotions as a research principle in EB-discourse was not easily achieved.

How to Analyse Emotion in EB-discourse.

My first instincts, like those of others researching the topic of EBHC, were to rationalise it – to make it explicable in terms of rational politics and rational philosophy. Reading the literature I

would notice my emotional responses with puzzlement; having to take breaks to allow feelings without names to dissipate, so they would not distract from the proper business of research. My writing would break into viperish fits of indignation, to the annoyance of my supervisors, and to my own concern. Why could I not rationally isolate the important parts of the discourse, and rationally organise them into a safe scheme of analysis? Why was reading EB-literature such a draining activity? I wondered whether the evil eye upon me was a sign of inadequacy. But working on other projects – on eating disorders and infertility, both potentially upsetting topics – I found them, in comparison with EBHC, to be light-hearted and convivial.

It took a long time (about three years), and personal ethnographic immersion in the discourse, for me to acknowledge how much of the content of EB-discourse was 'genuinely' emotional. It took longer to recognise that this emotional content could not be rationalised. And it took longer still to recognise how important was this emotional content to the working of the discourse, and finally to wonder whether it was important *because* it could not be rationalised. These processes of recognition and realisation were like an emotional coming-to-consciousness, and dependent on an ethnographic immersion which, being emotional, was also embodied. For the basic acts of participation in written discourse – reading and writing – are ultimately embodied acts.

My chapter 7 can be read perhaps as the processing of raw emotion in EB-discourse into the rationalised form of academic-style literature. This involves one last step, which follows the recognition of emotion with its transcription into particular linguistic form[20]. Just as the cultural ethnographer having lived emically may pass back into an etic form when they write, the literary ethnographer may wish to achieve a separation between their feeling-self and their writing-self. This splitting of selfhood is not routinely discussed in anthropology where such emotional techniques remain hidden. However there can be found a precedent in the dramaturgy of Brecht, discussing emotional distantiation through the 'alienation effect' through which actors achieve distance from the characters they portray. He writes:

> 'Acting like this is healthier and in our view less unworthy of a thinking being; it demands a keen eye for what is socially important.'
>
> Brecht (trans. Willett) 1964:95.

[20] The equivalent process for embodiment comes by way of testimony, which I explain in chapter 6 by appropriating the term from its use in sociological epistemology.

Brechtian acting neither rejects nor feigns emotion, but makes emotion central to practice. In a practical way, it recognises emotion's social relevance and makes it something to be analysed. In terms of reading techniques, the Brechtian-inspired view implies the need for a case-study approach in which particular instances of emotionality are analysed in the context of their occurrence. Accordingly in chapter 7 I analyse particular passages of text (some of them already familiar from earlier chapters) in depth. This approach allows me to display the emotional energy within texts; and then using the techniques of intertextuality and awareness of narrative to situate these emotional currents in relation to each other.

A final thing to say on the difficulties of writing about emotion is that there is a risk in writing about emotions in general as if emotion were not an umbrella-term for collections of contextually-specific feelings. Barbalet (2001) avoids this difficulty by writing about specific emotions in specific contexts. I write in chapter 7 about specific emotions in EB-discourse where I can identify them; but I retain a general concept of emotion which can be used appropriately in the context of a discourse which is about rationality, and which is therefore also about the non-rational, which includes emotion as so-defined. The discourse is found to be emotionally-saturated; and the presumption is that this emotional-saturation has something to do with the nominal exclusion of emotion in the founding premisses of the discourse. Emotion is supposed to be suppressed in EBHC; but EB-discourse is found empirically to be emotionally-saturated. The task of the analyst becomes to explain why this is so. Why is emotion everywhere, when it is supposed to be nowhere?

4.6 Conclusion.

The methodology for this thesis is complicated, so I have not presented it as being simple. The discourse around EBHC is a large topic. I analyse it in stages, and each stage has a different methodological explanation. The first stage is to show that it *is* a discourse, in the conventional sense of the word. The prominence of a methodological debate within the discourse compels a concern for reflexivity. I have answered this concern by finding space for my method within the field of discourse analysis; but explained that this label is appropriate because of its open-endedness. This allows me to incorporate a diverse range of influences from narrative and rhetorical analysis, grounded theory, Derridean deconstruction and literary-ethnography with more usual discourse-analytic methods. A Foucauldian perspective underlies this congregation of styles.

In discourse analysis one searches for analytic categories; and I used Foucault's understanding of familiar and unfamiliar categories to find new categories within the old ones. Having earlier commented on the shortcomings of political approaches for sociology, I added a discussion of philosophical approaches (and because of my suspicions about the use of pure-philosophy in sociology, removed my own philosophical analyses to an appendix). The outcomes of my philosophical investigations, and the identification of a true dialogue between politics and philosophy in EB-discourse, produced the new analytic category of dialogue. In turn, the pursuit of dialogue between rationality and irrationality led me to establish embodiment and emotion as further analytic categories.

For the category of dialogue, a relatively straightforward methodology was available which adopts techniques from Bakhtin for application to EB-discourse. For embodiment, there was available a technique of reading-for-absence. This required some elaboration because of the limitations of doing literary discourse analysis, which is a form of research abstracted from embodiment. The concern, I explained, is to find out how the discourse mediates embodiment. For emotion, things are more difficult. Emotion is elusive to empirical research. To access emotion I have used the idea of ethnography in an innovative way to create the idea of literary ethnography. I am also reliant on Brecht – an unconventional influence on social research – to corroborate my technique for translating emotional experience into linguistic discourse.

The methodological insights in this chapter are as important to the fabric of this thesis as the arguments I make about dialogue, embodiment and emotion in relation to power. They are the ground upon which those later arguments are built. They are empirical findings in themselves. The importance of ethnographic method and relevance of Brecht to the discourse-analytic investigation of emotion is an original contribution to empirical sociology. I have also highlighted a problem with the role of 'pure' philosophy which, if EB-discourse gives a true indication, poses a challenge for sociology generally. It is my impression that many sociologists unreflectively suppose philosophy to be a source of pure knowledge which they can use verbatim in their arguments. Sociologists should use philosophy freely, but always with an awareness that like all knowledge, its content is socially grounded.

Chapter 5

Dialogue and Power in EB-discourse.

Synopsis.

In this chapter I analyse EB-discourse from the perspective of dialogue. To set a theoretical context for dialogue in relation to power, I begin by considering the difference between biopower and disciplinary power as imagined by Foucault, and as active powers in EB-discourse. I introduce Bakhtin as an influence on thinking of these power streams as dialogically related. I assess the dialogical properties of early medical EB-discourse, which I characterise as a quasi-dialogue. I discuss double-voicedness as parody and as skilfully-managed ambivalence, and the role of dialogue in the reproduction and validation of professional identities through mutual difference. Considering the case of physiotherapy I discuss the suppression of dialogue, and subversion of EBHC. Comparing the physiotherapeutic with the medical case, I formulate a general argument about the operation of power stratified through dialogue. Power manifests through different dialogical forms in different social strata. These contexts also relate dialogically to each other.

Turning attention to sociology, I argue that the role of sociology as a discipline in EB-discourse has been to validate and stabilise it, rather than to develop critical awareness. This has been done by developing the discourse into secure dialogical forms. Alongside the dialogue of rationality between politics and philosophy, discussed earlier, sociology has developed other 'genuine' dialogues of rationality between qualitativism and quantitativism, and between change and sameness. These dialogues I discuss in relation to tensions between biopower and disciplinary power, to show how sociologists act as mediators for power through the management of dialogue. I suggest that sociologists, by becoming more aware of the dialogues which structure their own and others' thought, could achieve a greater critical capacity in relation to EB-discourse, and an enhanced understanding of modern power in general.

5.1 Introduction.

EB-discourse is concerned with power and characterised by dialogue. Writing of 'Impossible Dialogue on Bio-power', Mika Ojakangas (2005) discusses Focuault's distinction between modern power, which is productive, and sovereign power, which is deductive. If EB-discourse can be imagined in Foucauldian language as a conflict between two streams of power, these streams would be biopower (derived from population-surveillance, developed through statistics) and disciplinary power (manifested in the expertise of professionals, exemplified in Foucault's *Birth of the Clinic* (1963) by the 'gaze'). Both of these, for Foucault, are modern and productive power forms. Biopower, Ojakangas says (2005:5), is 'a positive influence on life, to optimise and multiply life, by subjecting it to precise controls and comprehensive regulations'. O'Farrell (2005:106) explains that disciplinary power historically preceded biopower but was overtaken by it, or became a subset of it. Foucault himself discussed the relationship between disciplinary power and biopower in a public lecture (on March 17 1976, in *Society Must be Defended* (2003)); but his words there are inconclusive.

Foucault's lecture reads like a commentary on some of the problems of evidence-basedness. Biopower, Foucault (2003:246) explains, intervenes at the level of social generalities. It institutes regulatory mechanisms which 'establish an equilibrium, maintain an average (…) and compensate for variations' within the general population. Foucault surmises that unlike disciplines, these regulatory mechanisms 'no longer train individuals by working at the level of the body itself'[1]. This sets the scene for interference between biopower and disciplinary power. Foucault, however, comments that (2003:250) 'the two sets of mechanisms do not exist at the same level. (…) They are not mutually exclusive and can be articulated with each other'. Medicine is at a crucial position in relation to both types of power, he observes, because of the link it establishes between the population and the body:

> 'medicine is a power-knowledge that can be applied to both the body and the population (…) and it will therefore have both disciplinary effects and regulatory effects.'
>
> Foucault 2003:252.

Thus Foucault does not see these two sides of modern power, the disciplinary and the regulatory, as being in conflict. The technology of biopower, he says (2003:242), 'does not exclude disciplinary technology, but it does dovetail into it, integrate it, modify it to some extent (…)

[1] In EBHC however, it is precisely the conduct of the individual clinician which is attended to.

infiltrating it, embedding itself in existing disciplinary techniques'. This expectation of seamless transition underestimates the possibility for conflict over evidence-based healthcare (EBHC) which was to come. At the same time, it causes one to wonder whether EB-discourse really does express conflict, if the two types of power-knowledge are complementary arms of the same general phenomenon, power. There is a possibility to re-appraise Foucault's account using the idea of dialogue to develop an understanding of what happened at the end of the twentieth century when in medicine, biopower and disciplinary power apparently clashed against each other.

If, as I argue through this thesis, the discourse around EBHC takes dialogical form, and is an expression of the workings of power, then there is a need to make a link between the theorisation of power and the theorisation of dialogue in discourse. Some awareness of dialogue as a social principle can be found in Foucault's writings, but only in hints and fragments which are not enough to put together into a theory. In his lecture of February 25th 1976 (Foucault 2003:168), for example, Foucault said that 'power is never anything more than a relationship that can, and must, be studied only by looking at the interplay between the terms of that relationship'. To understand power, he says, is to understand it as relational. On January 21st 1976 (2003:51) he had spoken of a binary structure which runs through society:

> 'There are two groups, two categories of individuals, or two armies, and they are opposed to each other. (…) the person who is speaking is inevitably on one side or the other. (…) this discourse that tries to interpret the war beneath peace (…) is always a perspectival discourse'.
>
> Foucault 2003:51-2.

Here is the shadow of a theory of dialogue, but one committed to the reality of conflict. For analysing EB-discourse, a way is needed to manage the ambiguity between war and peace. What appears to be conflictual might appear from a different perspective as a type of co-operation. Just as there is relationality between the powerful and the disempowered, there is also relationality between different powers. To access these kinds of ambiguities through a more fully worked-out theory of dialogue, the obvious theoretical precedent (in discourse analysis[2]) is from Mikhail Bakhtin. A comparison between Foucault and Bakhtin is Michael Gardiner's (1996)

[2] Another option is Gadamer, from hermeneutic tradition. This has been developed alongside Foucault's work by Kögler (1996), but in this thesis I reserve hermeneutic theory for discussing my idea of the Hermeneutic Programme.

'Foucault, ethics and dialogue'. Here Gardiner seeks to supplement the personal 'ethics' of Foucault's later work (specifically *The Care of the Self*, 1986), which is concerned with the self-governance of the sovereign subject, with a Bakhtinian dialogical model. As he puts it, 'the relation to the other must take ontological precedence over the relation to the self' (Gardiner 1996:38).

In this context it is possible to imagine dialogue as a productive process through which truth is created. Gardiner quotes Bakhtin: truth is not 'to be found inside the head of an individual person, it is born between people collectively searching for truth, in the process of their dialogic interaction' (ibid). This is the root of a social account of truth-production[3]; and if used alongside a Foucauldian equivalence between truth, knowledge and power, it can also be leverage for an account of power conducted through dialogue. To construct a thorough synthesis of Foucault's and Bakhtin's ideas is a difficult task, as Gardiner demonstrates. To use them together though, for the current purposes of making sociological sense of EB-discourse, is feasible. The tension which Gardiner identifies between the Foucauldian subject engaged in self-rationalisation, and the Bakhtinian subject engaged in various kinds of dialogue, is well matched to the drama of controversy over EBHC. To demonstrate this, it is now time to trace the dialogues which have been established in EB-discourse.

5.2 Dialogical Forms in Medical EB-discourse.

First, a brief reminder of what I have previously established. In chapter 2 I described how the EBMWG (1992) anticipated objections to their vision for EBM. These objections were indeed pursued by critics, leading to a series of fraught exchanges in medical literature. David Sackett and his colleagues emerged as the chief spokespeople on behalf of EBM, and the *JECP* school as their outspoken challengers. Sackett's group sometimes employed conciliatory rhetoric (eg. Sackett et al 1996), but in general, their writing was provocative and inflammatory. The *JECP* contingent responded with polemical hostility. EBM had offered a radical approach to change in health practice, an approach which seems designed to inspire adversarial resistance. In hindsight, there is a sense of pantomime to these exchanges within medical literature; reasoned arguments being sideshows to creative vituperation directed at EBM, and mulish re-statements of the EBM

[3] Todorov (1984:30) writes that 'for Bakhtin, society begins with the appearance of the second person. (…) If language is constitutively intersubjective (social), and if it is also essential to human existence, then the conclusion is inescapable: human existence is originally social'.

agenda. The authors themselves became frustrated with such proceedings. Miles himself (1997:85) characterised the situation, in condemnatory style, as a 'dialogue of the deaf'.

In Bakhtin studies, a distinction is sometimes made between authentic dialogue and other discursive forms which are not properly dialogical. Gardiner (1996:31) regards dialogical being as a 'co-mingling of communion and distance'. He explains that for Bakhtin, dialogue was not just a principle of existence through language, but also a normative project, and something to aspire to. Bakhtin encouraged and valued a 'fundamental receptivity with respect to the other' so as to 'fully grasp the dialogical nature of Being' (1996:38). This receptivity with respect to the other is difficult to detect in early medical writing on EBM. Nevertheless, the incipient sides in the EBM debate depended upon each other for their legitimacy, even if their proceedings fall short of the dialogical ideal. Besides, an inspection of early EBM-writings discovers dialogical principles at work in other ways.

Consider for example the EBMWG (1992), in which a basic antagonism between clinicians and researchers was formalised. Here an opposition is made between rigorousness of various types (in methodology, scientificity and appraisal) and other types of reason – understanding (of pathology) and sensitivity (of emotion). This opposition could be brought into question through the possibilities of understanding and sensitivity being themselves rigorous, or through rigorous methods being used thoughtfully and sensitively. But it is not, and its maintenance gives the piece its dialogical one-thing-versus-another coherence through which two mutually-antagonistic sides are constructed. As well as being classically gendered, the opposition between rigour and non-rigour comes alongside other abrupt distinctions; new-versus-old, past-versus-future, change-versus-sameness. Similarly, one can look at Sackett et al's (1996:71) popular definition of EBM and see the advantages it confers for precipitating dialogue.

Recall that in this definition, 'EBM is the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients'. In the developing controversy, all could agree that the making of decisions about individual patients is under discussion. The words conscientious, explicit and judicious give the definition certain phonemic and rhythmic qualities, but they do not seem to fix its meaning or to relate to the substance of the matter. (Nobody had seen themselves as arguing for irresponsible, badly-articulated or injudicious practices, after all.) Current best evidence is what people were arguing about, specifically the problem of what 'evidence' should mean, and what restrictions should apply to it. Leaving the difficult problem of evidence unexamined (it is the same word on both sides of the

definition) means that this definition can be quoted without foreclosing the interpretation of evidence. It is a definition which allows different interpretations and dialogue to proliferate. This flexibility of meaning gives the statement strength. It assists EBM to become a sign around which participants in EB-discourse can arrange themselves in relation to each other.

Readers of early EBM were encouraged to think of it in terms of two clearly-identifiable opposing sides, each of which was coherent only in relation to the other. The details of EBM-writing at the start indicate a willingness for writers to align themselves according to these sides of us-and-them. Consider Davidoff et al (1995:1085), in which the 'widening chasm between what we ought to do and what we actually do' draws up the bifurcated terms upon which the debate is set. In this mode of speech, where it is *our* understandings which are at stake, and what *we* do which is scrutinised, there is pathos and an appeal to empathy. Pity us doctors; our knowledge is quaint and outdated. We require sympathy and rescue, it seems to say. Help is at hand in the form of accessible processed data. Where this hope emerges, *we* is replaced abruptly by *they*. EBM informs doctors so that *they* can provide optimum management. They owe it to *themselves* to keep up. Equivocation between doctors as victims and doctors as beneficiaries of EBM is marked semantically in this way.

Doctors are given an uncomfortable multiple role in Davidoff et al (1995), being at once the audience, the writing subject, the subject of writing and the quarry. It is doctors as 'they' which carries the urgent sincerity of the piece; the initial appeal to empathy being rendered less convincing by a disconcerting change of voice. It is notable though that Davidoff et al (1995) can by turns claim to represent clinicians, and distance themselves from the identity of clinician. Where is one to locate these doctors' true identity? There is a gesture towards split-mindedness, and a tactical deployment of double-voicedness, but Davidoff et al (1995) do not leave the reader in doubt as to which side they are on. This clarity is mirrored in the writing of the immediate dialogical 'others' of EBM. In Miles et al (1998) for example, 'we' is used confidently and consistently to mark out those who are 'called to the noble ideal of clinical practice' (1998:264). These writers echo Shahar's (1998) claim to speak for a greater 'we', the population of 'busy doctors who have not the (…) courage to publicise their views' (Miles et al 1998:264). 'They' is used to signify the proponents of EBM, re-asserted as oppositional to clinicians.

The explicit argument of Miles et al (1998) is that the 'scientific' and 'practical' schools of thought are irreconcilable (1998:260). The authors also make a sequence of dualistic distinctions;

medicine from science, local from national, practicable from abstracted, responsive from clumsy, human from inhuman (1998:261-2). Placing themselves on the positive side of these distinctions, they echo and invert Davidoff et al's (1995) argument; for the advocacy of EBM is made on the basis of similar distinctions, with a simple inversion of values. Both sides see themselves on the just side of these distinctions, and their counterparts as corrupted and unreasonable. With the two 'sides' sharing conceptual apparatus, there is little space for true dialogue to develop. For advocates of EBM, the superiority of Evidence must be protected, and rhetorical concessions to expertise carefully qualified. For those who resist, expertise must be protected, and rhetorical calls for collaboration made only with caveats which prioritise the clinic. Each side bolsters the other in the ratification of its own identity. In this quasi-dialogue there is no space for the syncretic union of opposing principles, but only repeated insistence from each that the other is senseless.

In this context, Sackett and Rosenberg et al's (1996) use of the concept of 'integration' to address the conflict between clinical expertise and external evidence befits scrutiny. They explain:

> 'Good doctors use both individual clinical expertise and the best available external evidence, and neither alone is enough. Without expertise, practice risks being tyrannised by evidence, for even excellent evidence may be inapplicable to or inappropriate for an individual patient. Without current best evidence, practice risks becoming rapidly out of date.'
>
> Sackett et al 1996:71.

Here Sackett et al (1996) formulate an asymmetrical relation between expertise and evidence. The two are dependent on each other for having usefulness; but evidence has a terrible capacity to tyrannise, whereas expertise leads to decay. What might be presented as a relation of equality actually suggests an admiration for evidence rather than expertise. The devaluation of expertise is smuggled through by rhetorical sleight-of-hand. This becomes clearer in the latter half of Sackett et al (1996), which gives an account of EBM in terms of 'what it is not'. There are paragraphs on the valiant attempts of clinicians to stay up-to-date with medical advances; on the necessity of expertise for interpreting the applicability of research; and on the possibility of hijack of EBM by scheming healthcare purchasers and service managers for cost-cutting purposes.

Rather than educing an integration of expertise and evidence, which would mean melding them harmoniously together, these sections are such as to suggest that evidence and expertise remain

separate and in mutual competition. Expertise emerges not as something valuable in itself, but an archaic and inadequate instrument for repelling the inevitable advances of evidence; for it is repeated that research evidence has the power both to invalidate experiential knowledge and to replace it (1996:72). The idea of integration reproduces the dichotomy of research against expertise by asserting that the two are naturally distinct, and that reconciling them is indeed problematic. It then acts as a vehicle to re-frame evidence as dominant and expertise as submissive. The controversy may then proceed in the same manner as before, but with integration as a new focal point for the intensification of debate. It is not a syncretic type of integration which imagines resolution, but an antagonistic type which imagines ever-renewed conflict.

Dialogue as a Form of Presentation: Double-Voicedness.

Under these conditions of rhetorical exchange, readers might not expect anything other than the same arguments, re-packaged and repeated in various ways. An alternative to identifying plainly with one side in the EBM controversy, and directing arguments against another who is not immediately represented, is to present an account of EBM in dialogical form. In such writing, the objections to or tenets of EBM are considered by being listed and then formally dismissed. An early example of this dialogical format is Grahame-Smith's (1995) 'Socratic Dissent' in which EBM-advocates, belittled by caricature, are given a philosophical lesson. Straus and McAlister (2000) used a similar format for their 'commentary on the criticisms' levelled against EBM by the *JECP* school. Using this technique, writers retain control over the presentation of the adversarial position while (trying to) maintain an appearance of objectivity[4].

In Straus and McAlister's (2000) case, this means that objections to EBM are raised in a way which disarms them from the start. The reduction of objections to nothing means that they either evaporate (in the case of difficulties of extrapolation from evidence, learning EBM skills, limits on resources), or themselves become arguments *for* evidence-basedness (in the case of shortage of usable evidence, financial barriers, and paucity of evidence to justify EBM). Of interest to the theorist of dialogue is the notion of double-voicedness. In '*Discourse in the Novel*' (Bakhtin 1981:324), Bakhtin writes about double-voiced discourse which 'serves two speakers at the same time and expresses simultaneously two different intentions'. There are two voices

[4] Other examples of this strategy are Cohen et al (2004), Gibbs and Gambrill (2002).

which 'know about each other (…) as if they actually hold a conversation with each other'. The voices referred to are those of author (narrator) and character in the novel.

How can Bakhtin's concern apply to EB-writing which is in dialogical form? There is an author whose adversaries in EBM-debate appear as characters in the written work; but such characters are included only as a foil for the author's monological view. Their role is to be made fools of. Bakhtin was suspicious of such false double-voicedness, such false dialogue. He (1981:325) scorned 'rhetorical genres', which are 'at best merely a distanced echo of [dialogical] becoming, narrowed down to individual polemic'. This description fits the rhetoric of EB-writing in which dialogue is set up in such a way as to be resolved into monologue. Writing in which the 'other' is represented in the terms of the narrating-self, not given its own voice, is not authentically dialogical, nor double-voiced.

Such pieces which are presented as dialogue might not be double-voiced in the way that is claimed for them, but this does not mean that they are not double-voiced at all. A more genuine type of double-voicedness can be found in dialogically-presented EB-writing, although it is more subtle, and might escape the notice of authors' conscious intentions. To take as an example Straus and McAlister's (2000) defence of EBM; they present criticisms of EBM not as given, but in terms compatible with the values of EBM. This makes the criticisms easy to deal with; too easy, perhaps, for the collapse of the criticisms into nothing means that there is nothing left to argue against, no grounds for the dialogue constructed. This leads Straus and McAlister to undermine their own position.

They manoeuvre themselves into a task of having to explain the tautology that 'patients who receive proven efficacious therapies have better outcomes than those who do not'; and to argue tendentiously that EBM is a concept which originates in practice, not in research (2000:839). Such moves as these short-circuit the oppositional dynamic upon which EB-discourse depends. Without privileging evidence of provenance external to the clinic, little remains to be discussed. The effect produced by the dissolution of dialogical positions can be to erode one's confidence in EBM as a coherent idea. Straus and McAlister (2000) illustrate this themselves at the end of their essay. Having delivered an unqualified assault on EBM's detractors, they conclude that EBM does have limitations, and that further innovation and study are required (2000:840).

Here is the curious double-voicedness of EB-discourse; authors who set out to defend EBM can find themselves attacking it, or providing the ammunition for others to do so. Equally, nominal critique of EBM can have the effect of sustaining and strengthening it. In the appendix I discuss

the issue of detractors from EBM using principles of evidence-basedness to argue against evidence-basedness. This is crystallised in the case of the Evidence Paradox, where some call explicitly for EBM itself to be justified in strictly evidence-based terms. In its early stages, this is the quasi-dialogical mechanism of EB-discourse. Two sides are set up in opposition to each other. They guarantee each other's validity, not by explicitly imagining each other as straw men, but each by tacitly taking the other seriously. They are produced by the dialogical splitting of power, and being finally inseparable, there is some ultimate sense in which they are one and the same.

Developing Double-Voicedness into Parody.

Such a situation would stagnate, or repeat itself, if not given opportunity to mature from quasi-dialogue into dialogue 'proper'. This maturation began to happen where writers did not position themselves on one side or the other, but on both at once, as was the case at first for Trisha Greenhalgh. An early piece of hers (Greenhalgh 1996) was addressed to doctors, imagined as anxious to be seen to meet the requirements of EBM. In EBM-style, she provided a checklist of six action-points for clinical encounters. The inflection of her writing is initially optimistic for the implementation of EBM. Unpicking her own checklist, she then uncovers a succession of difficulties which she does not enumerate in a list, but presents qualitatively[5].

In this short article, Greenhalgh writes with two distinct voices. The problems she raises in her closing section, which are broadly the same problems expressed across critical literature on EBM, undermine her opening section. If these two sections were run together, the piece could become incoherent. What helps to prevent this from happening is a stylistic difference of voice: the use of statistics and a numbered list on one side, the use of paragraphs and narratively-structured argument on the other. As well as allowing the two sides to balance each other, this differential technique marshals two competing audiences at the same time. One audience interested in lists, (ac)countability and the establishment of protocol; one audience interested in complexity, contingency and variability.

There are different take-home messages for each readership: one in favour of discipline and self-surveillance, the other reassured that practice is beyond the grasp of crude regulatory

[5] First, there is a problem of complexity: clinical problems 'do not lend themselves to the formulation of single answerable questions' (1996:958) in the way expected in EBM. Second, there is a problem of reconciling patients' preferences with such evidence as exists, and accounting for this process. Third, there is a problem of audit, in which attempts to measure evidence-basedness are shown to be limiting and distorting.

mechanisms. Although these audiences are configured in oppositional contrast, it is apparent that somehow they can also co-exist comfortably, even within the same reader or writer, each with a functional measure of disregard for the other. How different are these voices from each other? They might appear to be opposite extremes, antitheses of each other, connected through mutual difference. They might also carry equal weight; the all-seeing confidence of biopower, expressed through EBM, and the assurance of discipline, expressed through clinical expertise.

Bakhtin (1981:325) is scornful of 'rhetorical double-voicedness, cut off from any process of linguistic stratification' where the 'exchanges in the dialogue are immanent to a single unitary language'. This is 'merely a game', he says. A 'tempest in a teapot' (ibid). Hirschkop's (2004:53) appraisal of Bakhtin emphasises the idea of parody in this context. Extreme double-voicedness, Hirschkop says, 'can become parody, which means that the narrative context undermines the meaning intended by the speaker'. Perhaps this would be appropriate to pieces like Greenhalgh (1996) where the narrative context offers two extremes which are mirrored by a contrast in voices. To compare again *BMJ* advocacies with *JECP* detractions of EBM, these two sides presuppose and construct each other; but they can also be read as parodies of each other.

Managing Double-Voicedness as Ambivalence.

The ambiguities and double-voicedness of EBM might be expected to produce ambivalence within individual authors who are drawn to both sides. As the discourse around EBM developed, authors demonstrated skill at managing the possibility of ambivalence in their prose. Sandra Tanenbaum's (1999) critique of EBM in *Academic Medicine* illustrates this skill at work. Indignant at the disenfranchisement of the medical profession which 'no longer owns the knowledge it needs' (1999:758), she makes a call to arms: 'we must define and defend what professionals know' (1999:762). The ambivalent content of the article relates to the issues of probabilistic thinking and rule-following. Tanenbaum acknowledges probabilistic thinking on both sides of the evidence-expertise dyad. Professionals make projections based on the experiential recognition of patterns; evidentialists make projections based on aggregate data.

The two are distinguished, good from bad, by association with other categories: statistical probabilism is detached from causal principles, and attached to an impossible desire for certainty. Clinical probabilism remains determinist, and accepts uncertainty. It thus has a rootedness and emotional maturity which is lacking from the statistical probabilism of EBM (1999:760-1).

Tanenbaum goes on to make further bifurcations: professionals have 'wisdom' where EBM provides mere knowledge. Professionals make 'interpretations' where statistics offer none. EBM induces rule-following, whereas professionalism intuits whether or not the rules should be followed (1999:761). All of these bifurcations can be challenged. As discussed in the appendix, statistical probabilism might not be able do without a tacit concept of causation; statistics might not provide certainty, but a measure of uncertainty; wisdom and knowledge might not be so easy to separate, but be inter-dependent; data might be theory-laden, not outside of interpretation; knowing whether to deviate from a rule might imply the adduction of further rules[6].

The sides which Tanenbaum takes on each of these issues reflect and secure her social identity as a clinician. The ambivalences to which she offers resolutions contribute to the maintenance of a boundary between research and practice; and so to the simultaneous maintenance of evidentialists and experts, researchers and clinicians, as mutually-different professional identities. The ambivalent balance in Tanenbaum (1999) is brought to consummation in her conclusion, where the clinician-professional is presented as embodying a type of perfection. Professional knowledge is 'large enough to make sense of all it contains, and yet also small enough never to lose sight of the individual case' (1999:762). Notwithstanding Tanenbaum's previous maintenance of the distinction, professional knowledge is 'in fact inclusive of probabilistic research' (ibid).

With these oppositions transcended, there is no further grounds for mediation, and apparently nothing more to worry about, for clinical practice is both one thing, and the other. This seems a convenient resolution. Tanenbaum's (1999) case is illustrative of those who write from a position of clear professional identity determined by practice. It says, I work in a clinic with patients, therefore I am a clinician, and resistant to EBM; you work in a laboratory with statistics, therefore you are a researcher, and receptive to EBM. The dialogical positions associated with these professional identities re-produce the identities in opposition to each other. Tanenbaum's (1999) article illustrates the development of a dialogue in the service of power. In it, dialogical positions, directly identifiable with socially-differentiated statuses, are skilfully maintained.

Tanenbaum criticises EBM; but through her argument both powerful factions, clinicians and researchers, have their identities validated. In comparison with other writings in the quasi-

[6] See Bloor's (2001) discussion of rule-following after Wittgenstein, for a rebuttal of Tanenbaum's edict (1999:762) that 'one cannot use a rule to decide to use a rule'. Her view of experts 'acting on expectancies' is a type of rule-following.

dialogue I have discussed, Tanenbaum progresses the debate in its theoretical sophistication. As in other cases I have discussed, this progression owes something to a move into philosophical terrain. The nature of knowledge, and the practical merits of different knowledge types, are Tanenbaum's currency for placing her argument on one side rather than the other. As indicated in chapter 2, a prime mover in the philosophication of medical EB-discourse is Ross Upshur. In that chapter I suggested that Upshur's early writings on EBM, being so knowingly Philosophical, can be read as a satire on both the *BMJ* and *JECP* schools. In light of Tanenbaum (1999) and others who were developing practical philosophies of EBM, one can re-read Upshur's path through EBM-writing in dialogical terms.

Recall that Upshur's literary career through EBM is a hopscotch of philosophical perspectives. From Quine-Duhem and abductive pragmatism, via Gadamer's hermeneutics and Bayesianism, fallibilism, and thence to epistemological typologies of research and clinical knowledge, Upshur used a wide range of philosophical voices. In the earlier stages of Upshur, his facility with philosophy allowed him to dissociate from both sides of EBM, and so to step outside the binary system of medical EB-discourse. Upshur's skill was to keep both sides in suspense, making both seem simultaneously legitimate and not. In Bakhtinian terms (after *Discourse in the Novel*), his strategy was to deploy a heteroglossia of philosophies, and in so doing to build a dialogue between higher and lower cultural forms. The higher (sacred) form was philosophical and the lower form non-philosophical, being political, polemical and profane. Upshur laid the foundations for the expansion of EB-discourse outside the dichotomies of evidence-versus-practice and research-versus-clinic, an expansion crucial to its continuation and development.

Others built on these foundations, as Upshur identified gradually more with a clinical perspective. He joined in with the dialogue which at first he had called to question – joining clinicians at the barricades, as Sackett et al (1996) would have it. His giving up on seeking a philosophy of EBM meant giving up on EBM itself, denouncing it in the crudely-dialogical fashion of anti-EBM polemics (Upshur 2005). In Upshur (2002) – *if not evidence, then what?* – he had proffered the principle of dialogue as a solution to the EBM controversy, in the hope that a true and mature dialogue between research and clinic could ameliorate the conflict. I suggest that the dialogical principle runs too deep in EB-discourse to provide such a convenient solution. Dialogue cannot be brought in to solve the problems of EBM because dialogue underlies, nourishes, sustains and directs the problems of EBM in their construction. As such it is best used to help understand EB-discourse, not to resolve it on its own terms.

As I have said, the sociological task is not to resolve EBM, but to understand how its problems are constructed and legitimated as problems. In the years which followed Upshur's commitment to a clinical identity, the dominant theme in medical EB-discourse is a reluctance to let the debate rest. Sackett had absented himself from proceedings, but the commitment to continuation of the debate was as strong as ever in the *JECP*. Here, moderately pro-EBM writings were scattered amongst more traditional anti-EBM fare. This is evidence that the functionally important and sociologically significant aspect of EBM-related debate is not its resolution, but its continuation. Medical EBM was the seedbed for strands of the discourse which would flourish in other contexts. Upshur's concern for philosophy, for example, did not take deepest root in medicine, but in sociology, where it has developed in dialogue with politics, as discussed in chapter 3. Before returning to sociology, I now consider physiotherapy as a context for the proceedings of EBP in a health profession allied to medicine.

5.3 Physiotherapy: Harsh Ambivalence and Violent Dialogue.

A Professional Context for Dialogical Understanding.

Nicholls and Cheek's (2006) genealogy of the formation of the Society of Trained Masseuses, engineered by doctors in 1894, gives an account of the beginning of the physiotherapy profession in the UK. The profession began as a specialist form of nursing for women[7] operating under medical patronage. Ovretveit (1985) addresses the question of physiotherapeutic autonomy from medicine. He distinguishes between an all-or-none conception of professional autonomy which he attributes principally to Freidson, and an alternative conception of autonomy-by-degrees. He reports that the 1960s, 1970s and 1980s saw physiotherapists gain measures of self-management in the NHS. While these changes represent an increase in various aspects of autonomy, Ovretveit (1985) points out that such gains have taken place in areas which endorse, rather than threaten, the overall dominance of medical discourses. There is more reason to suppose that gains in autonomy have come through complicity with medical models than through posing challenges. Ovretveit's analysis lends support to Freidson's scheme of the preservation of medical power.

Physiotherapy in the UK remains sheltered by medical patronage. Physiotherapists in the UK are trained by the state and generally spend some years working in NHS hospitals after qualifying, before potentially moving into private practice[8]. Medical endorsement sets physiotherapy apart from external competition (osteopathy and chiropractice – see Barnard and Wiles 2000), but it is defended also from competition internal to the 'allied professions' (nursing and occupational therapy – Higgs et al 2001, Jones 2006). In this context, the interests of physiotherapy as a profession are served by alignment with imperatives perceived to come from medicine, of which EBP is an example. Alongside compatibility-with-medicine, there is perceived a need for physiotherapy to be understood as different-enough from medicine to be autonomous, and also different from whatever osteopathy, chiropractice, nursing and occupational therapy might offer instead. In EB-discourse in physiotherapy, physiotherapists situate themselves and each other in relation to the symbolism of Evidence so as to protect their institutional status from these various competitive threats. Consequently EB-discourse in physiotherapy, just as in medicine, is

[7] Men were admitted to the profession in 1920 but the profession remains predominantly female. In the UK, 80% of physiotherapists are female (Health Professions Council: http://www.hpc-uk.org/publications/index.asp?id=453 accessed 13/10/11).

[8] 60% of chartered physiotherapists work in the NHS. See CSP presentation to NHS pay review body, November 2010. http://www.csp.org.uk/sites/files/csp/secure/csp_evidence_PRB2011_12_0.pdf accessed 19/7/12.

a manifestation of power. To analyse the mechanisms of this discourse is to analyse power at work.

It is reasonable to begin by thinking of EBP as a broadening of EBM, and as physiotherapeutic EB-discourse formed in dialogical response to EB-discourse in medicine. The basic problems are the same: the reconciliation of research knowledge with clinical and practical knowledge, and the bringing of research into practice. There are also stylistic continuities between the contexts. Bury's (1996) editorial urging physiotherapists to embrace EBP is reminiscent of Sackett's passionate pieces in the BMJ. In terms of dialogical rhetoric, an immediate point of interest is the frequency with which Bury (1996) uses 'not' sentences to produce her argument. This was a strategy of Sackett's (especially 1996: 'EBM – what it is and what it isn't'[9]), and of Greenhalgh's (1999), among others in EBM. Bury says:

> '[EBP] is not just another buzz-word (…). It is here to stay (…).'
>
> Bury 1996:75
>
> 'A clinician is not expected to exclude all prior knowledge (…)'
>
> 'Good clinical practice is not ignored or devalued (…)'
>
> 'I am not saying that practices without evidence should be discarded.'
>
> Bury 1996:76

Thus it is that EBP is definitively put forth as a series of things not-done, not-thought and not-said. To practice EBP is to not exclude prior knowledge; it is to not devalue practice; it is to not discard practices; and elsewhere in Bury (1996), it is to not be frightened.

Such writing, while expressing conditions of not-being with particular acuity, continues stylistic trends found in medicine. This similarity being noted, differences of dialogue between EB-discourse in medicine and physiotherapy also present themselves. Bury's (1996) piece is addressed to an identified other – physiotherapists who would be sceptical of EBP – but with an aggressive determination which is absent from equivalent medical pieces. The *BMJ* and *JECP* schools wrote provocatively and authoritatively, but in a manner such as to invite and encourage, even demand responses, towards the continuation of debate. Bury (1996) pre-empts criticism

[9] This motif was repeated by Bhandari and Giannoudis (2006) in 'Evidence-Based Medicine. What it is and is not', which makes no reference to the influential Sackett et al (1996) paper of the same title.

and closes debate; never mind the arguments, she says. We (physiotherapists) must embrace EBP no matter what. Resistance or critical thought are not permissible.

To illustrate this point further consider Turner and Whitfield's (1997, 1999) study[10]. Their punitive appraisal of physiotherapy can be contrasted with surveillance of doctors for evidence-basedness. Cranney et al's (2001) study of 'why GPs do not implement evidence-based guidelines' is perhaps patronising to doctors, but not demonising. Freeman and Sweeney's (2001:3) study vindicates GPs who see research evidence as a 'square peg for a round hole'[11]. Turner and Whitfield's approach might be likened to previous sociological critiques of medicine for being unscientific; but is different in that it came from within the physiotherapy profession, not from outside. It is different in that it did not elicit a sympathetic defence and validation of physiotherapists' reasoning techniques, but a collective concern to be seen as appreciative of research evidence, irrespective of the problems with evidence-basedness which were apparent elsewhere. This indicates a different dialogical dynamic within physiotherapy to that which had developed in medicine.

As I showed in chapter 2, it is not the case that physiotherapists did not see problems with EBP. Barnard and Wiles' studies (2000, 2001) and pieces like Bithell (2000) and Hurley (2000) show that they did. But in comparison with the output of the *JECP* in the late 1990s, the nature of these writings suggests a different emotional climate. Instead of indignation, anger and self-confidence there was guilt, shame and self-doubt. The symmetrical double-voicedness of medical EB-discourse gave way to authoritarian monologism, where the dialogical-other (dissent to EBP) was suppressed. Instead of being channelled into some (however inauthentic) form of dialogue, dissent was silenced. Violence is an appropriate metaphor for this process[12]; the symbolic violence of not allowing the other to speak, or the internalised violence of not allowing oneself to think certain thoughts. Where in medicine incipient-dialogue led to the skilful management of ambivalence, in physiotherapy the violent denial of dialogue led to harsh ambivalence. Some examples of this are given in chapter 2, but a more detailed example, which applies across allied health professions, follows here.

[10] Recall that Turner and Whitfield surveyed therapists' reasoning methods in order to portray the profession as lacking in scientific credentials. This led to a series of responses (Jette et al (2003), Stevenson et al (2004), Iles and Davidson (2006) and Grimmer-Somers et al (2007)) which re-affirmed a collective positive attitude to research evidence in physiotherapy.
[11] Other examples are McColl et al (1998), Green and Ruff (2005).
[12] Bourdieu (1991), Bauman (2002), Zizek (2009) and others have used the notion of violence in this way.

In the review article of Swinkels et al (2002), the status of EBP in physiotherapy, midwifery, nursing and social work is considered. EBP is introduced as 'being rapidly and universally adopted by public sector professions' (2002:335), and something whose 'acceptance and expansion may be considered unparalleled within health and social care' (2002:336). This celebratory tone gives way to a less assured voice as within each professional context, doubt materialises. In physiotherapy, patient preference retains priority over policy-driven influences; in midwifery, the value of empirical evidence is queried; in nursing, an anti-evidence movement is gathering momentum; in social work, the anti-science lobby is strong. While the ostensible mood of writing remains breezy and positive, the reasons for optimism become less clear, and dialogical cracks in the narrative widen.

EBP is 'intuitively and intellectually appealing and a natural product of the times' (2002:336); and yet it is not natural, but 'ethical and economical' (2002:342) and therefore social. It is refreshingly new, yet reassuringly old. While EBP is broadly accepted, and professions have produced forests of written approval for it, practices themselves have not changed (2002:342). RCTs are the epitome of an unchallengeable research method; and yet nobody finds them useful (2002:343). EBP is the responsibility of the professions; but it must be carried forward by non-practising academics (2002:343). Although EBP, by definition, restricts the autonomy of practitioners, it remains 'fair to speculate that in due course (it) may empower professions' (2002:343). This last short phrase contains multiple caveats to the empowerment of professions. Such tentative optimism moves the reader firmly into a position of doubt.

Perhaps this is something the authors are also aware of. Wistfully they offer their assurance, despite the many questions over EBP, that there is 'no turning back' (2002:342). This articulation of the possibility of turning back dances before the mind. Would it be wrong to think of turning back? Of course, it would. Once again, there is an unexpected double-voicedness to this writing. Instead of being ambivalently-managed, it is a double-voicedness in which suppressed meaning seems to escape by subverting the meaning intended by the author. Or perhaps, the author allows their meaning to be subverted. Swinkels et al (2002) are almost playful in the way they balance up each side of the issue, and leave the drama unresolved.

This playfulness might influence the reading of other allied-professional writing in which the propriety of EBP is aggressively and violently asserted. When Turner and Whitfield (1999) foretell the demise of physiotherapy, when Jette (2005) says the profession is in peril, when Jones (2006) advises physiotherapists to abandon humility, they seek dramatic impact which is

not commensurate with the technical content of their writing. The practical and theoretical intricacies of evidence-basedness are not discussed, the urgency of EBP instead being brutally asserted. To caricature such writing is to miss the sense in which it is already dramatic caricature. The reluctance of Bithell (2000), Hurley (2000) and Grimmer et al (2004) to criticise EBP leaves a stronger impression still of a desire to criticise it, a desire which speaks although it dare not speak.

EB-discourse and Medical Power/Knowledge.

Less playful than Swinkels et al (2002), but similarly disconcerting, is Di Newham's (1997) opinion-piece which explains the absolute need for EBP in physiotherapy. She presents a curious type of ambivalence:

> 'In what appears to be a permanent state of change it is important that what might be *seen as* 'yet another directive from above' does not engender resistance. (…) It is important that we embrace the need for research and that this is *seen as* a grass roots movement, rather than the result of pressure from above.'
>
> Newham 1997:5, emphasis added.

The effect produced here is not one of sincere confidence in EBP, but one of having to repress doubts for the sake of appearances. Repetition suggests that these doubts are present to the mind of the writer. The narrative is a complex one in which again, it is not what is meant that is said, but in which the opposite of what is meant is not-said, or not-thought. The principal issue at stake is not what it is better for physiotherapists to do, but what it is better for them to be seen to do.

Newham continues along this path, revealing other areas of anxiety:

> '(Physiotherapy) prides itself on being practical. This is perfectly right and proper – so long as practicality is not thought to be mutually exclusive with research. (…) The knowledge and skills necessary for research are easily within the intellectual ability of physiotherapists.'
>
> Newham 1997:6.

> 'There is something about the clinical environment which, inexplicably and incorrectly, tends to condition clinicians of all disciplines to think that not knowing all the answers is a sign of ignorance or stupidity.'
>
> Newham 1997:8.

The suggestions brought into the narrative by these statements are, respectively, that practicality and research *are* inherently opposed; that physiotherapists *are not* capable of intellectual engagement; and that clinicians *are* ignorant and stupid. All these are thoughts which Newham explicitly does not mean to encourage, but to which, by accident or design, she draws attention. While these doubts about the competence of clinicians are familiar from medical EB-discourse, they are expressed there by those who identify as pro-EBM and as anti-expertise. In physiotherapy, it is clinicians themselves who are caught in self-doubt; who encourage themselves to believe that they might be incapable of correct thought. This is a tangible difference between the discourses of EBM in medical contexts, and EBP in allied-health contexts, and one in which the reproduction of medical power-knowledge is displayed.

EB-discourse manifests different dialogues in different contexts. These different dialogues reflect different types of power at work. In Foucauldian terms, one can proclaim that the discourse in medicine feels productive; it simultaneously validates the work of clinicians and researchers, reproducing the identitities of both in opposition to each other. In physiotherapy, and perhaps in other professions, the discourse has some repressive properties. It makes clinicians doubt themselves, it convinces them that they are of inferior status to doctors, and that without medical patronage they could not function. This repressive sovereign power, viewed from another perspective, has productive features. It reproduces disciplines as allied-health professions, as subsidiaries of medicine. One might ask, which disciplines have come to grief in the twenty years of EB-discourse? Apparently none have, and certainly physiotherapy has not, despite dire warnings[13].

In medicine, the path through EB-discourse has been negotiated by a symmetrical quasi-dialogue. In physiotherapy, it has been negotiated through vociferous insistence-upon EBP, suppression of dialogue, and subversion of the nominally-dominant perspective. A sociological question follows from this suppression of dialogue. In medicine, EB-discourse brings into being two well-

[13] From the records of registrants at the health and care professions council, http://www.hpc-uk.org/aboutregistration/theregister/oldstats/index.asp, it is evident that physiotherapist registrations doubled from 1992 to 2012, just as they had doubled from 1972 to 1992. Accessed 19/6/2013.

matched forces, clinicians and researchers, imagined to be in oppositional conflict. In physiotherapy, just as in medicine, it hypothesises just such a clear division of identity between researchers and clinicians, which is to be managed. This division is the foundation of review articles such as Schreiber & Stern (2005) although it has also been expressed in the terms of a 'theory-practice gap', for example by Roskell et al (1998). How is it that in the case of medicine this leads to the proliferation of vigorous writing from both sides, but leads in the case of physiotherapy to the apparent subduction of clinical resistance, which is expressed instead through a subversion of narrative?

A mechanism for this difference of dialogical form can be suggested which concerns again the issue of philosophy. I have suggested above that the development of a philosophical dimension to EB-discourse in medicine was important for transcending the tit-for-tat polemics, the quasi-dialogue of EBM-advocacy and detraction. It is significant that the philosophical dimension is absent from physiotherapeutic EB-discourse. Consider Stack's (2006) editorial, which was perhaps the first confident unapologetic rejection of EBP in physiotherapy. This piece made an unconcealed parody of EBP on the basis of its practical inutility. (Other pieces had made arguments around the practical inutility of EBP, but been framed as endorsements of EBP.) The substance of Stack's editorial piece is still political rather than philosophical; EBP is argued to be politically flawed because it does not play to the strengths of physiotherapy, which are craft knowledge, adaptability and sensitivity to patients.

In other physiotherapeutic works discussed, advocacy of EBP is made in spite of its listed shortcomings, and in accordance with anticipated political gains. Stack brings these political gains into dispute. Philosophical discussions are disconnected from these proceedings. Perhaps there is less need for EBP than EBM to be disguised by seemingly non-political presentation: allied professions have less power then medicine, and with less professional power comes less moral responsibility. At the same time, it seems that physiotherapists are denied access to the philosophical domain, a domain which facilitates the sublimation of EB-discourse into a higher academic form. EB-discourse manifests different dialogues in different social strata, and in so doing, reproduces social stratification. There is dialogue within levels and dialogue between levels, as a reflection of power-hierarchies.

These formations of dialogue, as well as being related to Power, are of interest from a Bakhtinian theoretical perspective. In this thesis I have been using Bakhtin as a social and a literary theorist, in accordance with my identification as an analyst of discourse. In the above

discussion I have drawn attention to contingencies of dialogue in EB-discourse as it has developed in social life[14]. The dialogical nature of language is not something which can be switched off at the will of the speaker, but something which pervades all communication and thought. Dialogue as an essence-of-social-being cannot be switched off by power; but perhaps power can channel it in particular directions. EB-discourse is powerful but it does not proceed through monological expression, generating consensus. It proceeds through the construction of dialogue, generating and regulating conflict. This conflict channels the productive energies of people whose identities are dialogically differentiated. By this mechanism, social institutions are preserved and defended.

[14] Bakhtin is increasingly recognised in social and cultural theory, but this does not detract from his status as a theorist of language. As Holquist (in Bakhtin 1981:xviii) writes, Bakhtin's concept of language concerns a 'sense of opposition and struggle at the heart of existence'.

5.4 Dialogue and EB-discourse in Sociology.

In dialogues of EBHC, researchers and clinicians' debating positions reflect their professional identities, but this is less clearly the case for sociologists. In chapter 3 I recounted some sociologists' strategies for engaging with EB-discourse. For example, some sociologists looked to bring a positive awareness of qualitative methods into medical research hierarchies. Others interested themselves in EBM in relation to change-management. For some sociological writers EBM held the possibility of bringing medical power, a long-time target of sociological critique, to account. Sociologists had ambivalent reservations about EBM, but still hoped to make alliances with it. I indicated that in this respect, the origins of EBM within medicine posed a particular problem. Might EBM not be a Trojan Horse for medical interests?

Like many clinicians, sociologists were indeed distrustful of EBM. But those who were suspicious still took EBM seriously (although not everybody was willing to do so). While sociologists produced social accounts of clinical knowledge-work, clinicians embraced sociology as a space for critique of EBHC[15]. In sociological EB-discourse, just as in clinical EB-discourse, there is space for both advocacy and dissidence. Remember though that the effect of EB-discourse over 20 years has been, through dialogue and disagreement, to preserve and defend healthcare institutions. The argument I make in this section, which is the final major point to make in this chapter, is that in sum, sociology has played a validatory and stabilising role in EB-discourse.

Legitimating the Carnivalesque.

As I have said, sociological EB-discourse has not just corroborated the terms of clinical EB-discourse, but also has been instrumental in its development from quasi-dialogue to more secure dialogical forms (forms for which one might use Gardiner's (2004:33) phrase 'genuine dialogue'). One general way in which sociology has rubber-stamped EB-discourse can be narrated in terms of Bakhtin's notion of *carnivalesque*. In '*Rabelais and His World*' (Bakhtin 1984) Bakhtin develops his thoughts on the carnivalesque in which discourses of officialdom are subverted by drawing on the comic, ironic and parodic capacities of language. Previously I have indicated some instances where carnivalesque practices can be read in clinical EB-discourse. In

[15] Eg. Trisha Greenhalgh's transition to advocacy of narrative-based medicine rather than EBM was accompanied by a move from a more-clinical to a more-sociological identity; see eg. Greenhalgh et al 2005

medicine, clinical and research factions frequently parody each other. In physiotherapy, dramatic allegiances are pledged to EBP in ways which can be considered ironic.

More so than these, there are instances from medicine in which both sides of EBM dialogue are mocked. For example, Isaacs and Fitzgerald's (1999 in the *BMJ*, 2001 in *The Oncologist*) 'Seven Alternatives to EBM' offers such possibilities as eloquence-based medicine (measured with a Teflometer) and nervousness-based medicine (standard unit: the bank balance) to carnivalise the anxieties of EBM. Confidence-based medicine, they suggest, applies only to surgeons (2001:391). Similarly the CRAP Writing Group (Clinicians for the Restoration of Autonomous Practice – *BMJ* 2002) skilfully satirise the religious undercurrents of EB-discourse, making fun not just of critics of EBM (although they are particularly targeted), but everybody involved[16]. This latter article is anonymously written, but one must suspect its authors, given the intricacy of their satire, of being well-versed in EBM and responsible also for 'serious' pieces.

Such pieces indicate possibilities within the clinic for not taking the supposed problems of EBM in earnest. Being comically polarised, EB-discourse might have become a subject for widespread levity and carnivalisation if isolated within medical and clinical literature. By their productions, sociologists determined that EBM should become an issue of genuine sociological interest, connected to the pervasive ambivalences of late-modernity. Sociologists rallied around the dichotomisations of research and practice, of evidence and expertise. Sociological writers linked to clinical or research institutions found in sociology a forum to underwrite their professional identities. Thus sociology has had an affectively-stabilising effect on clinical EB-discourse, linking it explicitly to policy and management interests, and contextualising it in broader discourses of social concern. This has been achieved through building a particular set of dialogical mechanisms.

Sociological Dialogues: Numbers AgainstWords, and Change Against Sameness.

Alongside the dialogue of politics and philosophy (to which I shall keep returning), sociologists have built dialogues around the oppositional categories of quantitative/qualitative and change/sameness. The preference in medical evidence hierarchies for quantitative research reflected a mostly-uninterrogated presumption. It was sociologists whose trade was in qualitative research who took up this dialogue by trying to bring qualitative research into EBM,

[16] See also Smith and Pell (2003) which I discuss in the appendix.

and to find ways in which quantitative and qualitative methods could be reconciled. Writings in this genre span a spectrum from militant qualitativism (eg. Grypdonck 2006) to scientistic justifications of qualitative methods (eg. Pope et al 2002), with more ambivalent pieces in between (eg. Popay and Williams 1998)[17]. In this context there is scope for genuine dialogue, achieved through various means of syncretism between qualitative and quantitative. The two can be imagined as complementary, with either one being supportive of, adjunctive to, or necessary for the interpretation of the other.

Where sociologists are engaged in finding space for their own health-research expertise in the powerful discourse around EBM, it is not in their interests to take a critical perspective on the constructed dichotomy of qualitativism and quantitativism. It is in relation to this dichotomy that such writers can positionally differentiate themselves. Yet in discourse analysis it is a dichotomy which is deconstructable. Hammersley (in 1992 – the year of EBM's inception) has done this, for example, but his insights have not had a reception in EB-writing. Numbers can be classed as linguistic vectors of meaning, situated within discourse and themselves discursive; numerical methods are discursive techniques, with particular rules; quantitative methods are a means to particular expressions of meaning, and are as such a specialist sub-genre within the qualitative. The analytic distinction between numbers and statistics as empty of meaning, and words as characteristically interpretive, is flimsy. But the cultural distinction between the two remains powerful.

Building a dialogue upon this distinction has the effect of reinforcing it and, since it is a distinction presumed in the quasi-dialogues of EBM, has the effect of generating cultural approval for those dialogues, thus securing the status of EB-discourse. Another germinal dialogue in clinical EB-discourse, which sociologists are able to develop into dialogue-proper, is the dialogue of change and sameness[18]. To write about institutional change as an expected feature of modern social life is to engage a paradox, perhaps the quintessential paradox of modernity. As Bauman and Tester (2001:72) testify, 'to be modern is to be in a state of perpetual modernisation' which is to say, constant change. Contemporary healthcare institutions are in perpetual modernisation which means always being moved away from an imagined past towards an imagined future.

[17] An anthropological analogue is Lambert and McKevitt (2002).
[18] A harbinger of change and sameness as a key tension in EB-discourse is Guyatt et al (1988) which I mentioned inchapter 1.

EB-discourse, more than other discourses around the maintenance of health, is part of this process of constant bringing-up-to-date. Sociologists interested in the management of change are engaged explicitly in a dialogue between ideas of present, past and future. With dialogical awareness of language one can see that while engaged in explicit dialogues of change, sociologists are also engaged in a tacit dialogue of sameness. For change which is manageable, predictable and expected is a conservative kind of change. At the immediate level of experience it appears as change; but at other levels of experience it appears as constancy. Such levels of change and sameness might overlap and merge in ways which are themselves changeable. It can be said though that to step outside the confines of present perception (in change or sameness) is to exercise a kind of historical and sociological imagination.

Strong (1984) can be seen to have made such an exercise of historical-sociological imagination when he observed that modern medicine periodically undergoes renewal under the guardianship of science. At such a level of historical narrative, EBHC is the latest in a sequence of functional preservations made in the name of change. Participants in clinical EB-discourse are not well positioned to comment on such paradoxes. Their attention is drawn to the narrow concerns of their own discipline and practice. But in sociology, disciplinary concerns are potentially wider and sociologists are placed to comment on the effects not just of EBHC, but of EB-discourse. Rather than bringing into question the modern imperative for constant change, rather than asking where it comes from, how it is constituted and which interests it serves, they have generally endorsed it and looked to appoint themselves the expert-administrators of change.

An unquestioning attitude to the predicament of constant-change, and uncritical perspective on the types of change imaginable through EBHC, once again makes for the preservation of EB-discourse on its original terms. Sociologists of EBHC further the dialogues of EB-discourse which consolidate, naturalise and endorse the constructed distinction of research versus clinic. They ask each other how ongoing changes inside and outside of the clinic are to be reconciled. The outcome of these discussions, underlying the constancy of change, is the preservation of healthcare institutions and maintenance of the boundaries of the clinic. The instrumental dialogues of qualitative/quantitative and change/sameness, and the conceptual dialogue of politics/philosophy have facilitated such conversations.

Forms of Power in Sociological EB-discourse.

How do Foucault's two principal forms of modern power – biopower and disciplinary power – fit this dialogical picture? In clinical EB-discourse the two forms are recognisable: biopower in population-surveillance, aggregate data, statistical expressions of knowledge; disciplinary power in surveillance of the individual subject, experiential data, narrative expressions of expertise. In their efforts to restore value to qualitative methods, sociologists have a form of interpretive expertise which is located within a framework of disciplinary power. They strive to ensure that this expertise (qualitative research) be translated into biopower through inclusion in the category of Evidence. In their efforts to oversee institutional processes of change, sociologists employ a different kind of disciplinary expertise, which is to act as skilful intermediaries between streams of power and knowledge.

In their role as mediators of change, sociologists are close to the interests of biopower (through policy) which are to be synchronised with resources of clinical expertise. They also occupy a translatory role as knowledge-brokers for the maintenance of health institutions. In both cases, sociologists administrate the balance between complementary forms of power. An illustration of this balancing process in action is the legacy of Stefan Timmermans' various writings on EBM from 2001 to 2010. One of Timmermans' principal theoretical concerns throughout is with the capacity of the medical profession for self-determination. His (2005) discussion of clinical guidelines can be intepreted in terms of tension between biopower which enforces accountability, and disciplinary power which protects autonomy. Timmermans and Mauck (2005) similarly emphasise the professional disciplinary influences on clinical reasoning which act against the mass-regulatory power of guidelines.

In such proceedings, the entities of reasoning subjects, disciplinary groups and regulatory powers are constantly rubbing against one another, apparent gains for each one being offset by apparent losses elsewhere. Pharmaceutical Companies emerge as a representative of biopower; but their influence can also be brought under moral scrutiny, and shown to be dependent on disciplinary power through the medical act of prescription. In this dialogical predicament, interpretive possibilities are juggled in a way which makes space for a wide range of perspectives to be expressed with roughly equal authority. EBM becomes a versatile symbol whose precise meaning need not be made clear, but which can be used as leverage for deprecating dialogical adversaries.

To illustrate this effect, consider Timmermans and Kolker (2004:181, emphasis added), who speak of theorists' concern that guidelines can be '*hijacked* by third parties to externally influence the decision-making processes of clinicians'. Sackett et al (1996:71) had acknowledged a worry that EBM could be 'hijacked by purchasers and managers to cut the costs of healthcare'. If on the other hand, EBM is an attempt to restrict clinicians' autonomy (as for Britten 2001), then it is the appropriation of guidelines by clinicians, in professional interests, which can be called a hijack. The recurrent rhetorical trope of hijack allows different interpretations of EBM to survive in parallel, as all are able to imply that theirs is the correct and true understanding, and that others have misapprehended. EBM itself, empty of specific meaning, becomes a discursive hinge, a fixed point around which discussants arrange themselves howsoever they may.

Within EB-discourse there exist multiple levels in which different dialogues have functional roles in arranging participants' perspectives in relation to each other. Consider Armstrong's (2002) sociological piece on 'the problem of changing doctors' behaviour'. Here the key point of dialogical tension is a struggle in medicine between the defence of occupational privileges and the practical mechanisms of service delivery (2002:1776). Armstrong succinctly writes the history of EBM as consensual and purposive, even conspiratorial:

> '(…) a new site for the construction of medical knowledge had been opened up, not the experience of the clinic but evidence from the trials unit. (…) mechanisms of 'decision support' would ensure that clinical behaviour was effectively channelled towards the new therapeutic rationality.'
>
> Armstrong 2002:1772.

The point of interest for Armstrong was not the struggle within medicine over therapeutic rationality (which as I have shown, was turbulent and conflictual) but a different kind of tension between the collective interests and defensive strategies of the profession and the autonomy and expertise of the individual clinician.

Different disciplinary positionalities thus offer different possibilities for interpreting the history and character of EBM. In sociological EB-discourse, dialogical formations proliferate like never before. Tensions between whole-professional directives, the sectional interests of sub-professional groups and individuals mesh with tensions between globalism and localism, and between biopower and disciplinary power. Sociologists become adept at shuffling the conceptual pack – exchanging perspectives on different power/knowledge forms and melding them into

each other. Like clinicians mediating their concerns between doing what seems politically sensible and what seems morally (philosophically) right, sociologists freely bring philosophies into juxtaposition with politics. This is compatible with the splitting of power into bio- and disciplinary forms.

Sociologists interested less in tensions between different strands of political influence, and more in tensions between things classed as being of political power or of knowledge, can interpret this splitting in terms of science (conceived as apolitical). Moreira (2005 and 2007), as I noted in chapter 3, investigated the relationship between scientific knowledge-production and the political motivations at work in clinical guidelines and systematic reviews. The active dialogue here is between science and society. This can be located in relation to the structuring antinomy of philosophy and politics, where science (as natural philosophy) is constructed outside of politics, but yet has powerful effects. The particular dichotomies which are isolated for consideration by different sociologists of EBM, just as for different clinicians, are reflections of their sub-disciplinary loyalties. For Moreira it is science, as a branch of philosophy, which becomes visible in dialogical relation to politics.

The Visibility of Dialogical Forms.

In such a situation one can ask which dialogues are visible to different writers in EB-discourse and which ones are hidden; or which ones can be knowingly acknowledged and which cannot. In later medical EB-discourse, for example, one can find signs of dialogical consciousness being expressed in unexpected ways. Consider Loughlin (2009a in *JECP*) in which a claim to philosophical status is emphasised, but much of which is given over to a scolding attack on the intellectual credentials of the early protagonists of EBM in medicine. At the climax of the narrative, the author introduces a piece of dialogue from American TV show *The X Files*[19], 'for no better reason than that it amused [him] for a while' (2009:937). The dialogue used features heroes Mulder and Scully discussing the merits of different evidential types (religiously-based and laboratory-based respectively).

Just as Mulder and Scully's characters validate each other in a dramatic narrative, Loughlin re-validates EB-discourse on the conditions previously established by medical writers. He continues the argument over EBM without the need for further advocacies to be written. In fact there are

[19] *The X Files* was produced by Fox Television, USA, 1993-2002.

good reasons why dramatic dialogue is invoked by Loughlin. The author's claim not to understand these reasons is significant – it suggests an uneasy awareness of the dialogical principles which animate EB-discourse. Being something which is used but of which understanding is to be denied, it might be read as an oblique acknowledgement of his own position within a dramatic dialogue. In contrast consider Nick Fox's (2003) paper on 'practice-based evidence' for social research. In this context at the periphery of EB-discourse, he advocates a re-constitution of the dichotomous categories which underpin the discourse.

Fox (2003:85) gives a critical analysis of the research tenets of internal and external validity, and reflects on the paradox which allows researchers to deny responsibility for the transferability of their findings into practice (2003:86). In social research, Fox (2003) re-imagines researchers as having identities continuous with their research subjects, always embedding their work in practices, and gives an account of precedents for these ideas in the tradition of 'action research' (2003:88-9). Setting an agenda for transgressive research practices, he explicitly rejects three dualisms; researcher versus researched, research versus experience and theory versus practice (2003:90). Fox's (2003) aim is to resolve the problem of Evidence through a conceptual re-configuration of language.

Research, he argues, ought not be thought of as separate from practice. He (2003:90) enjoins reseachers to be 'constitutive of difference', and not to 'close down or limit the ways in which research subjects will conceive of themselves'. These moves illustrate possibilities for expressing dialogical awareness, and for thinking in terms of dichotomy-transcendence, which have proved inaccessible in EB-discourse generally. On the fringes of EB-discourse (dissociated from the clinic) there is space to bring its foundational dualisms into question, against a background of norms which can be taken for granted as a context for transgressive writing. Within the boundaries of EB-discourse (associated with the clinic) there is no such space.

Participants in EB-discourse must see researcher and researched, research versus experience and theory versus practice as being valid and important distinctions, distinctions on which their identities and grounds for writing are based. Their interest is not to deconstruct such distinctions, but to reinforce them by building upon them. The binary oppositions which underwrite EB-discourse do not exist by accident; they express deeply embedded relations of power. They cannot easily be wished away. In the social-research context in which Fox (2003) writes, he is able to suppose that evidence-basedness reflects a problem which everyone would

like to see resolved. In healthcare the maintenance of this problem as an ongoing construction, albeit one with the appearance of conflict, carries tangible collective benefits.

By the preceding discussion of awareness of the dialogical frameworks in which they write, I observe that authors do not have free reign to write whatever they choose. Certain dialogical possibilities, in discursive context, are available to them; others are in the perceptual background, dictating the terms of thought. Some possibilities are on the threshold of awareness. The example from Loughlin (2009) is one such – a dialogical metaphor being used by an author who claims not to know the reason for using it. In Fox's (2003) case, far removed from the clinic, problematic dichotomies can be directly faced. But again, the author does not know why this is possible there and not elsewhere. It is because his thought, as is always the case, does not float freely on a cloud of wishes, but exists as an expression of dialogical power.

5.5 Conclusion.

The dialogue between politics and philosophy, alongside other dialogues of EBM which were evident, begat the present chapter in which the principle of dialogue is traced through various guises in EB-discourse. In medicine I found a situation where two sides conceived in opposition to each other conduct a restricted and repetitive dialogue. So polar is the opposition constructed between these two sides that each of them seems to contain the other, and either side can continue this quasi-dialogue without hearing the other, and once the other has ceased to speak. In physiotherapy I found a situation where the possibility of dialogue was violently denied; violently and unsuccessfully, as space remained for subversion of the apparently-dominant perspective by the apparently-submissive.

In sociology I found a space where clinicians and non-clinicians could stabilise the emergent dialogues of EB-discourse by connecting them to more broadly-established social concerns. The making of these connections has created a more authentically-dialogical situation. Political reasons for different groups to align themselves with or against EBHC could be mapped out; doubts about the legitimacy of the debate over EBHC could be alleviated; different streams of knowledge-production could be made compatible; intra-clinical and extra-clinical voices could be heard. The rules which apply within the clinic could be differentiated from the rules which apply outside, thus bolstering the distinction between the inside and outside of the clinic. This

last dialogue is particularly important, as the institutions of clinic and research, constructed in mutual relation to each other, are at the core of debate.

It is these two powerful social institutions of research and clinic whose ongoing maintenance is at stake in EB-discourse. They are social institutions in which a vast range of identities are arranged in relation to each other; and through EB-discourse, those who contribute to the institutions of clinic and research from the inside and outside occupy positions in dialogues. The dialogues which are visible and accessible to participants in the discourse depend on their institutional positions; but there is one dialogue which recurs across different contexts in EB-discourse, and the reason for whose recurrence I have avoided trying to explain. Even in contexts where this dialogue is not visible, such as the case of physiotherapy which I have discussed, it is significant for its absence. This is the dialogue between politics and philosophy, which by this point has no doubt become repetitive.

This dialogue has been empirical leverage for my pursuit of a Bakhtin-influenced analysis of EB-discourse. It is stubbornly resistant to being resolved into other dialogical forms. It seems to cross-cut the debate. It is difficult to transcend and call into question; it is difficult to think outside of. The robust persistence of this dialogue is something which I have found troubling my conscience as an analytic writing-ethnographer; the politics-philosophy dialogue *feels* to me particularly significant. Some kind of reason for this significance can now be suggested in terms of Foucault's major contribution to social philosophy, which was to recognise the equivalence of power and knowledge (see Foucault 1980). The politics-philosophy dyad is an analogue of the relation between power and knowledge; but rather than call it an equivalence, I have called it (because of Bakhtin) a dialogue.

As an expression of equivalence between power and knowledge, the politics-philosophy dialogue completes a Foucauldian-Bakhtinian circle. Foucault sees power as split between biopower and disciplinary power, and Bakhtin sees discursive-being as a dialogical state of existence. Power is split dialogically within itself; but also split against what it is not – or what it seems not to be – knowledge. But power is subject to knowledge; and while power is split, knowledge is split also, into knowledge inside and outside of power. Which is to say, politics and philosophy. This is why the politics-philosophy dichotomy is so crucial to EB-discourse. It is no less than the very core of power, the splitting of knowledge into oppositional forms. Foucault felt the importance of the relation between power and knowledge. But perhaps even he did not realise that the splitting of knowledge from power was itself an effect of power,

acting dialogically. Bakhtin felt the importance of dialogue, but perhaps did not realise that he was dealing always with power.

My main task in this chapter has been to promote awareness of the dialogues which condition sociological thought, and of how these dialogues are manifestations of power. EB-discourse is powerful insofar as it has contributed to the maintenance of social institutions of health research and practice. Foucault encouraged theorists to think of power as being productive rather than repressive. EB-discourse is indeed productive, but not purely so; for while in some respects its productivity is visible, it operates through subtle mechanisms which are in some ways productive, in other ways repressive. The interpretation of these mechanisms as productive or repressive depends on the situated perspective of the interpreter. Productive and repressive aspects of discourse work together in dialogue to constitute power. An appreciation of dialogue, after Bakhtin, is necessary to complete the understanding of power and discourse. Power is expressed through discourse; discourse is dialogical; therefore power operates through dialogue.

Chapter 6

Embodiment in EB-discourse.

Synopsis.

In this chapter I raise the issue of embodiment as problematic for EB-discourse. Beginning again from a Foucauldian view on power forms, I identify the clinician's body and the patient's body as those primarily relevant to EB-discourse. Both clinician and patient are constructed entities, locatable within the institutional structure of societies. I review the embodiment of the clinician as it has been represented in EB-literature through the ideas of embodied and tacit knowledge, and explain that these ideas have not been accurately applied. I highlight the necessity of *testimony* as a means of bringing embodied knowledge into discourse, and distinguish it from trust (which has also been used in EB-discourse without due care for its consequences). I discuss mathematics as a testimonial form, and explain how an idealised view of mathematics as non-testimony makes dialogical space for the recovery of meaning.

Turning attention to the patient in EB-discourse, I explain how the marginalisation of embodiment and testimony in EB-discourse combine to exclude the patient from thought. I use two narratives of illness – one from literature, one witnessed by myself – to act against the silencing of the patient. Investigating the mechanisms of blindness to embodiment and testimony as categories of thought, I question whether ideas of patient-centredness and expert-patienthood (which form a dialogue with EB-discourse) are suitable to undo the radical exclusion of the patient. Because they naturalise the construction of the patient, they are not. I re-connect the constructed patient to the idea of a patient-class defined as lower, not socio-economically but through knowledge-production. Finally I use the case-study of physiotherapy, in which the topics of embodiment and testimony are unavoidable, to illustrate the implications of imagining a healthcare discourse in which embodiment is not marginalised.

6.1 Introduction.

Thinking about evidence-based healthcare (EBHC) in Foucauldian terms as a confluence of two forms of power – biopower and disciplinary power – can lead to questions about embodiment. The regulatory mechanisms of biopower, as Foucault (2003:246) sees them, are abstractions derived from the social body in its generality. They do not work at the level of individual bodies, which are subject instead to disciplinary power. A concern associated with EBHC though is to ensure that biopower *is* brought to bear on individual material bodies, specifically the bodies and embodied behaviours of clinicians in clinics. This creates difficulties when the external source of power/knowledge does not readily mesh with the power/knowledge which is embodied inside the clinic. These difficulties are complicated when one realises that the clinician's body is not the only important body in the clinic. The patient's body is there too.

The patient's body is just as essential to the clinic as is the clinician's body, or more so. Thinking about embodiment in EB-discourse can consequently lead one to think about how the patient features within it. EB-discourse, as I have observed, is associated with the upkeep of the clinic and of healthcare as social institutions. As I have also observed, the patient as substrate and raw material for a healthcare industry is not just anybody who happens to become ill. The patient as a generalisable social character, as statistically defined and imagined in discourses of disciplinary and bio-power, is (on average) of lower socio-economic origin. It is not just clinical and healthcare institutions which are socially constructed and in Foucault's (2003) terms, must be defended; patients are socially constructed and must be defended too.

The patient-class, as a population of people upon whom healthcare is practiced, is a social construction and one can ask, what does EB-discourse contribute to this construction? This might mean asking how patients are differentiated from others in the discourse; they are differentiated by their embodied condition as healthy or ill, and they are differentiated by the knowledge they can access. These differentiations take place against a context of power which is not neutral; the patient exists in a hierarchy of social inequality, in which they are positioned as lower. Thus in relation to the patient, just as in relation to research and clinical institutions, EB-discourse can be seen to be an expression of power.

Besides bringing the patient into play, a concern with embodiment presents another critical test for EB-discourse. In this thesis I place explanatory weight on the claim that EB-discourse has contributed to the maintenance of healthcare institutions. As I explained in chapter 4, this is a weak claim, barely more than a tautology. The volume of professional and academic literature

on EBHC shows that EB-discourse has widely influenced thought on healthcare. I also go so far as to presume that this influence goes beyond thought and rhetoric, and has had embodied effects. That is, I presume that healthcare practices have changed as a consequence of EB-discourse. It is implausible to believe that EB-discourse could have had effects on beliefs about healthcare, but no effect at all on embodied practices.

This issue of embodiment is not an all-or-nothing issue, and the manner of effect is significant. If issues of embodiment were a central concern in EB-discourse, addressed directly and consistently, one could feel confident that the discourse was well-connected to embodied practice. Embodiment is not a central concern in EB-discourse though, but is peripheral to it. It is present, but I have had to look hard to find it. This marginality leaves the issue of change to embodied practice in doubt. In modernity one can safely surmise that over 20 years, healthcare practices have not stayed the same. How much of the change which has occurred can be causally associated with EBHC?

If the discourse were closely connected to issues of embodiment, one could feel confident that it has a direct influence on changes to embodied practice, which could connect to patient-embodiment. Since the discourse is not closely connected to issues of embodiment, one can only feel confident that it has a direct influence on how healthcare is thought about and rationalised. Changes to the embodied practice of healthcare are not the primary product of EB-discourse, although they might be a secondary product. This difference means that in EB-discourse, bodies (including the patient's body) can be avoided as a topic for thought. This avoidance in thought allows the structures of power which construct the patient to remain unscrutinised by those who participate in EB-discourse.

To determine further the influence of EBHC on embodied healthcare practice, one would require the testimony of those who are in an embodied position to observe it. Testimony in relation to embodiment is another theme of relevance to the patient. Their own testimony is a source of knowledge, and so is the testimony derived from them in clinical observation. These types of testimony depend on the patient's body and their embodied existence, and point to another way in which the patient is excluded from EB-discourse. Following the theme of testimony, I investigate how different testimonies are made visible and invisible in EB-discourse. I suggest that the idea of trust has served to obscure the importance of testimony, and so helped to keep the embodied patient outside of the discourse. I begin, however, with issues of embodied knowledge which are explicitly present, and can be easily reported.

6.2 Embodied and Tacit Knowledge in Medicine and EBM.

In recent times, the human body has been a popular topic in sociology (see Shilling 2007 for a review). Part of this interest, particularly in sociologies of disability and illness, is the idea of 'embodied knowledge' connected to illness sufferers (eg. Hughes and Paterson 1997:335, Ellingson 2006). Embodied knowledge is often found alongside the related idea of tacit knowledge, especially in literature on Organisation Management (eg. Lam 2000). In sociology, tacit knowledge is familiar from the sub-discipline of SSK, in which it has been argued (after Polanyi 1966) that scientific knowledge is reliant on tacit knowledge forms. Harry Collins (2001:107) characterises tacit knowledge by 'noting that mastery of a practice cannot be gained from books or other inanimate sources, but can sometimes, though not always, be gained by prolonged social interaction with members of the culture that embeds the practice'.

For Collins, the test of worth of tacit knowledge as a concept is how much of it can be accounted for by consideration of other knowledge types which are explicit and propositional. Collins argues (2001:108) that in any practice, there is always an element of tacit knowledge which analysts of that practice cannot dispense into other forms. Similarly, the idea of embodied knowledge brings a problem of opacity; knowledge which is of the body is knowledge which is not of the mind. It is inaccessible to mental language. Somebody might *feel* or *believe* that they have embodied or tacit knowledge, but claiming to *know* the content of such knowledge risks a contradiction. Alternatively, people might ascribe tacit or embodied knowledge to each other, with or without awareness of so doing, marking both as being characteristically social knowledge forms.

Further, tacit and embodied knowledge are not the same. Knowing how to sell insurance by telephone, for example, might be more tacit, whereas knowing how to do a standing backflip is more embodied. In each case there are aspects of the knowledge which could become explicit and mental, and ways in which explicit mental knowledge could wash back into tacit or embodied knowledge forms. To deal with embodied and tacit knowledge is difficult then, and especially so if done exclusively in the terms of written language, as is the case in academic text. Assertions of knowledge which is beyond-knowledge invite scepticism. Strong (1984:343), for example, is dismissive of clinicians' attempts to invoke 'art and craft' as a defence against the advances of the academy, endeavours which were to be perpetuated (and just as boldly dismissed) in EB-discourse.

Similarly, the idea of 'pattern recognition' as a mechanism for clinical reasoning is well-established in medicine, and remains current (see Elstein 2002, Norman 2005). It is expressive of an instinctive dimension to decision-making which can be observed, but is resistant to explication. In Sociology of scientific Knowledge (SSK), tacit knowledge is used not defensively but critically. The implication of tacit knowledge in accounts of science is that science is not wholly logical and transparent; it is not what it is supposed to be[1]. In chapters 4 and 5 I showed how EB-discourse is founded on various oppositional dichotomies, one of which is the confrontation between practical knowledge and research knowledge. The possibilities of tacit and embodied knowledge create problems for this dichotomisation.

For example, if the evidence-basedness critique of medicine is read as a writing-off of tacit knowledge forms (as it is by Braude 2009), then advocates of EBHC must be vigilant for any unsolicited tacit knowledge carried within EBHC. Any such elements could be used to render EBHC vulnerable to its own criticisms. Even to recognise the embodiment of knowledge in practice might be dangerous for EB-advocates; for the attempted institution of new healthcare practices through the dissemination of ideas, rather than through embodied performances, then comes to seem naive or disingenuous. For EB-dissidents on the other hand, the idea of embodied expertise is only advantageous up to a point. While offering some protection from the pronouncements of extra-clinical governance, it opens up other channels of vulnerability. It indicates that clinicians are not the masters of their own practice; that they work in ways which are beyond rational understanding.

Tacit and embodied knowledge forms thus have the potential to cut across EB-discourse by undermining both sides. They do not naturally serve the interests of the established dialogue; yet they are necessary to it, for there must be tacit agreement that clinicians have expertise in their embodied roles, even if that expertise is to be replaced by Evidence. Consequently there is reason to expect the tacit dimension to be present in the background of the discourse, and at the same time, ignored. Where it is not ignored, there is reason to anticipate trouble as people engage a concept which is by its definition difficult to engage. There are early signs of such trouble in Sackett and Rosenberg (1995) who, writing of unspecified 'powerful' methods of evaluation, produce the following:

[1] Consequently there is an element of satire or irony in SSK writing which builds on the tacit-knowledge critique, for example MacKenzie and Spinardi's (1995) invitation to the mass-uninvention of nuclear weapons via the deliberate extinction of the tacit knowledge required to build them.

> 'these methods often have made explicit the expert's implicit, non-verbal diagnostic, prognostic and therapeutic reasoning, making it possible for their trainees to replace mere mimicry with understanding, and avoiding the necessity for decades of experience as the only pathway to sound clinical judgement.'
>
> Sackett and Rosenberg 1995:30.

Here there is an attempt to sweep two problems away. The dark unknown, tacit knowledge, is conveniently rendered explicit, and devoid of threat; and the process of medical education is split into two extremes of caricature ('mere mimicry' and 'decades of experience') which are perfectly neutralised. The clinician, as a distinct identity, is broken apart and put back together. But while this is done swiftly, it is also done in a provocative way which opens a space for critical response (see chapter 5).

Kirsti Malterud (2001) in *The Lancet* was among the first to incorporate tacit knowledge into an account of evidence-based medicine (EBM). Her focus was on the role of qualitative research, and her understanding of EBM that it is predominantly a movement to quantitise[2] the activity of making clinical decisions and rule the interpretive (qualitative) dimension of medical practice out of court (2001:397). She argues that this interpretive dimension is characteristically tacit, in the sense used by Polanyi (1966), but can be made explicit by subjection to qualitative scrutiny (2001:398). This scrutiny, she explains, is scientific if done correctly. She argues that EBM should be driven principally by qualitative research conducted to scientific standards. For Malterud, qualitative methods are not soft and flimsy but are robust and, if done properly, generally to be highly-regarded (2001:399).

Although she references Polanyi, she sees tacit knowledge, whilst unquantifiable, as being nevertheless amenable to explicit observation and analysis without difficulty. In the analyses of Polanyi and Collins however, the importance of tacit knowledge is precisely that it is not merely pre-explicit, but is different in kind from propositional knowledge, and not directly accessible. This is a misapprehension also present in Wyatt's (2001) piece on Knowledge Management in medicine. He maintains that, in general, tacit knowledge can be explicated. His preference for explicit knowledge carries a judgement of moral value:

[2] I use the term *quantitise* to mean the process of conceptualisation in quantitative terms; as distinct from *quantify*, which I understand to mean the act of counting things.

> 'we hear the argument that by making tacit knowledge explicit we destroy it (…). Clearly I disagree. Much medical progress in modern times has been attributable to an evolution from tacit to explicit knowledge.'
>
> Wyatt 2001:6.

Wyatt outlines different strategies for the management of the two types of knowledge in health services – codification for explicit knowledge, and personalisation for tacit knowledge. This signals a tolerance for tacit knowledge in principle. However Wyatt's discussion of its management is imprecise. He draws on data from trials which found (as one might hope) that specialist clinicians gave better specialised care than generalists, and concludes briskly that 'the future of knowledge management in health is bright' (2001:8). This confidence rests on the presumptions that tacit knowledge in healthcare is both of marginal importance and is ultimately explicable. Neither of these presumptions are convincingly addressed by the literature Wyatt invokes. Like Malterud (2001), he ignores the problems which make tacit knowledge an awkward prospect for analysis, and misappropriates it in service of a particular professional agenda.

A Second Wave of Interest in Tacit Knowledge.

After these uncertain beginnings, tacit and embodied knowledge in EB-discourse receded from view. Later, Thornton (2006) made a move to place it at the centre of debate, as the unifying factor between research knowledge, clinical expertise and patient values. His argument runs that after Sackett et al (1996), evidence-basedness means integrating (scientific) research, (clinical) expertise and (patient) values. The problem faced in unifying these elements, and hence the whole controversy, arises because research is presumed to be a fully codified (explicit) knowledge form, whereas experience and values are presumed to depend on tacit knowledge forms. This problem can be solved by recognising that scientific research methods also depend on tacit knowledge forms: 'in a slogan, at the heart of evidence-based medicine is good judgement' (Thornton 2006:10).

Thornton uses tacit knowledge as a factor common to both sides of EBHC, which flattens the controversy over evidence-basedness. In the ensuing years the 'problem' of evidence-basedness has not showed signs of being re-established on these altered terms. Participants in the debate have continued to ignore the issue of tacit knowledge. Seemingly it is not in their interests to do

away with the distinction between research-scientific and clinical knowledge, a distinction which the dualism of tacit and propositional knowledge, if used at all, has been used to reinforce. Neither is dissolving the idea of science into a socially-embedded knowledge form an attractive proposition for those who debate EBHC. Their social status often requires faith to be sustained in the transparent, rational and scientific character of their professional knowledge.

Thornton (2006:10) makes two further points of note. He notes that tacit knowledge re-potentiates the patient as a Whole Person and an active agent in the construction of illness. In relation to embodiment, he observes that 'those who make medical judgements are not abstract rational points of view but embodied agents who share a 'whirl of organism'' (ibid). A writer who followed Thornton in theorising tacit knowledge in EBM is Hillel Braude (2009). Braude does not endorse Thornton's (2006) argument for identifying tacit knowledge, maintaining that EBM is 'premised precisely on the dismissal of tacit knowing (…) and cannot incorporate a theory of tacit knowing into its epistemology' (2009:182). Giving a rich history of the RCT, Braude criticises EBM for the hubris in its unwarranted statistical determinism, and strongly advocates a return to Feinstein's clinical epidemiology which was 'betrayed' (2009:190) in the creation of EBM.

This advocacy is supported by resonances between Feinstein's work and Polanyi's (1974) view of tacit knowledge, which elucidate the process of bringing epidemiological knowledge into the clinic. Notwithstanding his disapproval of Thornton (2006), Braude fulfils Thornton's wish for a resolution to the EB-debate led by a consideration of tacit knowledge; the notable difference being Braude's willingness to dispense with the term 'evidence-based'. However, Braude's (2009) arguments might still be re-appropriated in the service of EB-discourse. Despite his careful handling of terms, Braude himself positions tacit knowledge close to clinical expertise and the attendant possibility of being systematically misled. To those accustomed to thinking in terms of the dichotomy between clinical and statistical reasoning, it remains easy to conceive tacit understandings as being subject to correction by explicit rationalisation (as illustrated by Wyatt (2001)).

On the other hand, if tacit understandings are viewed positively, it is easy to forget the notional symmetry in Thornton's and Braude's arguments, and apply them as a defence of clinical knowledge. This possibility is borne out by Henry (2010) in the *JECP*. He provides a detailed descriptive account of tacit knowledge in clinical practice. His account is vulnerable to the basic EB-type criticism of clinical insularity; it imprisons clinical reasoning inside the clinic, isolating it

from external influence and broader-cultural embeddedness. Henry (2010:295) retreats into stating the need for 'a frank acknowledgement of uncertainty in medicine' and 'humility about the limits of medical knowledge' – just the positions of vulnerability which are distasteful to advocates of EBM. Rather than transcending the basic binary oppositions of EB-discourse then, the idea of tacit knowledge can be appropriated to strengthen them.

One could imagine the development of accounts differentiating the practical-tacit knowledge generated in the clinic from the scientific-tacit knowledge associated with health research. This possibility stems once again from conceptual slippage in the use of tacit knowledge which, to repeat and repeat, *cannot* be faithfully articulated. Henry's (2010) entreaties to recognise the tacit dimension fall foul of this difficulty; if something is tacit, then by definition it is difficult or impossible to recognise. Nonetheless, the recognition of tacit and embodied knowledge in medical practice has been attempted by sociologists Nettleton et al (2008). The strategy used here is to is to ask for the views of doctors who are in an embodied position to judge how medical practice has changed in recent times.

Nettleton et al (2008) conclude that the embodied condition of medical practice is changing[3]. New systems of regulation and the institution of a bureaucratic culture of audit foster a context in which medical knowledge is becoming more codified, less embodied. Nettleton et al (2008:346) caution against nostalgia for craft knowledge which is threatened by such changes, but suggest that 'intuitive and incommunicable knowledge could have a value that has hitherto not been fully appreciated'. An implication of the recession of embodied knowledge forms is their replacement by other forms which are thought to be transparent. Making reference to Polanyi (1966), Nettleton et al (2008:343) hint that these forms bring with them dimensions which, while maybe not embodied, are still tacit.

As an extension of this, one could imagine heroic tales (such as in Greenhalgh 1999) of doctors making diagnoses by clinical intuition being replaced by heroism of a more hermeneutical kind. One might imagine asking, 'doctor, how did you know that such an obscure study would prove relevant to this patient?'; and imagine the reply 'when you've read as many papers as I have, you develop a feel for these things.' Paradoxically, EBM (rather than EB-discourse) might be historically judged a success at a point when the need for such hermeneutical skill no longer need be made explicit in dialogical contrast to expertise. At such a point, the embodied

[3] This is in contrast to others, eg. Timmermans (2005:490), who suggests that the production of clinical guidelines is reflected in 'at best, a modest change in clinical behaviour'.

knowledge of clinical practice would have been displaced by the tacit knowledge of evidential hermeneutics.

Nettleton et al's (2008) article displays one further paradox relating to the testimony of doctors. In EBM, doctors' testimonial judgements, and testimonial judgements in general, are made suspect. Research evidence is used to substantiate or correct them. In assessing the impact of EB-discourse on embodied practice though, sociologists are reliant on doctors' testimony; for what other way can there be to judge embodied experiences except through the testimony of those who experience them? EB-discourse is necessarily concerned with embodied practices, as I have shown. But embodiment can only enter literary discourse through testimony; therefore testimony is also of interest for the analysis of EB-discourse. Further, the testimony of patients, attached to their embodiment, is basic to healthcare; and again, if testimony is problematic in EB-discourse, this has an effect on the capacity of the discourse to engage the patient. Therefore it is wise to look again at EB-discourse to see how testimony features within it. In fact testimony is not a term much used in EB-discourse, where it is more common to speak instead about issues of trust.

6.3 Testimony (rather than trust) in EB-discourse.

It seems reasonable at first to think about the controversy over EBHC in relation to issues of trust rather than testimony. The supplementation or replacement of clinically-internal knowledge with externally-processed knowledge reflects a suspicion of things going on in the clinic; a distrust of clinical wisdom and a consequent restriction of autonomy (see Harrison and Ahmad 2000, Timmermans 2005). This distrust could manifest at any level from the single-intervention (what a clinician does on this occasion) to the highest generalities (what medicine does, globally). On the other hand, the individual clinician presented with Evidence must decide whether to trust it (see Abramson and Starfield 2005), and health policy-makers engage in the collective allocation of trust to medical technologies (see Will 2005). In these instances, EB-discourse can be associated with a change in the distribution of trust as a social currency. There are different conscious choices to be made in relation to trust than would have otherwise been the case.

While the different operations of trust in different clinical contexts could perhaps be discerned empirically, there is also a bottom-line to this type of conceptualisation: continual appraisal of

evidence means adopting a default attitude which is critical, rather than trusting. In a bureaucracy of evidence, there seems to be absolutely less trust going around. The effect of this loss of trust might be related to the discussion of embodied and tacit knowledge, above. These non-propositional knowledge forms appear to be threatened by imperatives to accountable transparency. Perhaps it is the case that being trusted is a pre-condition for developing skilful expertise. Perhaps being able to place trust in others plays a socially-constructive role in recovery from illness (this could be imagined in the context of Parsons' 'sick role' (1951)).

In these possibilities, the right kind of trust seems inherently to be a good thing. Using the concept of trust, it is difficult to pursue enquiry while retaining a sense of sociological detachment. The trust concept might encourage nostalgia for the craft of health practice (because clinicians must be trusted), or indignant reaffirmation of the rectitude of EB (because patients must be able to trust medicine), and thus help to support the well-rehearsed and restrictive dialogues of EB-discourse. The importance of trust points the way to a general analysis of emotional exchange in EB-discourse, which I pursue in chapter 7. There is recent sociological interest in trust (see eg. Misztal 1996, Gambetta 1998, Mollering 2001), and not much sociological interest in testimony. But my current purposes are less to do with understanding choices made psychologically and individualistically in particular contexts, and with regard to the competence and honesty of particular testimonies.

My interest is in general patterns of testimony and the value systematically accorded to them in EB-discourse. For this purpose, a precedent can be found in the concept of testimony as it has been used in social epistemology (see Lipton 1998, Kusch 2002). Kusch, particularly, criticises the individualistic epistemological tradition in which accounts of testimony involve attempts to reduce it to psychological concepts such as perception, memory and reason, thought to be more epistemically-secure. He elaborates a program of communitarian epistemology in which testimony – the individual and collective utterances of people – is fundamental to the institution of knowledge. The concept of testimony might have things in common with the concept of trust; but where trust implies emotional consciousness, testimony implies systematic and mechanistic social processes of knowledge production.

After the philosophical formulation of testimony as the basic material of knowledge, one can ask, what effect does EB-discourse have on the currency of different testimonial forms? First, consider EBM itself. Defined as a move to replace personally-held, contextually specific judgements with de-personalised and generalised knowledge, EBM explicitly diminishes the

knowledge-value of direct testimony. In EBM, the value of the things said by people in general, but particularly by clinicians from the position of their own subjectivities, is made suspect. This diminution of testimony affects patients as well; their perceptions of illnesses and treatments do not count as evidence unless they can be measured through a performance of objectivity. The testimony of the health-researcher is equally suspect taken on its own – hence the emphasis placed on critical appraisal of research literature, and pervasive concern to eradicate bias.

These forms of individual testimony are easily recognised as such. One person or group may express an opinion. Different opinions can be found elsewhere. Isolated subjective testimonies are suspect, but when collected together and combined into consensus, they have the potential to become Evidence. Consider once again the defining research-method of EBM, the randomised-controlled trial (RCT). An RCT based on a large number of individual testimonial incidents produces a kind of testimony which is detached from the testifiers. If this RCT is written collaboratively by a large number of authors, the act of testimony is further dispersed; and if that RCT then becomes part of a meta-analysis, re-constituted by combination with other RCTs, it produces knowledge which is still less recognisable as testimony. Many people have been involved in processing the data, which comes to express judgements which are not individual but collective.

Clinical guidelines manifest an even broader act of testimony, to which contributions have come from clinicians, academics, service-managers and representatives of government and industry. They speak of the collective judgements of different stakeholders in the social institution of healthcare. Also in EBM, there is explicit disregard for reports of causal physiological mechanisms. These might be difficult to reproduce, and inaccessible to most observers. Their veracity depends on witnessing through the expertise of biological science, with the assistance of technologies such as microscopes or chemical tests. Such witnessing has a testimonial character which can be difficult to disguise. Similarly, the views of expert clinicians bear witness to things from which others are excluded by their definition as non-experts.

Even when combined, these instances of expertise have a testimonial character which is difficult to disguise. It seems that the more visible is the testimonial character of an act of judgement, the more difficult it is to camouflage, then the less likely it is to count as evidence in EBM. One means of disguising testimony is to disperse it. A clinical guideline, for instance, has identifiable authors. Being drawn from meta-analyses and other studies, it has further authors who are identifiable by reference. But each of these studies has testimonial contributions from hundreds

of others, each of these others being representative of many more similar acts of testimony. As an act of social consensual testimony, the guideline is produced from hidden testimonies which number many thousands or hundreds of thousands.

Mathematical Testimony.

Dispersal is important for procesing testimony into Evidence, but might not be enough on its own to warrant acceptance of collective testimony as knowledge-for practice; and then some other textual technology is needed. A key discussion in sociological EB-discourse, as I have shown, relates to the issue of quantitisation. While many have been attuned to the distinction between qualitative and quantitative methods, the weight of the literature is on finding room for qualitativism within an orthodox conception of science. Not many writers develop a discussion of mathematical and statistical techniques as discursive technologies. An exception is Upshur et al (2001), who make a distinction between qualitative research which they say carries inherent meaning, and quantitative research which does not. Upshur et al (2001:93) interpret this in terms of mathematical language as a special kind of testimonial form: it 'transcends the particularities of specific natural languages'.

From this super-testimonial status springs a special power: 'mathematics compels assent from those who understand its logic' (ibid). To take issue with mathematics, therefore, is to misunderstand it. This idea that mathematics compels assent from those who understand it merits immediate critical attention. For any mathematical statement there are levels of understanding which indeed compel assent, but other levels of understanding which instead compel dissent. These are of interest for examining the supposed transcendent capacities of mathematics. For example, one can make an argument that the vast majority, not to say the totality of use of statistical technologies in healthcare, is performed by people in whom a thoroughgoing personal understanding of those technologies is not required. Tacit recourse is routinely made to the validity of statistical testimony supported by consensus and convention.

To illustrate this point, consider Greiffenhagen and Sharrock (2011) who present a discussion of 'frontstage' and 'backstage' mathematics. They demonstrate a resolvable disconnection between the business of mathematical discovery and the use of mathematical technologies in applied contexts. Mathematical discovery is characterised by uncertainty which is erased when mathematical theorems come into mainstream use. The mathematical 'public' does not know,

nor need to know, all the details of production of mathematical technologies. Hinging on ideas of certainty and fallibility, Greiffenhagen and Sharrock's (2011) analysis can be used to highlight that in health research, authors are not expected to demonstrate 'backstage' experience of mathematics: they are not expected to produce worked arguments for the formulae they apply to research data, or to demonstrate awareness of such arguments.

At most, an explanation is given of the characteristics of data which place it in a particular statistical category. Health researchers might have been on applied-statistical training-courses, or they might consult with statisticans who receive credit for partial authorship in research work. But these testimonial forms are not normally placed in full view. Published papers are scrutinised for the type of statistics applied (see Greenhalgh 1996 and later editions); but only at a level which would substitute one technique for another. The construction of statistics as a route to the management of uncertainty is not brought into question. Health researchers are expected to use statistical techniques as if they were carriers of certainty. Strictly speaking, from the point of view of health research, statistical techniques *are* carriers of certainty.

Being demonstrably empirical, Greiffenhagen and Sharrock's (2011) study is different from purely-theoretical sociologies of mathematics, for example Bloor's (1994) discussion of the 'proof' that 2 + 2 = 4. If desired, these too can be used to make a stronger sociological theorisation of mathematics. They open a route to philosophies of mathematics which can be used to display the consensual and testimonial aspects of statistical methods. Take, for example, the simple mathematical idea of *commutativity*, as follows. The principle of commutativity is fundamental to forms of algebra which are based on counting. It states that 'a + b = b + a', or in words, that the number of a thing does not depend on the order of its counting. In A-level mathematics curricula, for example, this principle is sometimes mentioned, but not analysed.

There, the principle of commutativity passes into the contextual background, and need not be explicated even though it is used routinely. When one moves beyond A-level and begins to study 'number theory' however, the principle becomes active as a point of discussion (see Davenport 1992). This illustrates simply that the parameters relevant to mathematical arguments are determined by the context of consideration. Mathematicians make their arguments on the basis of definitions and tacit understandings which are determined socially, by convention. Just as in pure mathematics, the parameters within which judgements are made about statistical propriety in health research are determined socially by conventions within that

field. These can be challenged within the field using comparable conventions; but one would not dream of using number theory, for instance, to challenge the claims of a health research paper.

Take, for further example, the common technique of using *p* values as a measure of the strength of an empirical result. Health researchers using *p* values do not discuss the mathematical derivation of *p* values; they simply present the numbers which were produced in the course of their studies. They are sensible to do this, for a move to mathematical explanation would open up possibilities for more disagreement, not less. Instead the validity of statistical methods, often computerised, is taken by tacit consensus as a safe bottom-line for discussion. In this way, a vast amount of testimonial work is written out of consideration, and naturalised. Mathematics functions as a guarantor of testimonies less because of its technical properties, and more because it is consensually agreed to function as such.

There is another sense in which Upshur et al's (2001:93) assertion that 'mathematics compels assent' might be understood. This is to notice that quantitative and statistical technologies have properties apart from the instrumental utility of processing and expressing meaning-information in efficient socially-ratified ways. Mathematical idioms are rhetorically and aesthetically compelling for their universalising properties. Porter (1995:chapter 1) has highlighted the impersonalising, anonymising power of mathematical language. In the language of mathematics, and more specifically statistics, recognisable individuality of voice is erased. The style of testimony is narrowly constrained, and consequently less recognisable as being testimonial in origin. In social-scientific literature, it is a truth obliquely acknowledged that quantitative work carries social capital not for its content, but its form (see McLaughlin E 1991).

Numbers can be experienced as persuasive in their apparent simplicity; they have a capacity to move people in ways which 'mere words' cannot. What is poetically compelling about numbers might paradoxically be their symbolic efficiency, which seems to be stripped of poetic content. A popular quote from Bertrand Russell (1953) that mathematics possesses 'supreme beauty – cold and austere' well characterises the über-scientific aesthetic of mathematics which prevails in EB-discourse. Such an understanding can be offset with a quote from the mathematician Paul Lockhart, whose '*Mathematician's Lament*' has gained cult status in mathematics education:

> 'The first thing to understand is that mathematics is an art. (…) there is nothing as dreamy and poetic, nothing as radical, subversive, and psychedelic, as mathematics. It (…) allows more freedom of expression than poetry, art, or music (…). Mathematics is the purest of the arts, as well as the most misunderstood.'

Lockhart 2002:3.

Lockhart simply demonstrates that there is no need to think of mathematics as cold and austere, nor as scientific. In EB-discourse though, a Russell-like view of mathematics is tacitly and universally accepted, and mathematics deployed in the service of the dis-ownership of testimony. In EBHC, testimonies of health and illness are harvested from clinical interactions, directly from patients or derived from observations of patients. Such testimonies derived from clinical proceedings are exported and laundered by extra-clinical processes. These processes involve the collectivisation and validation of testimony through the language of numbers *understood as science*. Finally, clinical testimonies are returned to the clinic in the form of research reports and guidelines. There they are hermeneutically interpreted by clinicians and contribute to the re-cycling of knowledge as embodied clinical acts.

Testimony and Resistance to EBHC.

The processing of testimony, and role of mathematical language in collectivising testimony for EBHC discussed above, is just half of the story. EB-discourse, as I have argued, is dialogically reliant upon resistance as well as faithful commitment to evidence-basedness. What happens to testimony when people identify as resistant to EBHC? Upshur et al's (2001:93) notion that mathematics compels assent, and Russell's feeling that mathematics is cold and austere, have dialogical implications. The compulsion of assent carries with it suspicion of the purposes for which assent is compelled; and the cold austerity of mathematics brings a desire for the warm generosity of poetic language. EB-discourse is not concerned purely with the militant pursuit of statistical justice in health, but also with the emotionality of caring. It exists in times where a suspicion of statistics is often presented as healthy.

A literary example can illustrate this: in W.H. Auden's (1952) requiem for modernity, *The Shield of Achilles*, statistics are associated with genocide:

> A million eyes, a million boots in line,
> Without expression, waiting for a sign.
> Out of the air a voice without a face
> Proved by statistics that some cause was just
> In tones as dry and level as the place.
> No one was cheered and nothing was discussed

Column by column in a cloud of dust
They marched away enduring a belief
Whose logic brought them, somewhere else, to grief.

Auden 1952:3.

Here, the disembodied voice of statistics is the harbinger of death, and is tragically impossible to resist; but as this observation is made, the conceptual possibility of resistance is implicitly mobilised. Perhaps such cheerless belief need not be endured. Similarly in EB-discourse, the invocation of statistics as being transcendent of meaning creates a space in which meaning and humanity can be restored. As the foregoing discussion shows, mathematics and statistics are not outside of meaning. But the discursive configuration of them in such a way that they can be imagined and agreed to be outside of meaning sets up a dialogical possibility.

The institution of Evidence as statistically-based and non-testimonial opens an apparent lacuna in meaning, which qualitative methods can be presented as being in a position to fill. Writers might then argue, like Mays and Pope (1996) or Popay and Williams (1998) that qualitative research produces Data, and is a legitimate part of EBHC. Like Giacomini (2001) or Leys (2003) they might argue that qualitative and quantitative research are different, but that qualitative studies can still be useful as additional information, or as evidence in its own right. Like Dixon-Woods et al (2005, 2006) they might argue that ways to synthesise qualitative evidence into systematic reviews must be sought, because 'traditional forms' (meaning quantitative data) are not sufficient. Such arguments have been developed for allied professions, including physiotherapy (Gibson and Martin 2003) and nursing (Flemming 2007, Freshwater et al 2010). Or like Morse (2006a, 2006b), they might argue that qualitative researchers should develop autonomy away from EBHC.

These are ways of using the category of Qualitative to re-institute a space for clinical testimonies, presented as a different kind of specialist knowledge. The conversion of testimonies into qualitative data produces a field of expertise identifiable in contradistinction to the quantitative. Similarly, among communities of clinicians, Evidence (both quantitative-statistical and qualitative-linguistic) creates a space for dialogical interpretation. Only clinicians are in an embodied position to judge the applicability of evidence; only clinicians see multiple cases of illness and different kinds of patient. Only clinicians have the opportunity to re-institute expert testimony as a valid kind of knowledge to balance the apparent non-testimony of evidence. Such

testimony is not imagined as the subjective voice of an individual, but as a transcendent and humanitarian voice, the voice of one who is in a privileged place to make judgements. The patient, because of attachment to their body, cannot make such judgements. There is no way for their testimony to be presented as anything other than the testimony of the accidental witness.

6.4 The Patient.

The issues of embodied and tacit knowledge, trust and testimony are positioned on the threshold of EB-discourse. Embodied and tacit knowledge are occasionally mentioned in EB-writing, and on these occasions they cause problems. Trust and testimony are rarely mentioned, but as discussed above, they are also of significance for understanding EB-discourse. The related case of the patient is positioned differently, and has over-arching significance. The patient is fundamental as a basis for EB-discourse; a discourse which cannot be imagined without having a patient on whom practices are performed. The patient is not on the threshold, but at the centre of proceedings. But strangely, as well as being at the centre, they are also nowhere to be seen. Reading through literature on EBHC, one is intermittently assured that the patient is present and important, but never gets to meet them.

In chapter 2 I observed that EB-discourse has qualities of theatrical performance. In the drama of EB-discourse, the key players are clinicians, researchers and policy-makers, not patients. The patient can be relied upon to appear in many pieces of writing on EBHC – normally towards the end – and always in a highly restricted role[4]. Clinicians, by contrast, play a limitless range of roles on a moral spectrum from the angelic to the demonic. The patient never becomes active in this way, but remains unelaborated and passive. In dramaturgical terms, the Patient's passivity makes them a perfect and necessary foil, or plotting device, for the actions of other characters. In semiotic terms, the Patient is essential to EB-discourse, and yet the discourse has nothing to say about them; they are an empty category or what might be called, after Laclau (1996), an empty signifier.

An empty signifier is, for Laclau, a category which is outside differentiation, and which is indispensable for configuring the content of active categories in political discourses. In EB-discourse, the patient has presence as a unified entity which is protected from analysis. In Laclau's (1996) terms, their exclusion from the discourse is a Radical Exclusion. Differentiating among patient-types is insupportable for EB-discourse; it opens the way to a set of complexities which would mean questioning the configuration of clinicians, researchers and policy-makers as exhaustive carriers of agency. This perspective accords with an industrial model of healthcare in which patients form a transient cohort, continuously processed by a static cohort of practitioners.

[4] An illustration of this is in the final phrase of Derkatch (2008:384 in *Social Epstemology*): '… biomedicine's own idealised model of research, manifest in the EBM model, wherein the best evidence for a particular health practice seems to have little to do with patients themselves'. The irony of this statement is that the patient does not appear anywhere else in Derkatch (2008).

Focus on the actions of a static cohort of practitioners obscures the view of healthcare interactions as ephemeral achievements of social construction, in which patients are active even through their passivity.

As I have observed, health in contemporary societies is a form of capital which is systematically related to class defined in socioeconomic terms, and therefore to distributions of power. Simply, lower socioeconomic classes have poorer health. In these literal terms it is possible to imagine the patient as a classed entity, or an entity in which categories of social classifications are an issue active but hidden. In EB-discourse it is asked; what types of knowledge are to be considered valid in health interventions? Or in other words, what types of knowledge can be used to underwrite the institutional power of the clinic and clinical research? In response to these questions, a complex of knowledge has been set up amongst researchers, policy-makers and clinicians.

This knowledge-complex must have the patient in it, because the patient is needed as the basis for its construction; but the patient is hidden in the presentation of such knowledge. Their presence in its construction is denied. EB-discourse institutes the patient as an entity whose status is designated not socio-economically lower, but lower in the realm of knowledge production. Using the categories of embodiment and testimony, a mechanism for the radical exclusion of the patient from EB-discourse can be demonstrated. Two channels have been identified above through which the patient potentially has agency. The first is through their body as the locus of illness; the second is through the testimony they provide and which is derived from their reports of illness or health. These two channels of agency can be linked together, or they can be separated.

Taking the patient body first, it is not problematic to assert the necessity of bodies as a basis for health practices. Foucault (1963) showed that modern medicine incorporated a *gaze* which made bodies visible to knowledge, re-configuring them as collections of organs. For Foucault, this dissection of the body is a symptom of an intensified governmental concern with the body as an entity in discourse. Jewson's (1976) related account of the 'disappearance of the sick-man' from medicine recently drew a series of commentaries by sociologists. These are to the effect that this 'disappearance' is to be read as a step towards the construction of the patient recognisable in contemporary medicine (Armstrong 2009, Prior 2009, Nettleton 2009, Nicolson 2009). Other sociologists have recognised the crucial importance of the body as a medium for social identities of illness and health.

Kelly and Field (1996) and Williams (1996), for example, demonstrate the necessity of a body as the point of attachment between illness and personhood. The absence of a body from the proceedings of healthcare is not (yet) thinkable. Not only does the presence of a body necessitate the presence of a patient; it is only because the body is attached to a patient, whose condition as healthy or sick has social significance, that it is of interest at all. Perhaps this connection between illness, body and patient could be challenged in the case of mental health, where illness is of mind not body. This venture is difficult to substantiate in a medical context where mental illness is conceptualised in terms of the physical body; through the brain as an organ, through molecular genetics, and through processes of biochemistry, to be diagnosed and treated with drugs (see Busfield 2000).

In most cases, becoming a patient involves a personal act of testimony; 'it hurts when I breathe' or 'I am experiencing anxiety', for example. Such acts of testimony can be corroborated by acts of clinical measurement, which show that one has cracked a rib, or one is showing conventionally-recognised symptoms of emotional distress. The possibility for mismatch between testimonial levels is immediate. People's claims to bodily illness can be countermanded, as can their claims to being in good health. In cases where mental health is implicated, it is people's testimonial status which is itself the prime focus of attention. In the majority of cases, though, the patient gives testimony based closely on their embodied knowledge of self; clinicians and professionals interpret this testimony at a level of expertise which is potentially alienated from the patient. They derive their own testimonies from patients' bodies, incorporate patients' testimonies where they mesh with other influences, and discount them where they do not.

The patient is uniquely attached to their own body, and so their person is connected to a source of agency and potential power in the arena of health practice. The patient's body is active in the clinic as a determinant of action; but the way in which it becomes active depends on which aspects of the body are brought into play by being institutionally recognised as knowledge-generative. In this respect, clinicians and researchers, by virtue of their social position, cannot avoid dictating the terms of knowledge by reading the significance of symptoms and bodily responses in disciplined ways. As discussed above, this process might itself be more or less embodied and instinctive; but to the extent that it is embodied and instinctive, it is degraded in EBHC. And to the extent that it is not degraded in EBHC and is protected in EB-discourse, it is protected by attachment to the clinician, not the patient.

For the patient, direct connection to the body means that they are constrained within the realm of embodied-tacit knowledge; just precisely that realm which, in EBHC, is made suspect. This situation is well-illustrated in Mildred Blaxter's (2009) autobiographical account of the illness (cancer) which preceded her death in 2010. Building on the theme of the 'vanishing patient', she recounts occasions during the process of her diagnosis in which her interpretation of bodily signs and symptoms – her personal embodied knowledge – was overruled by clinicians[5]. Although her analysis is of medicine, rather than specifically of EBM, she draws attention to the way evidence within the clinic is arranged so as to vanish the patient:

> 'P [the patient] (…) had some clear personal opinions (…). What these opinions were based on is hard to say: medical history, knowledge of the 'normal' for this body, perception of symptoms, and something that can only be called instinct or 'listening' to the body.'
>
> 'It was very clear to P throughout that the status of the patient's own information – about medical history, about symptoms, about probable cause and effect – was given a lower status than the 'evidence' of the measurement or image.'
>
> Blaxter 2009:768,771.

Here the patient's embodied knowledge is overruled twice; once because it is embodied, once because it is expressed as testimony by the patient. The nature of severe cancer as a catastrophic condition, but one upon which (in some cases) the patient retains a rational perspective, offers a space to comment upon the workings of bureaucratic medicine[6]. I have myself had chance to observe this closely. Spending some days with a friend of mine in the last week of his life, I witnessed interactions between him and hospital staff. He indicated a sense of frustration in terms which I quote verbatim:

> "It's not that they won't listen to me … they're listening, but they cannot hear."

As he became more ill and more sedated, it became harder for this man to articulate his thoughts. Nevertheless he produced the following question as a comment on his predicament:

> ". . . why does the patient have to be institutionally free?"

[5] At MedSoc 2013, Sarah Cunningham-Burley mentioned this paper in the context of a talk which built from the idea of construction of disease towards construction of patients.
[6] This makes a contrast with EBM-advocacies which had used cancer as a paradigm case of horrific illness, which I refer to in chapter 7 as a 'human shield'.

This comment by itself is open to interpretation, but in the context in which it was spoken (in which the patient's views had been repeatedly ignored) it indicates that the speaker felt that his institutional status as Patient deprived him of the social capacity to influence his own treatment. I, too, found it difficult to make myself heard as an advocate for the patient's wishes, in a context where my testimony could not count as knowledge.

As the end of his life grew near, this *patient* became increasingly insistent upon being discharged from bureaucratic, protocol-driven medical care in which his agency was institutionally removed. For this *man*, escaping the hospital became his final ambition; one which, with determination, he was able to achieve. He and Mildred Blaxter, before she died, were in a position to witness the radical exclusion of the patient from the embodied legacy of EB-discourse in healthcare institutions.

Re-constructing the Patient.

Through considering the categories of embodiment and testimony in EB-discourse, the means for a radical exclusion of the patient can be shown. Thus is the presence of the patient in EB-discourse guaranteed, but their role tightly restricted. The patient is constituted through other discourses which may work in dialogue with EB-discourse. For example, sociology has been successful in articulating patients' testimonial accounts of illness through the genre of illness narratives, in which a key authority is Arthur Frank (see Frank 1991, 1995, 2000). Frank (1995) examines the relationship between the patient and their body, and creates a three-way typology of narratives (restitution, chaos and quest). Bury (2001) offers a different trio of narrative types; contingent, moral and core narratives which are associated with the negotiation of identity statuses for ill people.

These narrative types have a normative-descriptive character. They naturalise the patient as an entity to be understood, represented and defended. Narratives of 'patient experience' can enshrine a distinction between patient and non-patient narratives in health, and hence also between patients and non-patients. In this respect Alan Radley's (1999) transgressive account of illness narratives makes a useful contrast. Radley (1999) focuses on the aesthetic and sublime dimensions of accounts of illness, and serves to highlight the significance of aesthetic idiom in such accounts. Radley (influenced by Sontag 1978) is suspicious of the valorising role of aesthetic expressions in patient-narratives. By implication, he queries the bifurcation between

patients' accounts of illness which are presented as being properly aesthetic, and medical accounts which are not. In a way which echoes my comments about quantitative methods being presented as beyond meaning and beyond aesthetics, the effect produced is to suggest that the objectivity of medical accounts is also an aesthetic effect.

The particular use of aesthetic techniques in sufferers' narratives contributes to the construction, or as Radley terms it, the 'fabrication' of patient experience. Thus space is made to de-naturalise the category of 'patient', to present it as a construction, and one in which patients themselves are active, whether or not they are aware of being so. Patients are made with the willingness and determination of people to adopt the identity status of patient for themselves, or to attribute it to others. EB-discourse particularly involves the tacit differentiation of patient testimony from the types of testimony which can become Evidence. This process can be traced in general terms. At the root of any clinical encounter is the patient, who normally testifies to their own patienthood. Their testimony is the basis for further acts of testimony performed by a clinician or clinician-proxy (a questionnaire on a health-service website, for example), or testimony is derived from the patient's body, with or without their complicity.

In EBHC these acts of testimony are collected, modified, statistically processed and ratified, become data, become findings, become clinical guidelines and protocols, and are fed back to the patient as Evidence. In this act of feedback, the original patient is invisible; their input cannot be remembered. EBHC places the patient in a passive position, in which they are a literal match with what Foucault (1975) calls 'docile bodies'. EB-discourse thus marks a considerable achievement; the appearance of exclusion of the patient from transactions to which they are fundamental. EBHC must have a patient in order to produce evidence, but the patient must be rendered inactive in order that Evidence can be applied. It is in this liminal situation of being present but excluded, central but invisible, that a case can be made to reinstate the patient, or bring them back into consideration.

As I have shown, there is no room to do this within the confines of EB-discourse; but there are other types of health discourse in which the patient can be re-animated, given rights, stood up for, have things said on their behalf, and so forth. First-person accounts of illness can be read in this spirit, which is one of a kind of emancipation for the patient not in any specific case, but in general. The protection of the patient as a response to the effects of healthcare, whether evidence-based or not, is a dialogical move. In Blaxter (2009), as elsewhere, a direct conflict can be perceived between patient-centred care and EBHC; with 'only lip-service being paid to the

principles of patient-centredness' (2009:762). This contrasts with other contexts in which the suggestion is that it is the principles of EBHC to which only lip-service is paid (a suggestion of particular significance in physiotherapy, as discussed in chapter 4). These discourses nourish each other through the oppositional (dialogical) division of knowledge.

It might be appropriate to ask what can be imagined for an emancipated patient. Perhaps they are a patient whose self-testimony has institutionally-recognised value, and who is accorded the status of an expert in relation to their own body. Such a patient has begun to exist recently in healthcare for chronic illness; the Expert Patient Programme has operated in the UK, for example, since 2001. Literature on expert-patienthood indicates how this idea can contribute to the ongoing renewal of the patient as a constructed entity. Wilson et al (2007), for example, found an apparent paradox in this discourse which simultaneously safeguards medical knowledge paradigms, but also delegates disease-management to patients in a way which is experienced as empowering, and can contribute to patient-consumerism.

Fox and Ward (2006) had begun to develop an understanding of health identities in which the expert patient is at an extreme of self-biomedicalisation. They speak of a diverse constellation of such health identities, in which individuals are bound to different types of patienthood. Taylor and Bury (2007) warn against the psychologism in the idea of 'expert patient' which could be detrimental to standards of care if deployed without reference to social context. Such accounts speak not of emancipation, but of strengthened attachment of illness-sufferers, whether self-defined or so defined by others, to a naturalised identity of patient. They express a re-invigorated confidence in the categorisation of classes of people as patients, of expert kinds or as other kinds, all of whom need to be properly cared-for.

The discourse of patienthood which is situated closest to EB-discourse in the context of academic health-institutional literature is that of patient-centred care. The idea of patient-centred care has developed in synchronicity with the ideas of clinical epidemiology and evidence-basedness. Mead and Bower (2000) report its beginnings in the 1970s and 1980s, and increasing prominence through the 1990s. Some sociologists have commented on the tension between evidence-based and patient-centred impulses in healthcare governance (eg. Armstrong 2002, Mykhalovskiy and Weir 2004, May et al 2006). The two meet directly in the arena of 'shared decision-making' (see eg. Gwyn and Elwyn 1999), but in EB-discourse it is rare to find patient-centredness used except in passing.

The two discourses (EB- and PC-) have markedly separate existences. This separation tallies with an incompatibility between the patient around whom care can be 'centred', and the patient as conceived in EB-discourse. The patient required for evidence construction is one who can be subjected to different types of gaze; the statistical gaze of EBHC, or the expert gaze of the clinician. Both of these require a passive patient about whom generalisations can be made; a patient-population or a patient-class. EB-discourse requires that illness occurs not at random but systematically, in generalisable ways. One systematic determinant of relative ill-health, as exposed by epidemiology, is relative poverty which generates a patient-class. The patient-class is used to cultivate knowledge which is harvested, dissociated from its origins, and then put back to work in the processing of the patient-class.

EB-discourse generates a new way of making identifiable this patient class. Through EB-discourse, patients come to be defined as 'lower' not socio-economically, but through knowledge-status. Particular ways of recovering the patient from this predicament can be imagined through other discourses outside of EB-discourse, but only on condition that they remain a patient. The patient cannot be emancipated from their status as patient. The disconnection of the illness-sufferer from patienthood can only be achieved through detaching their personhood from their embodied existence – something which (notwithstanding recent interest in disease as located *in silico*) remains beyond the reach even of radical thought.

6.5 Physiotherapy and Embodiment.

While considering the tacit dimension of medical practice, Henry (2010) draws an explicit connection between tacitness and embodiedness: he complains that the clinician is 'almost totally oblivious to his (sic) own body's tacit role in evaluation of the patient's [body]', and laments the requirement of practice for clinicians to 'take their own bodies for granted' (2010:295). In this respect he is referring principally to the practice of medicine. As I have explained, the potentially great significance of embodiment to the discussions of EB-discourse has generally been ignored or mishandled in medical EB-writing. This ellipsis might lead one to wonder sociologically about other health disciplines where the topic of embodiment is unavoidable.

It can be avoided in medicine where treatment is given with drugs. It can be avoided in nursing where treatment has prominent emotional and practical dimensions. In occupational therapy it

can be avoided where treatment is based around functional capacities. In CAMs it can be avoided where treatments are explained in terms of spiritualities and vital energies. Uniquely in physiotherapy, where treatment for embodied conditions is given through the body of the patient and using the body of the therapist, it cannot be avoided. In physiotherapy, the therapeutic approach is to the body as a self-enclosed mechanical system which is the basis for experience (see Zusman 2004; Gyllensten et al 2010). Physiotherapists act as embodied conduits for the inscription of socially-determined values of health in the bodies of patients (although in practice, this process is complex and not necessarily consummated – see Schoeb and Bürge 2011).

Physiotherapeutic interventions generally utilise the body of the therapist, as well as being performed on the body of the patient. Here are some examples from my own experience of physiotherapeutic work: using my body to support a patient from the side as they practice walking after suffering a stroke; using my body to perform repetitious (passive) movements on the wrist of a patient in rehabilitation from a past injury; using my body to assist a child with cerebral palsy in stretching exercises; using my body to perform 'vibrations' on a patient in intensive care, to assist with removal of fluid from their lungs. These treatments are definitively embodied; they involve the body of the therapist as well as the body of the patient. Physiotherapists cannot very well deny the essential importance of the body, for to do so would refuse the basis for their professional identity.

Nicholls and Gibson (2010:497) have recently expressed disappointment that 'the body as a theoretical construct has been entirely bypassed by the profession' and signalled their intention to establish better connections between physiotherapy and theories of embodiment. Laudable as this intention is, it overlooks once again the difficulties inherent to the project of bringing embodied phenomena into the realm of theoretical clarity. Perhaps this task is less daunting in the case of the examples given above, some of which could be described adequately in words, if not effectively taught without an embodied demonstration. However there are other physiotherapeutic endeavours which are harder to codify. Proprioceptive Neuromuscular Facilitation (PNF) as an active muscle exercise for people with neurological dificulties, for example, is a technique which depends on the rhythmic harmonious interaction of the bodies of patient and therapist. The Bobath Concept, which involves pressure applied to (often elusive) 'key points', is even more difficult to articulate (see Davidson and Waters 2000).

Techniques such as these are opaque even to therapists who are able to use them confidently. Sceptical physiotherapy students are reliant on having their own bodies 'treated', but also on therapists' testimonies, and the testimonies of patients successfully treated, to witness their efficacy. This opacity applies to the therapist's knowledge of their own body, but there is a second level of opacity to physiotherapeutic practice where the patient's body is concerned. This is that physiotherapists are dependent upon the patient's testimony as to their experience of their body. In a popular undergraduate textbook for respiratory physiotherapy, Alexandra Hough (2001) gives a quote advising therapists to

> '"listen to the patient. He is telling you the diagnosis". To which I would add "and she just might be telling you the best management too"'.
>
> Hough 2001:30.

Physiotherapists are, of necessity, accustomed to making attributions of testimonial competence to their patients, where there is no other way to access patients' embodied knowledge.

In EB-discourse though, physiotherapists' warrant for doing this is placed in doubt. Remembering my review of EB-discourse in physiotherapy (chapter 2), it seems at first that physiotherapists have not pursued an embodied account of their practice there. In the hard-line summonses-to-evidence of Bury (1996) and Newham (1997), for example, there is a tacit refusal of the possibility and legitimacy of embodied knowledge forms. Hurley (2000) and Bithell (2000), in their defences of clinical practice, present a more positive view of physiotherapy, but still centre their arguments for clinical-practical expertise as the proper basis for research on the assumption that it can be fully and unproblematically codified. More appreciation of embodied knowledge can sometimes be found where physiotherapists have collaborated with other professionals, such as nurses. Roskell et al (1998) defend the 'need for practical abilities to deal with real problems from a basis of perceived certainty' (1998:225).

This is suggestive of a necessarily-embodied perspective, and it is noted that these private and tacit skills, these 'elements of intuitive practice, are difficult to verbalise' (1998:229). Just the same, the narrative climax of Roskell et al's (1998) article is a recourse to Research Evidence. Neither is it that nurses were generally any more confident than physiotherapists to pursue an account of embodied knowledge. Thompson's (2003) consideration of 'clinical experience as evidence' from a pure-nursing perspective, for example, is concerned not to find legitimate expression for non-propositional knowledge or 'heuristics', but 'to *combat* them in nursing

decisions' (2003:230, emphasis added). Thorne (2009) begins by positioning nurses at the forefront of evidential awareness because of their privileged access to practice; but ends by falling into line with hard evidentialism. Parker (2002) provides an analogous case in medicine, arguing that 'to demystify clinical wisdom is not to devalue it' (2002:273).

The flight from embodied and tacit knowledge forms is just as likely to be found across allied-professional EB literature as it is in medical. However, the issue of tacit and embodied knowledge is of especial acuity in physiotherapy; a discipline which, as I say, is more of-the-body than any other. What can be expected of physiotherapists in this situation? Their training equips them to take on the socially-assigned responsibility of treating their patients. While this responsibility is explicit (it might consist of instructions such as 'ensure that this patient is safe to use stairs independently before discharge from hospital'), the therapeutic acts implicated for physiotherapy are embodied and more-or-less resistant to explication.

The significance of physiotherapy for interpreting EB-discourse.

I have drawn attention to an issue of rhetoric in EB-discourse which is easier to detect in physiotherapy than in the medical case. This is the possibility that physiotherapists might perceive a political need to espouse general commitment to EB-principles, while knowing at the same time that these principles are inapplicable to the embodied nature of their work. In this scenario, and in a subversion of the quote I gave from Herbert et al (2001:204), time spent engaging with the sublimated politicisations and philosophications of EB discourse would indeed be better spent on the embodied treatment of embodied problems. It is not reasonable to expect physiotherapists to conduct sophisticated theorisations of their embodied practice, and especially not if it is at the risk of being seen to resist evidence-basedness.

The physiotherapeutic case has significance which should be of interest to analysts of EB-discourse. As theoreticians, Thornton (2006) and Braude (2009) are justified in enquiring after the role of embodiment in EBM. EB-discourse is constructed on the supposition that discussion of the role for extra-clinical research knowledge in determining clinical practices is legitimate. If this discussion is indeed legitimate, its capacity to address the issue of embodied knowledge must be demonstrable. Since it is a discourse in which the legitimacy of embodied-tacit knowledge is doubted, it is an issue which is likely to be avoided where possible. In the case of

physiotherapy though, there is no way to escape the issue of embodiment. It is absolutely central to proceedings of practice.

If EB-discourse is to be taken at face-value as a discourse of social change, then physiotherapy ought to have quickly become a focal point for discussion. Not just physiotherapists, but medical and sociological writers too might reasonably have taken an interest in the case of physiotherapy from the start of EB-discourse; but they did not. As demonstrated in my literature review chapter, the case of EB-physiotherapy, in comparison particularly with the medical case, drew little comment, except sporadically from a small number of physiotherapists. Broadly speaking, and contrary to the fears expressed by some physiotherapists in the mid-1990s, physiotherapy has not suffered as a result of EBHC[7]. Through the twenty years of EB-discourse, people have continued to experience illness in their bodies; and physiotherapists have continued in their application of embodied treatment interventions to bodily conditions.

Physiotherapy thus points to the possibility of disconnection between evidence-basedness and healthcare practice, in a way previously considered in chapter 4. In those pages, I observed that EB-discourse exists primarily as a discourse which circulates in academic literature. My discourse-analytic approach enables the asking of questions about the workings of this discourse, but restricts what can be said about some reality of EBHC which might exist outside of it. Physiotherapy supplies an empirical reason to take a view on this problem. If EB-discourse does not engage the problem of embodied-tacit knowledge in the context of physiotherapy, where the problem is most immediate, then there is less reason to expect it to engage the problem elsewhere. In this spirit, one can look again to medical EB-literature and ask what elements of embodiment can be found in it.

Where do doctors describe in detail the experience of leaving a patient's bedside to perform a literature search, then returning with a selection of printed material which they translate into the terms of illness experience? Where do researchers describe in precise detail the *embodied* procedures which enable them to harvest knowledge from participants in clinical trials? It is not evident that this is done anywhere. Sociologists have fared little better in this respect. Gabbay and le May's (2004) excavation of 'mindlines' is an observational account of what happens in GP surgeries; but as the term suggests, it is concerned with the transfer of information and with

[7] Statistics from the Health Professions Council show that registrations for physiotherapy in 2012 had increased by 37% from 2002, and 100% from 1992. This compares well with registrations for occupational therapy (increased 38% from 2002, 147% from 1992) and chiropractice (increased 48% from 2002, 89% from 1992). Figures are from http://www.hpc-uk.org/aboutregistration/theregister/oldstats/index.asp accessed 6th March 2013.

what is said and thought, rather than with the embodiment of what is done. Moreira's (2005) and May's (2006) thick descriptions of guideline production are detailed accounts of health policy processes in EBHC, but they have little to do with embodiment. As surmised in relation to the hermeneutic programme, surveillance of doctors' behaviours in EBHC is most obvious in relation to the act of reading, rather than to acts committed corporeally in the clinic.

6.6 Conclusion.

When I first introduced embodiment as a topic for discussion, it was in the terms of a dialogue of irrationality: dialogue had been identified as a structuring principle in EB-discourse, with dialogues in rationality making up its explicit content. Embodiment (as the irrational other to the mind out-of-body) is a category in dialogue with disembodiment. Investigating embodiment in EB-discourse through this chapter, I have addressed the details of a dialogue which underpins the content of the discourse. I have found four connected points of focus for dialogues around embodiment. First, tacit and embodied knowledge (as opposed to codified propositional knowledge). Second, testimony (as opposed to free-floating knowledge). Third, the patient (as opposed to the well-person and the knowledgeable clinician or researcher). Fourth, physiotherapy (as opposed to other streams of professional knowledge).

Each of these dialogues gives insights on EB-discourse. Embodied and tacit knowledge has a presence in the literature, but its consistent mishandling in clinical writing serves to show that its significance for EBHC has not been appreciated. Only Nettleton et al (2008) have used the concept in a way faithful to its meaning as extra-discursive; and their concern is to show that under bureaucratic evidence-based healthcare, clinical embodied knowledge is unaccounted for, and suppressed. In EB-discourse, there is no space for embodied knowledge to be positively represented. Similarly testimony (which is required for embodiment to breach the discourse) is excluded, being active only on occasion and in a compromised form, through 'trust'. Testimony is allowed into EB-discourse only if it can be disguised as non-testimony. The usual way to do this is through an aesthetic of scientific-mathematics: a route which creates space for qualitative knowledge forms to be included by presenting them in dialogue with the scientific-mathematical ideal.

The elimination of embodied knowledge and testimony explain the fate of the patient in EB-discourse. That the patient is missing can be easily seen; but how can they be missing when they

are necessary to evidence production and practice? They are missing because their embodied knowledge is silenced, and because their testimony is appropriated and re-constituted into forms detached from their self. The practical consequences of these discursive processes are potentially catastrophic for the person who becomes a patient; they are systematically denied the chance to influence their own care. Lastly I have considered EB-discourse outside of medicine in physiotherapy, as a case where embodiment cannot plausibly be avoided. Here there is reason to suspect a discontinuity between EB-discourse and health practice. Such a discontinuity offers hope for the patient, and for healthcare in general, namely that there is life outside of (and after) EB-discourse. I suggest that medicine and sociology as disciplines could benefit from a more careful appreciation of embodiment in physiotherapy.

These proceedings demonstrate dialogues around embodiment as fundamental to understanding EB-discourse sociologically as a discourse of power. If as I have argued, power is dialogically split, and is both productive and repressive, then perhaps its repressive dimension is most clearly displayed through the dialogue of embodiment. I have at points (and casually) described EB-discourse as an ideology of practice, but it can be shown as an ideology with a material basis. It is dependent upon bodies and embodied practices; but in the discourse embodiment is marginalised and suppressed. The material basis for EB-discourse affects clinicians, but primarily it affects the patient who cannot escape from the embodied predicament, and whose status as a patient is already known to be an effect of power in the form of social inequality. In relation to the patient, EB-discourse is a manifestation of power in the traditional sense, which represses and silences. The dialogue of embodiment provides a mechanism for the channelling of repressive power.

Chapter 7

Emotion in EB-discourse.

Synopsis.

In this chapter I consider the role of emotions in EB-discourse. I introduce emotion as implicit in the theoretical perspectives of Foucault and Bakhtin, and identify Jack Barbalet as a key source in the theoretical sociology of emotions. I highlight emotion as a sensitive topic in EB-discourse, and one which is usually addressed through coded terms. Principal among these, identified on a cue from Sara Ahmed, is the (dialogical) metaphor of hardness and softness. I follow this and other emotional metaphors through EB-discourse, for both EB-advocacy and detraction, considering dialogical differences and commonalities between the two. I discuss the free play of emotions in early-medical EB-discourse in terms of the Bakhtinian carnivalesque and grotesque, situated in an emotional climate of confidence.

I then pursue the emotions of evidence-basedness into medical writing from Greenhalgh and Upshur; and into physiotherapy where I focus on the analysis of particular emotions, fear and shame. I use these to highlight the sociality of emotion implicit in Bakhtin, and to highlight the dialogical ordering of emotions found in different contexts of EB-discourse as a reflection of power. I present sociology as having achieved an emotional validation of EB-discourse. The stabilising of emotional repertoires involves the management of trust and ambivalence as emotional currencies. Soft and hard emotionalities are juxtaposed to produce ambivalent states; trust and distrust are accorded to various parties and entities in EB-discourse. Trust and ambivalence work together to convince readers of the validity of EB-discourse. Finally, I re-connect sociologists' use of emotions in EB-discourse to the theoretical concerns of Barbalet, Bakhtin and Foucault.

7.1 Introduction.

It can be surprising that a literature of rationality, as evidence-basedness literature (EB-literature) is, would consistently elicit responses noticeable for their emotive content. Researching other types of health-related social life, this situation might be inverted. Reading about experiences of chronic illness, for example, one prepares to be moved by painful emotions. One is then in a position to be surprised if such accounts turn out to be predominantly rational and technical. Given that I have been concerned with processes of dialogue which revolve around oppositional dichotomies, one can also wonder how categories of emotionality and rationality can come sharply into focus. In the prosaic routines of modern life, there is no general need to categorise actions by rationality or emotionality; no need to separate out the emotional and rational dimensions of decision-making. Both operate together unproblematically and in continuity (I emotionally want a cup of tea, so I rationally make one).

In some discourses there appears a need to assert this distinction forcefully; and then one can feel sure (by virtue of embodied experience) that one is dealing either with Rationality or with Emotion, and that the two are rightly separate. In rational discourses generally, and in EB-discourse in particular, the separation between rationale and emotion is made so that emotions can be marginalised and excluded. Within this context of exclusion, emotion can be 'brought back in', as if by design, or one can observe that the marginalisation of emotion leads to its reappearance at the centre. The central importance of emotion then seems to result from the attempt to bracket emotions off. In *The Cultural Politics of Emotion*, and in a broad historical context, Sara Ahmed (2004) makes just this observation:

> '(…) even if emotions have been subordinated to other faculties, they have still remained at the centre of intellectual history. (…) This is not surprising. What is relegated to the margins is often right at the centre of thought itself.'
>
> Ahmed 2004:4.

Thus it is possible that the act of suppressing and marginalising emotions has the effect of purifying them and bringing them to the centre of thought and action. To go further, it might be suggested that some emotions, or some aspects of emotion, owe their experienced sharpness and recognisability as emotion, perhaps even their existence, to processes of suppression and marginalisation. In theorising the role of emotion in EB-discourse, one must maintain an awareness of dialogical processes. The discourse is full of emotion, which I shall report upon.

But the term of 'emotion' depends on having a dialogical other, rationality, which is not-emotion, and of which emotion is nominally the opposite. Barbalet (2001:26) suggests that it is not emotion in general, but only particular feelings identified as emotions which can be experienced; but to use emotion as a general term is already to sponsor a categorical distinction between rationality and emotionality.

7.2 Theorising Emotion.

Neither Foucault nor Bakhtin, in their writings on discourse, explicitly address emotion as a general topic; but both of their legacies are compatible with a consideration of emotions. Taking Foucault's project first, it begins with a historical study of madness as unreason (Foucault 1961). Boyne's (1990) appraisal of Foucault includes a demonstration of how this interest was attached by Foucault to Descartes as a founding philosopher of modernity. As Boyne (1990:46-7) explains, Foucault identifies madness as a special case in Descartes' pursuit of certainty, a case which is not argued through but rejected by reflex. Madness, for Descartes, can be rejected automatically as a source of influence on knowledge because it denies the sovereign subject who thinks; and the subject who thinks is, for Descartes, the wellspring of truth. The possibility of truth from madness can simply be refused. This philosophical exclusion of madness – the Cartesian exclusion, as it is known – produces the sovereign subject, the 'defining figure of the post-renaissance world' (ibid).

The Cartesian exclusion, for Foucault, mainly signals the start of the Great Confinement – institutional removal of madness from public social life[1]. But it also has significance for thought around embodiment and emotion, for Descartes' sovereign subject is made purely of rational intellect. As Boyne puts it:

> 'We are not speaking here of the subject as a body; bodies can malfunction, the brain can be invaded by dark vapours. Nor is it a question of the subject as a will. For the will is propelled by passion, and the untamed will is a source of error and sin.'
>
> Boyne 1990:46.

[1] 'unreason is plunged deeper under the ground, there no doubt to disappear, but there also to take root' – Foucault in Boyne 1990:47.

Here emotion, as embodied passion, is a source of error and sin. Descartes' thinking subject has an emotional will, but this will is to be tamed. It is not a source of truth, but connects the subject to madness; or, the emotional will is the madness that lives in the thinking subject and threatens to unseat their reason. By this route can the germinal presence of emotions be located in Foucault's work on madness and reason, and on the formulation of the modern rational subject[2].

A similar feat can be achieved for Bakhtin, who does not confront the issue of emotion/non-emotion directly, but implicitly. This can be demonstrated by considering the Bakhtinian concern with the Prosaic dimension of everyday social life, a concern reconstructed by Gardiner (2000). As Gardiner shows, Bakhtin was sensitive to the limits of formal rationalities in which bodily, lived experience is invalidated:

> 'what Bakhtin terms 'discursive theoretical thinking' denigrates the *sensuous* and tangible character of the lived event'
>
> Gardiner 2000:48 emphasis added.

While suspicion of the 'epistemic certitude sought by scientific rationalism' (ibid) is not reducible to the idea of emotion, emotion is an integral part of it. In advocating practical-rationality, actual communion rather than theoretical abstraction, and answerability to the other, Bakhtin placed value on the 'emotional-volitional tone' as a signature characteristic of human acts (2000:51). Further, there is in Bakhtin the suggestion of emotionality-behind-rationality; he brings into question the '*yearning* for transcendence from the ambivalence and messiness of daily life' which can 'only result in a ghostly, illusory existence' (Gardiner 2000:49 emphasis added).

Foucault and Bakhtin are receptive to emotions and protective of their importance for explaining social life, but do not specifically address emotion as a socio-theoretical topic *per se*. To create a context for theoretical discussion, I use the work of Jack Barbalet who has advanced the case for emotions as a topic in contemporary sociology. Barbalet (2001) connects with the 'general sociological acceptance of emotion as a category of explanation', and also more specifically with the 'significance of emotion in large-scale or macroscopic social processes (…) in the mobilisation of collective social actors' (2001:28). The empirical chapters of his (2001) book are concerned with particular emotional patterns and social effects (for example,

[2] This can also be done through Foucault's later work, where subjects are governed through their desires, which I discuss briefly in chapter 8.

confidence in relation to action; shame in relation to conformity; fear in relation to change), but he begins with a general account of emotion and rationality, which is of direct relevance to the analysis of evidence-basedness discourse (EB-discourse).

Barbalet anticipates the paradox of emotionality in EB-discourse, which is an emotional set of responses to the attempted removal of emotion from institutional proceedings:

> 'The conventional approach holds that emotion is the opposite of reason. But such a view is ultimately subverted by the fact that those who wish to suppress emotion in fully realising reason are typically engaged by an emotional commitment to the project.'
>
> Barbalet 2001:29.

This subversion reflects an alternative to the 'conventional approach': that emotion is not the opposite of reason, but supports reason or is the basis for reason. Barbalet calls this the *critical* approach. He argues in favour of a third approach – the *radical* approach – which is that reason and emotion are not properly separate, but are continuous and ultimately the same thing. My argument in this chapter is to give empirical support to the radical approach from the case of EB-discourse; to show that the maintenance of EB-discourse depends on sustaining the emotional-rational dichotomy by means of the conventional and critical approaches; and consequently to suggest that the sustenance of a dichotomy between reason and emotion is fundamental to the dialogical working of EB-discourse as an expression of modern functional social power.

Barbalet's theoretical argument for the radical approach is achieved through a comparison of the works of William James and Max Weber[3]. He shows that these apparently incompatible views are in fact convergent, because Weber's unsuccessful attempts to exclude emotion ultimately provide support for James' position. James, Barbalet explains, is willing to recognise what Weber is not, even while describing it: that 'there is a human *passion* for clarity and order, and a *need* for intellectual frameworks' (2001:54, emphasis added). Rationality is not only something aided or hindered by emotional states, but is itself an emotional state. This point being made, I now put general considerations to one side and begin an account of the emotions in EB-discourse, starting once again with medicine then moving on to physiotherapy and sociology.

[3] Barbalet (2001:45-54) discusses James' work on 'the sentiment of rationality' which makes emotion central to reason, and Weber's typologies of rationality, which formalise the exclusion of emotion from rational thought.

Emotions and Evidence-Basedness.

Common definitions for the term *evidence* often depend upon already having available the ideas of proof and facts. For example, the Free Online Dictionary[4] names evidence as 'data presented in proof of the facts in issue'. The Oxford English Dictionary (online) confusingly names it as 'the available body of *facts* indicating whether a *belief* is true' (emphasis added). A link can be made instead from the legal context, perhaps citing the Roman rhetorician Quintilian, between evidence and emotion; here, evidence marks the capacity of language to engage the emotional state of certainty (see for example Katula 2003). In the first case evidence has to do with establishing objectivity, in the second case it has to do with eliciting a convinced subjective state. In EB-discourse both of these formulations are present. The preference primarily presumed, most often made explicit, and distilled into the term 'evidence-based' is for the proof of facts. But implicit across the discourse, and manifested by way of the rhetorical strategies endorsed and applied, is an overwhelming concern for emotive persuasion.

In illustration of this tension, Sackett and Rosenberg (1995:330) set out their vision for EBM by distinguishing between 'established facts based on data derived from patients', and evidence from theory, 'extrapolated from principles and logic'. Earlier that year, Rosenberg and Donald (1995) had identified the central dynamic of EBM as the need to distinguish between information 'invalid or irrelevant to clinical practice, out of date or based on overinterpretation of experience' and information 'from *powerful* investigations such as randomised trials and *rigorous* clinical studies'(1995:1122, emphasis added). Where Sackett and Rosenberg principally invoke facts and non-facts, Rosenberg and Donald use emotionally-evocative terminology to mark off 'strong and useful' from 'weak and irrelevant' facts (ibid). Such divergences can be accommodated easily enough, being at an unobtrusive level of double-voicedness. In this case, they are issued even through a common co-writer, William Rosenberg, and at roughly the same time.

By contrast, where the influence of emotion on thought and action is more clearly discredited, the conditions are set for more oppositional dialogue. On the one side, things identifiable as emotions are profaned and suppressed; on the other they are exalted. The EBMWG (1992), in their manifesto for evidence-based medicine (EBM), began by explicitly 'de-emphasizing intuition and unsystematic clinical experience' as bases for decisions. Intuition and emotionality are conceptually close together, and links can be made from intuition to tacit knowledge, and

[4] Both online dictionaries accessed September 30th 2012.

thence to embodiment and emotion, a route I followed in chapter 6. 'Unsystematic experience' might also be taken to imply emotionality if it produces knowledge which is instinctive and wilful rather than codified and controlled. Having been excluded, the re-instatement of intuition can then be pursued either as a binary complement to research-evidence or as an alternative science to counterbalance evidential-epidemiology[5].

Grahame-Smith (1995) was unusual in using an actual (rather than incipient or gestural) dialogue to form a narrative of EBM. There the issue of emotionality is raised. Grahame-Smith's advocate for evidentialism, Enthusiasticus Meta-analyticus, is inclined towards 'statistical methods and reasoning to enable us to take a *dispassionate* overview of the results of given medical practice' (1995:1127 emphasis added). Tension arises in this piece from the fact that Socrates is the more reasonable character, and it is Enthusiasticus' passionate enthusiasm which makes him vulnerable to be misled; yet it is Enthusiasticus who gives voice to a distaste for emotion. Others critical of EBM make variations on this theme. Tanenbaum (1999:760) was to suggest that evidence-basedness lacked a kind of emotional maturity necessary to cope with the complexities of probabilistic uncertainty. Indeed, EBM did not have to be imagined as rational at all; Couto's (1998:267) castigation of EBM as 'simply irrational', for instance, makes space for a highly emotive portrayal of it as callous, malign and wicked.

These instances being acknowledged, it is rare to find EBM *defined* in terms of rationality and emotionality. For an example of explicit distaste for emotion one can look to sociologists Cronje and Fullan (2003), who make rationality the keystone of their defence of EBM:

> 'The idea of 'rational' action exists because people find it useful[6] to distinguish actions based on reason from actions based on emotions, impulses or random choice – 'rationality', then, is what protects our actions from arbitrariness, subjectivity, bias or error.'
>
> Cronje and Fullan 2003:354.

Here, Cronje and Fullan explicitly characterise emotions and impulses by their randomness, arbitrariness, bias and error, in contradistinction to rationality. In other medical contexts this would be unsustainable; a glance at pharmacological literature (for example Iannaccone and Ferini-Strambi (1996); Nahas et al (1998)) discovers that emotional instability and emotional

[5] as does Greenhalgh (2002), for instance, in her advocacy of intuitive reasoning through clinical storytelling

[6] There is not space in this thesis to discuss the implications of ideas existing *because* they are useful.

incontinence are, in contemporary western societies, classed medically as forms of deviance, which can be disciplined chemically. In the context of EB-discourse however, the conflation of *all* emotion with randomness and lability can pass without challenge.

Metaphors for emotion.

Instead of discussion in terms of reason and emotion, it is common in EB-discourse to find alternative expressions for this opposition made through related dichotomous distinctions. Common among these is the distinction between art and science, which had been established as a debate in medicine before the advent of EBM. The art-science binary opposition in EBM is the major theme in Greer (1988), Sackett and Rennie (1992), Kenny (1997), Saunders (2000), Malterud (2001), Saha et al (2001), Kitson (2004) and Pollio (2006), and a prominent theme in Smith and Taylor (1996), Green and Britten (1998) and Evans (2003b), to name a selection. Whatever the stated intentions of such authors for the understanding of art and science in medicine, all are reliant on a tacit understanding of difference-in-kind between art and science in which the two are conceptualised as a bifurcated pair, and which can be presumed with confidence as a basis for discussion.

In EB-discourse, as elsewhere, this bifurcation has to do with the attitude adopted towards emotion: true science is imagined as that in which the corrupting influence of emotion is excluded; art as that in which the influence and expression of emotion is celebrated[7]. The discussion of art and science in the context of medicine is not a promising route to discussion of emotion in EB-discourse because it has been conducted on the basis of the conventional approach to emotion in science; a presumption that emotions are an obstruction to science, rather than necessary or foundational to science. The most direct argument against this view, and in favour of emotions as basis for a sociology of science, comes from Barbalet (2002). The use of the art/science dichotomy allows authors to avoid addressing the issue of emotion by sublimating it into other terms whose relation to emotionality is obscure.

The incidences described above begin to establish emotion as a sensitive topic in EB-discourse, a sensitivity made particularly explicit in Cronje and Fullan (2003). A pervasive sensitivity to emotion in EB-discourse is commonly manifested less directly, being voiced through other

[7] For critical discussion of the emotional terms of this dichotomisation in general see Tauber (1996), Garoian and Matthews (1996); for critical discussion of the dichotomy in medicine, see Parker (2005), Solomon (2008).

expressions, and in particular, through a dualism of hardness and softness. In her 'Cultural Politics of Emotion' (2004), Sara Ahmed opens with a discussion of uses of metaphors of softness and hardness as means of relationally constituting social identities through the attribution of emotional states. Ahmed distances herself from psychological work on emotion through her insight that emotions are a type of social currency or capital. Rather than being the property of the individual, they are constitutive of individual identities which are configured relationally as soft and hard (2004:4).

As Ahmed explains (2004:4), it is not that softness is emotional and hardness is not, but that hardness is an emotional attitude which involves orientation against identified 'others', and the abrogation of recognisable emotions. Softness is an emotional attitude which conditionally accommodates others and in which emotionality is cultivated and regulated[8]. Instances of the direct use of hardness and softness metaphors in EB-discourse are plentiful, and are sometimes identified as a motif of symbolic significance (see Blair and Robertson (2005), Jensen et al (2005), Mitton and Patten (2004)[9]). To write of hard (or harsh) realities, hard facts, hard data, hard science, and by association of rigid approaches, robust methods, concrete knowledge, solid results, firm evidence and sturdy measures is routine in EB-discourse.

Conversely, the adjective 'soft' gets applied directly and by implication to experiences, opinions and types of expertise which are thereby designated as unscientific, unsystematic, flimsy, insubstantial, nebulous and *unreal*. These formulations are as likely to be made by EB-advocates as by critics, and can carry positive, pejorative or fluctuating meanings depending on the context of their use. They can be subverted, as for example does Greenhalgh (1999:323) in her discussion of 'misplaced concreteness', or satirised by the liberal use of inverted commas around 'hard' and 'soft' (see Feinstein and Horwitz 1997:531). Hardness and softness are not consistently imposed by either declared side upon the other, but labels tossed back and forth across the lines of dialogical exchange.

They can also be associated with other categories of thought. Alongside the metaphor of hardness and softness, for example, there can be found in EB-discourse an aesthetic dialogue between simplicity and complexity. In hard evidentialism, there is an attraction to simplicity. Action requires truth, evidence provides truth, and truth dictates action. Anything which complicates the simplicity of this pathway – such as a problem translating knowledge from the

[8] The idea of hard and soft emotion is also put to empirical use by Sanford (2007) in the context of interpersonal relationships.
[9] See also Gherardi and Turner (2002) and Cassell (2002).

general to the specific – can provoke frustration, incomprehension and resentment. Re-assertion of the need for simplicity might be experienced as aggressive or violent by those for whom complexity is valuable. Hard violence meets soft vulnerability. Consequently these aesthetic categories are closely associated with emotional experiences. Keeping in mind the metaphor of softness and hardness (and the aesthetic of simplicity and complexity) it is possible to trace emotional exchanges in EB-discourse.

Metaphor is required because emotion eludes direct expression in language. Emotion does not usually appear in discourse by name (and anyway names for emotions are unreliable), but can be discerned from its effects. A dualistic, dialogical metaphor (hardness vs softness) is useful because of the dialogical nature of EB-discourse, which I have shown to be arranged around an open set of oppositional categories. In Bakhtin's theory, there is space to consider the principle of dialogue in discourse, and there is space to consider emotion in social life. There is logic in combining these principles in search of a dialogue conducted in emotional terms, and perhaps a dialogue of emotional exchange. Hardness and softness, being relative to each other, create such a dialogue. Where each can be identified in the emotional currents of discourse, it is in relation to the other.

7.3 Emotions in Early-Stage EBM.

Emotional effects can be observed at the inception of EB-discourse, in the assertive confidence which facilitates a transition from clinical epidemiology to EBM. Remember that Alvan Feinstein, the original advocate of clinical epidemiology as a science for medicine, insisted that clinical epidemiology was a science of populations, and as such not suitable for making inferences in relation to individuals. Feinstein and Horwitz (1997) are unequivocal on this point:

> '[EBM] has major constraints for the care of individual patients. (…) the data do not include many types of treatments or patients seen in clinical practice; and the results show comparative efficacy of treatment for an 'average' randomized patient, not for pertinent subgroups formed by clinical features (…) and clinical nuances.'
>
> Feinstein and Horwitz 1997:529.

This caution in using general data for specific instances is the same caution, for example, that sociology tutors may urge of their students in relation to health inequality. On statistical average,

people from lower socio-economic classes suffer worse health than people from higher socio-economic classes. This strictly does not mean that a particular individual from a lower class must suffer worse health than a particular individual from a higher class.

The move from clinical epidemiology to EBM can be seen as an emotional step insofar as it satisfies the urge to make macro-scale general data available for reasoning in the specific individual case. This might be characterised as a throwing of caution to the wind, a leap of faith, a performance of confidence, a show of determination, or a demonstration of courage, to name a few emotional possibilities. It challenges the enlightened reader to dare to know; to risk certainty, and so to reap the benefits. As such it can seem aggressively or assertively determined, offensive rather than defensive, brave rather than cowardly, and hard rather than soft. By steeling our nerve, it says, we can assume the responsibility for knowledge and become our own masters.

Along with emotional hardness, the move to EBM brings an aesthetic of simplicity. For Feinstein and Horwitz (1997), clinical nuances are important and valuable. There is complexity and subtlety in patient-illness which requires sensitivity, rather than a simple transposition from general to individual problems[10]. EBM can be imagined to encase the soft subtleties of medical care in the hard concrete of brave simplicity. Barely sooner than this assertive step is proposed and achieved by a hardening of the will, it is cushioned in a sympathetic appeal to soft emotionalities. In the appendix I have described the evidence paradox – an irresolvable problem of circularity in providing evidence for Evidence. In EB-discourse the evidence paradox usually manifests not as a theoretical problem but an empirical one; an anxiety over the lack of trial-type evidence for EBM.

The EBMWG (1992) raise this problem, and the rhetorical means they use to escape it is emotional. They explain that in response to the challenge of EBM, clinicians must divide themselves into two groups:

> ' (…) those who find the *rationale* compelling (…) and those who (…) find that the practice of medicine in the new paradigm is more exciting and fun.'
>
> EBMWG 1992:2424, emphasis added.

[10] This idea occurs also in Plsek and Greenhalgh (2005) who present complexity with a rhetoric of 'challenge'.

Here is a choice between compulsion – an instinctive irresistible drive towards evidence-basedness – and joy. While the recourse here to the joyful emotions of excitement and fun is ironic (possibly even sarcastic) it carries at least the sincere suggestion that clinicians ought not to be hostile or defensive to EBM – that they should soften their emotions. Instead of being cautious, clinicians are urged to receive EBM with glad hearts, and this gladness of heart should be their guarantee and vehicle to a convinced state.

Slightly later, Davidoff et al (1995) advanced a different conception of EBM in which the crucial emotion was not excitement but guilt; specifically, the guilt associated with doing harm:

> 'In earlier eras limitations in our understanding (…) meant that major advances were published less commonly. Consequently, clinicians' failure to keep up did not harm patients. (…) Many [interventions] may do more harm than good.'
>
> Davidoff et al 1995:1085.

The thrust of this argument is not in its rational coherence but in its appeal to an emotional category for persuasive effect. Without the supposition of *harm* being done, this justification for EBM would fall flat. Here the clinician is imagined not as a voracious and enthusiastic consumer of evidence, but as one running to stay ahead of a tireless stalker; fear of their own guilt at falling behind.

Such strategies as these are a soft complement to the hard determination required for the leap to EBM. There are initial problems; the unknowability of nature, the indeterminacy and irregularity of practice, the wilfulness of emotion. A move is made to bring these elements under control, to assert rationality, and to renounce emotion; but this move is itself emotional. Simply, it is a refusal to be nature's victim, a determination to be in charge. At first this move is emotionally hard. It is resolute, courageous and compelling. It silences doubt and fear. It does not compromise, but boldly seizes the initiative. Then it softens to make room for coaxing, cajoling and seductive appeals to more submissive emotional types. It offers to take clinicians to a happier state, where they can be relieved of the terrible responsibility of fallibility.

If clinicians cannot be led by happiness, then they can be led by softer and sadder emotions, such as guilt and fear. EBM is then sympathetic, comforting and protective, rather than intoxicating in its power, and defensive rather than aggressive. In chapter 2 I gave two examples of EBM-advocacies (Sackett (1997a) and Straus and Sackett (1999)) which responded to criticism using cancer patients as exemplar cases. The provocative nature of these articles, both of which I

noted for illustrating (rather than challenging) common critiques of EBM, gives insight on the strategic use of soft-emotion rhetoric. What better way to demonstrate the sensitive nature of EBM than to use cancer, a condition which must cause everyone to feel compassion? The hypothetical patients used in these pieces operate like a human shield, or as tactical hostages in the ongoing conflict between doctor factions.

Emotions in Dialogical Exchange.

Responses to EBM found in the letters pages of the *BMJ* and *Lancet* indicate that the proffered soft emotions did not project onto their imagined audience of chastened doctors. The assertive hardness of EBM engendered other hard emotions: indignation, pride, anger, resentment, and contempt. At first being tentatively expressed, these were solidified into consistent emotional trends in the *JECP,* a publication of which the defining attitude is the aggressive defence of clinical expertise. I have drawn attention to the dialogical symmetry of EBM-controversy in its early stages, in which protagonists and antagonists arranged themselves oppositionally around dialogical principles which were tacitly agreed upon. While the hard emotions of this sector of the discourse have some asymmetry – determination and courage on one side meeting anger and contempt on the other – there are other emotions which are common to both.

Miles et al (1997:84) claim 'intense irritation' as a dissident emotional response to EBM; but Sackett and Wennberg's (1997) discussion of research methods, preceded by an injunction on discussions of research methods and a directive to 'stop squabbling', is an exemplary display of an irritated emotional state. Petticrew and Roberts (2003:529) were also to lament the 'energy dissipated' in debates on methodological primacy. In relation to the hierarchisation of evidence, it seems that commentators of different persuasions are united in their susceptibility to annoyance. This unity can be related again to a general aesthetic preference for clarity and simplicity, and frustration when a systematic and simple categorisation of research methods proves complicated and difficult to achieve. In the early period of medical EB-discourse, emotions are close to the surface and can be picked out and situated relative to each other.

It is worth pausing a moment to think how this discourse, as a discussion about the relative merits of different types of empirical belief, could have been different in relation to emotion and rationality. Consider Martin Kusch's philosophical writing, in *Knowledge by Agreement*, on 'second-order questions about rationality':

> 'Why is it that the dichotomy 'rational versus irrational' can be applied to empirical beliefs? Are there constraints on possible empirical beliefs in virtue of which some empirical beliefs are rational and others are irrational? Are empirical beliefs rationally constrained? Is there a boundary within the realm of possible empirical beliefs that divides the rational from the irrational empirical beliefs?'
>
> Kusch 2002:86.

This passage has emotional and aesthetic content; it has an elegance and precision typical of philosophical abstraction, and the tranquility of rational reflection. It identifies questions which, except for being phrased in generality, are not so different from the questions of EB-discourse. Beliefs from abstract grand-scale data and from particular clinical experiences are empirical beliefs, after all. EB-discourse depends on questions as to which of these are rational and which irrational, which is to say, it depends on second-order questions about irrationality. The care and caution of Kusch's phraseology is, however, not to be found in early medical EB-discourse. In that discourse, unruly emotions are not tranquilised and subdued, but given free reign.

In fact this discourse 'about' rationality can be read as a celebration or (to repeat a Bakhtinian term from chapter 5) a carnival of emotions. In Bakhtin's descriptions of carnival (1984[1968]) can be found passages which resonate particularly with the anti-EBM polemics of the *JECP*. On the laughter of carnival, Bakhtin (1984:12) writes that 'it is gay, triumphant, and at the same time mocking, deriding'. On carnival language, he writes (1984:16) that 'it is characteristic for the familiar speech (…) to use abusive language, insulting words or expressions, some of them quite lengthy and complex'. At the same time, there is a carnivalesque and disorienting inversion of logic at work where emotions are placed at the centre of a nominally-rational discourse. There is a 'shifting from top to bottom, from front to rear, (…) a world inside-out' (1984:11).

Emotional carnival is also accompanied in early EB-discourse, Bakhtinian scholars may note, by some grotesque imagery. An illustration of this is an occasional theme of the killing of babies. Miles et al (1997:85), for example, had expressed the hope that 'the screaming baby of EBM be consigned to nostalgic formaldehyde'. Haynes (1999), in more sinister mode, turned this threat outward from medicine and onto complementary practitioners:

'".. doctors are adopting some of your young (…) They will mix them with treatments that may counteract or drown any beneficial effects. So, complementary practitioners, start taking care of your own young."'

Haynes 1999, (quoted also in Villanueva-Russell 2005:553).

The symbolic allusion to the drowning of babies carries an emotional threat; and it might also be taken as a veiled reference to reproductive and lower-bodily functions. This subtext mirrors another carnivalesque motif, Miles et al's (2006:44) suggestion that EBM causes some to experience sexual excitement. Such subversive observations are expressions of emotional energy which does not merely underlie the debate over EBM, but is in the very substance of the discourse. Looking at this sector of EB-discourse as a whole one can discern the details of emotional currents within it. But one can also detect an overarching emotional pattern, where soft emotions give way to hard emotions. Early medical EBM writing, from either side, is not fearful and not ashamed, but is confident in a way which goes unapologetically beyond the point of arrogance.

Confidence has been examined by Barbalet (2001), in the context of business and finance, as the emotion which enables the apprehension of possible futures, and consequently provides the basis for action. In the context of EB-discourse, one can anticipate why confidence would be particularly important in its formative stages. As I showed at the beginning of this thesis, EB-discourse began at a time when the institution of medicine seemed to be at risk of decline. General collective confidence in medicine appeared to be lessened, but, within the confines of existing social structures, no alternative could be imagined. EB-discourse confidently asserted a positive future for medicine as an institution, and opened up possibilities for ways of collectively bringing such a future to ideological realisation.

The Ubiquity of Emotions in Medical EB-discourse (1); Greenhalgh Revisited.

I have recounted how the tone and diversity of medical EB-discourse was affected particularly by two writers, Trisha Greenhalgh and Ross Upshur. The contributions of these writers can be understood in emotional terms, as both managed ambivalence through the manipulation of hard and soft emotional techniques. Again taking Greenhalgh first, her use of narrative set-pieces allowed her to bring soft emotions confidently into juxtaposition with the hard emotions dominant in EBM. Her tale of the heroic Dr Jenkins (in Greenhalgh 1999), for example, places

the doctor back at the hub of medical expertise. It is not ruthless adherence to hard-facts which enables the doctor to save the life of a child, but his soft-sensitivity to language use and ability to listen. A more difficult-to-read example comes from the third edition of Greenhalgh's critical-appraisal textbook for clinicians, 'how to read a paper' (Greenhalgh 2006).

In a chapter on 'the science of 'trashing' papers', and *apropos* of nothing, Greenhalgh includes this anecdote:

> 'I once corresponded with an author whose work I had recommended should not be published. He wrote to the editor and admitted he agreed with my opinion. He described 5 years of painstaking and unpaid research done mostly in his spare time and the gradual realisation that he had been testing an important hypothesis with the wrong method. He withdrew the paper 'with a wry smile and a heavy heart' and pointed out several further weaknesses in his study. (…) His paper remains unpublished, but he is a true (and rare) scientist.'
>
> Greenhalgh (2006:41).

In this paragraph, Greenhalgh takes her readers on an emotive detour behind the scenes of evidence-basedness. This narrative begins with an unpleasant task for the writer herself; having to disappoint somebody who, despite being heroic (for doing painstaking and unpaid research on his own), is also tainted by having used a method which is not merely unusual, eccentric or irregular, but plain *wrong*. Tragically, the certification of wrongness comes from the subject himself. Through self-condemnation and self-abasement he transcends his status as a rejected author, attaining a distance from his work and its limitations that is noble, perhaps even saintly. In the eyes of Greenhalgh, this author becomes emblematic of the type of science to which all should aspire.

While the martyred protagonist has attained redemption by sacrificing his pride at the altar of science, it is not clear where this leaves the writer and reader. The writer has become an almost sado-masochistic conduit to voyeurism, conveying a tale of self-flagellation in which she is tragically unable to intervene, and humbled by the selflessness of the hero. The reader might feel a troubling sense of having intruded on private grief. Ought they to feel comfortable with the outcome of this drama? Does the narrator seem to feel comfortable with it herself, or is it something for which she is asking forgiveness? How does this detour tie in with the larger narrative of deriving clinical knowledge from texts? These questions are not easily answerable;

and as soon as they arise they are swept away by the ensuing discussion of mechanisms of critical appraisal.

This passage can be interpreted in terms of hard and soft emotionalities, on two levels. Firstly, the hero subjugates his own soft emotions (his heavy heart) and takes a hard view of his own frailties (chastising himself for further weaknesses of method) in order to become a true scientist. Secondly, the writer and reader together confront the softness within themselves, and harden themselves against it. EBM emerges as having an oddly cold character of its own, wilfully blind to the moral and ethical conundrums which it can produce. In sum, the passage reveals a turbulent emotional dynamic where different feelings struggle against each other, and remain unresolved. It is not that these emotions operate in service of rationality or in opposition to rationality (as they would do in Barbalet's conventional and critical approaches), but that they are bound up with different kinds of rationality (as they would be in his radical approach). The discourse is over-determined with emotion. It is emotionally-saturated.

The Ubiquity of Emotions in Medical EB-discourse (2); Upshur Revisited.

Where Greenhalgh used narratives from practice to construct emotionally-laden points, Upshur used the quintessentially-rational discourse of philosophy to create another emotional space in the context of debate over EBM. This can be read as a stepping-away from the splenetic passion of medical EB-discourse in accordance with a different emotional perspective. Upshur (1997, 1999, 2000) was explicit in his disapproval of intemperate polemics. His aggressive pursuit of a philosophy for EBM, and conviction that such a philosophy must be determinable, instantiates a different kind of hardness. In comparison with Upshur's careful excavations of philosophical meaning in EBM and his refusal to land on one side or the other, the carnivalesque practices of other medical writers seem reckless. Upshur helped pave the way for others to develop and formalise the more official discourse of evidence-basedness; but Upshur's eventual path into dissidence against EBM suggests that his own emotional trajectory progressed in the opposite direction.

It was in 2005 that Upshur renounced his philosophical allegiances, and that his writing took a practical-political turn. This turn, while marking a discontinuity and departure-point for Upshur, demonstrates continuity in the emotional currencies of medical EB-discourse. To explain this idea I compare a piece of Upshur's (from 2006) with the aforementioned article of Sackett and

Rosenberg (1995). Sackett and Rosenberg (1995) begins in a well-controlled, explanatory manner which clarifies the difference between old and new medicine:

> 'Previously it had been considered sufficient to understand the pathophysiological process in a disorder and to prescribe drugs shown to modify this process. (…) However, randomized controlled trials examined outcomes, not processes (…) The issue today is no longer how little of medical practice has a firm basis in such evidence, but how much of what is firmly based is applied in patient care.'
>
> Sackett and Rosenberg 1995:330-1.

So far, all is calm and reasonably clear. As the plot thickens, a cause emerges for concern, just as emphatic words (like 'really' and 'simply'), non-neutral schematics (like 'unfortunately' and 'no wonder') and emotive ideas (like failure, decline and surprise) creep into use:

> 'For although we clinicians really do need to keep up to date, (…) we usually fail to do so. (…) Unfortunately, this leads to progressive declines in our clinical competency. No wonder there is increasing interest in continuing medical education (… but) the effects of continuing medical education on quality of care are surprising and disappointing.'
>
> Sackett and Rosenberg 1995:331.

As further complexities and problems with 'continuing medical education' emerge, the narrative loses clarity. It degenerates along a tangent of confusion and doubt, leading to the discouraged and forlorn question, 'does anything work?' (1995:332). This expression of exasperation marks a turning point, for it provides an opportunity to re-state EBM in the form of numbered tenets and, in so doing, regain a sense of order and directional momentum. This gives the authors the confidence to make a pledge of faith:

> 'EBM is a process of life-long learning in which caring for our patients creates the need for clinically important information (…), and in which we (1) convert information needs into answerable questions; (2) track down, with maximum efficiency, the best evidence (…); (3) critically appraise that evidence's performance (…); (4) apply the results in our practice; and (5) evaluate our performance'
>
> Sackett and Rosenberg 1995:332.

In this passage, a stirring recovery is achieved by the repeated use of lists, brisk statements of empowerment and positive intent, and an inversion of the situation as it was originally stated. Having been introduced as a demand imposed upon clinicians, EBM undergoes a turning of the tables and is transformed into something demanded by clinicians who are in position to seek knowledge with swashbuckling maximal efficiency. Clinicians become the evaluators rather than the evaluated.

Buoyed by this sudden and complete rehabilitation, the narrators elaborate three strategies for successful EBM, and conclude with a list of a further five reasons why EBM should be celebrated. Roughly half of the article is given to these smoothly-flowing matters, the emotional hard work having been done within the space of a few turbulent paragraphs. In the tumultuous middle section, writers and readers start from tense neutrality. They plunge into a bleak valley of uncertainty and vulnerability (a soft state) to emerge re-invigorated and primed for battle (a hard state), having refused the role of victim. Yet there is a residual uneasiness to be found in reflecting on this process. On page 330, EB was promised to be straightforward and problem-free. Who could have anticipated the drama which was waiting on pages 331 and 332?

Now consider Ross Upshur's later (2006) commentary on an article by Jenicek (2006). By this time, much had been written about EBM but in certain emotional respects much had remained unchanged. Although openly critical of EBM from the first page, the conversational matter-of-fact style of Upshur's commentary recalls the opening paragraphs of Sackett and Rosenberg (1995):

> 'Increasingly, we see comments in the literature concerning the ascendancy, triumphs and benefits of EBM despite it yet neither meeting its own standard for determination of value, nor meeting the serious criticisms advanced against it. (…) There is no shortage of those arguing for a preferred view of what EBM is or is not, [and] an abundance of recent scholarly volumes on EBM, many of a revisionist flavour.'
>
> Upshur 2006:420.

So far, all is once again calm and reasonably clear. But anxieties start to emerge as Upshur confesses to harbouring concerns. These have to do with overtly prescriptive accounts of evidence-basedness, a degeneration in consensus as to the meaning of EBM, and a feeling of conceptual drift which leads EB-writers to lose grasp of their topic. Upshur edges into more direct criticism of his respondent Jenicek, and more urgently expressive tone:

> '(…) he does not appreciate the profound move within EBM away from fostering critical thinking, and creating dependency. (…) Of course, standards of best evidence are set (…) without any discussion of what grants the authority to interpret health research for others. (…) I find it very difficult and contradictory that Professor Jenicek accepts that EBM is unquestionably the right approach.'
>
> Upshur 2006:421-2.

The rhythm and pace of EB-writing often seems to quicken as narrators (and their readers) become emotionally drawn into the quandaries of EBM. Although they are written from different points of view, this effect is common to both of the articles considered here. But where Sackett and Rosenberg's (1995) steely resolve sees them through to a galvanised and euphoric state, Upshur's narrative hardens into resentment and confrontation:

> 'These trends do nothing to establish the truth or validity of EBM. (…) It is a fallacious inference to derive veracity from popularity. (…) My question to Professor Jenicek is, 'why adhere to EBM so rigorously?' The thrust of your arguments is to undermine this adherence. I find it somewhat disturbing that in his reflections, there are no citations from the very active debate and critique of EB-practices (…).'
>
> Upshur 2006:422.

For Upshur, as for other critics of EBM, there is no escape into a utopia of perfect practice. At the point in narrative where Sackett and Rosenberg played the get-out-of-jail-card of standing their own argument on its head, for Upshur there is only a descent into a disturbed state. The narrative transition passes from a kind of worried-neutral, through expressions of concern and doubt (softness), into resolute readiness for confrontation (hardness). Such is the consistent emotional climate of medical EB-discourse.

7.4 Emotions in EB-discourse in Physiotherapy: Fear and Shame.

EB-discourse is not the same everywhere it occurs. This variability holds true for its emotional content as well as other aspects already discussed. Whereas in medicine the dominant emotions of EB-discourse were confident, combative and hard, those in physiotherapy (for example) were the softer emotions associated with the perception of threat – principally, fear and shame. Two

quotes from editorial physiotherapy writing make explicit the continuing influence of fear. Tracy Bury urged physiotherapists to confront their fear of change:

> 'Unless the profession learns to base its practice on evidence then it can be argued that purchasers will not buy physiotherapy (…). We must not be afraid to make extinct [certain] elements of our practice.'
>
> Bury 1996:75-6.

Later, Alan Jette reiterated the fearful situation in which the profession found itself:

> '[This workshop] underscores the peril that the profession faces if it continues to practice with inadequate evidence (…). We must make no mistake about how vulnerable the profession remains.'
>
> Jette 2005:303.

Fear is called out in physiotherapy EB-discourse by name, and its appropriateness and relevance insisted upon. Shame, on the other hand, is an emotion which is not given a name but whose presence throughout this section of the discourse can be felt.

In the examples of tentative dissent against evidence-based practice (EBP) from physiotherapy writers which I gave, Bithell (2000), Hurley (2000) and Grimmer et al (2004) all suggested criticisms of EBP which they immediately withdrew. In Hurley's case this led to a claim that EBP was 'impossible to argue against' (2000:341). In Herbert et al (2001) and Schreiber and Stern (2005) this impulse to denial was manifested as a self-punishing critique of physiotherapy. Schreiber and Stern (2005) particularly endorsed a hard-line approach to the re-disciplining of physiotherapists. Such a strategy is emotionally 'hard', but the climate of feeling within this literature suggests that it is underwritten by the softer emotion of shame. This might be clearer in comparison with the editorial piece of Emma Stack (2006), whose expressions of pride in physiotherapy, and seeming absence of fear, freed her from the obligation of apologetic subscription to EBP. Others from the same literature bear out these emotional trends.

Clemence's 'EB-physiotherapy: seeking the unattainable' (1998), for example, follows the tradition of cataloguing 'barriers' to EBP[11]. These barriers are not problems which can be identified with EBP itself, whatever it is, but which can be attributed to methodological incapabilities and the attitudes of clinicians. The 'unattainability' of EBP to physiotherapy is here

[11] See chapter 5.

a reflection of weakness of character. O'Brien's (2001) report of processes of behaviour change contains a long passage (2001:188-190) on the need for particular surveillance of physiotherapists, and the appropriateness of RCTs for meeting this need. It ends by pleading for physiotherapists to humbly recognise their own faults:

> 'The most important step (…) is to remember that we are learners for life. (…) We need to ask ourselves if we are able to keep up-to-date (…). Sometimes, in an effort to help our clients, we can be too quick to adopt treatments that are unsubstantiated and too slow to take up those that are effective.'
>
> O'Brien 2001:197.

Such defeated self-scrutiny contrasts poignantly with the general assuredness of medical EB-writing. Correspondingly, medical EB-writers do not insist on subjecting themselves to RCTs of their own clinical behaviour, as if they were patients subject to treatment interventions (in fact they insist on the impossibility of doing so). This is something that physiotherapists have consistently done as testament of their own subservient commitment to EBP.

Maher et al (2004) reflect on 'challenges for evidence-based physiotherapy'. They are adamant (2004:652) that such challenges are not to be read as criticisms of EBP, whatever it is, but as professional shortcomings. Physiotherapists are to assume responsibility for accessing research (even though research may not be institutionally accessible – 2004:647-8), for developing their own skills of judging research applicability (even though such data is generally inapplicable – 2004:650), and for empowering healthcare consumers. There is produced a vision of an omni-capable clinician, an ideal vision of which the real phsyiotherapist can only fall short. This contrasts with the account of 'obstacles to the implementation of EBP', based on a study of Belgian physiotherapists, given by Karin et al (2009). There, is an acknowledgement of problems with EBP, whatever it is, across different disciplines (2009:476-7). There is a concern not to discipline physiotherapists but to enhance their professional autonomy (away from medical control) and accord value to their testimony. The absence of fear and shame accompanies an argument that physiotherapists be given the freedom to develop a version of EBP on the basis of their experienced clinical needs.

Theorising Fear and Shame in Conformity.

Fear and shame are both emotions considered by Barbalet (2001): fear in relation to social change; shame in relation to social conformity. His argument concerning fear, to paraphrase, is that it is associated with different social responses depending on the context in which it is felt. Fear is conventionally associated with those in subordinate social positions, Barbalet (2001:161) explains; but in fact it affects social elites, especially as a signal that their elite status is under threat. In such a scenario fear can be a lever for systematic change, for those who are in a position to resolve the source of their fear through collective action will do so. Such is Barbalet's focus, but he does not return to the case of fear as it affects those in relatively powerless positions. The case of physiotherapy in EB-discourse can shed light on this.

Physiotherapists felt fear in response to the imposition of demands from external sources for particular values of Evidence. Physiotherapists were not in a position to remove the source of fear by challenging these demands or re-negotiating on their own terms. Consequently physiotherapists' fear led, as fear is conventionally thought to do, to paralysis of reason. This observation can be qualified; some physiotherapists' fear did lead them to look for ways to alter the terms of Evidence (see for example Wakefield's (2000) advocacy of pragmatic, rather than explanatory RCTs). But I have spoken before of others for whom the imperative to Evidence, set against loyalty to practice, created unmanageable tension; and I have used Herbert et al's (2001:208) suggestion that 'it makes sense to make decisions on the basis of expected outcomes, even though we know that the expected outcome will probably not occur' as an examplary case of paralysis in reasoning.

Often, the inescapability of this emotional predicament has been associated with a further emotional response, which is shame. Barbalet's (2001) argument concerning shame has two aspects which are of relevance here. One is the operation of shame as a low-visibility emotion, which is still influential upon social behaviour even if unacknowledged; the second is his use of a specific typology of shame in modern social life (2001:123). The significance of shame as a low-visibility emotion is that in modern life, shame is not readily expressed or acknowledged. It may occur below the threshold of conscious awareness, in which case its pertinence can be read from its effects; or it is diverted into expressions indicative of other emotions, which are reactions to the unacceptable emotion of shame.

In physiotherapy EB-discourse, shame is not called out by name, and not directly expressed; but its influence can be inferred from trends of self-punishment in the discourse, which I have

reported. These trends suggest the influence of a particular kind of shame, which in Barbalet's classification is represented as *deferential* shame. In deferential shame, the agency which creates a context for shame is the other, rather than the self. In the case of EB-discourse, the active other is EBP, which acts to attribute to physiotherapists a responsibility for attaining authoritative knowledge-status. The fault which makes this status unreachable is not attributed to the external other, but is internalised. In other words, physiotherapists assume guilty responsibility for not being in a position to meet the expectations carried by EBP. 'The typical response of this type of shame', writes Barbalet (2001:124), 'is deference and rigid conformity'.

The understanding of shame outlined above is particularly compatible with a dialogical understanding of emotion. At a mechanistic and inter-personal level, shame as theorised by Barbalet (2001) depends upon the presence of another whose perspective on the self can be imagined (2001:103). As such shame is a most unavoidably *social* emotion, such that even one most committed to thinking of emotion as individual physiology, Charles Darwin, was compelled to recognise its social basis (2001:112). Barbalet's typology of shame in relation to attributions made to self and other (2001:123) resonates powerfully with Bakhtinian dialogism. Looking at the bigger picture of EB-discourse reveals a further dynamic of dialogical balance. EB-discourse is concerned, as I have explained, with the preservation and defence of healthcare institutions around medicine. Within medicine, hard emotions dominate soft emotions as doctors confidently assert their right to knowledge. In contexts adjacent to medicine – in this case physiotherapy as an allied profession – soft emotions dominate hard emotions. Fear and shame impose emotional limits upon what physiotherapists can think and write.

7.5 Emotions in EB-discourse in Sociology: Ambivalence and Trust.

In chapter 3 I explained that the structuring context for EB-writing in sociology was its removal from the clinic; sociologists became assured that they were to write about evidence-based healthcare (EBHC) from an outside-looking-in perspective which protected the clinic as a natural space. In chapters 4 and 5 I showed how this transition accompanied changes in the dialogical structuring of discourse, to the institution of a dialogue of rationalities. The argument I advance in this section is that the detachment of the discourse from the clinic has also been accompanied by a change in emotional climate which affectively-stabilises and affectively-validates the discourse as a whole. Sociology validates EB-discourse by moving towards the stable management of emotional repertoires. To explain this achievement I use the emotional

concepts of ambivalence and trust. It is mainly through actions pertaining to ambivalence and trust that sociology has channelled the emotional energies of EB-discourse into rational consciousness.

I have mentioned ambivalence before in relation to double-voicedness. Among others, I used Sandra Tanenbaum (1999) as an example of skilful construction of dialogue between the institutions of research and clinic. In the present chapter there is space to acknowledge that concurrent with political and rational ambivalence, people can experience emotional ambivalence; indeed, ambivalence is essentially an emotional state. It is an emotional state insofar as it is produced when people are forced to choose between apparently non-emotional things placed in opposition (such as Research knowledge and Practical knowledge), both of which seem to have benefits and drawbacks. It is also a purely-emotional state insofar as it can be produced out of the interference between other emotions; as for example when one experiences fear and love, contentment and envy, pleasure and pain at the same time. Far from being a secondary or derivative emotion though, ambivalence is the single emotion which (as a consequence of the evidence-paradox) characterises EB-discourse more than any other.

Where there is ambivalent tension in clinical EB-writing, it always has an emotional dimension in which, again, softness and hardness are useful metaphors. When the management of ambivalent tension breaks down, emotional undercurrents are exposed. This may happen where the sociological perspective is close to the clinic. Grypdonck (2006), for example, writing in defence of qualitative research as a means of accessing the perspectives of patients, offers this passionately-felt view:

> 'Understanding what it means to be ill, to live with an illness, to be subject to physical limitations, to see one's intellectual capacities gradually diminish or to be healed again, to rise from death after a bone marrow transplant, leaving one's sick life behind, to meet people who take care of you in a way that makes you feel really understood and cared for, understanding all this is a major asset of practitioners who use findings from qualitative research.'
>
> Grypdonck 2006:1381.

In this elegiac passage there is a direct appeal to soft emotions; understanding, empathy, sympathy, compassion, warmth and personal heroism on the part of qualitative researchers. Here it is through softness that strength is derived.

Where EBHC is concerned though, Grypdonck's stance is hard. She issues a warning against EBHC which comes by way of the emotive issue of trust. Trust is a recognised currency among qualitative researchers, but when quantitativists are trusted to impose their methods on the regulation of trust, 'there is a snake in the grass'. A pact of resistance is made; 'we should not let this happen' (2006:1373). In Grypdonck's conclusion, she entreats against 'flirting with quantitative researchers who decide about publication in high-ranking journals and undermine the true nature of qualitative research' (2006:1382). EBHC here becomes the arena for infidelity, betrayal and bitterness. Juxtaposed with admiration for soft qualities, then, Grypdonck takes a hard attitude of zero-tolerance to EBHC in which there is no place for fence-sitting, and in which an effect of urgency is produced through the use of sharply-contrasting extremes of emotion.

Moving away from the clinic into the arena of health policy and analytic sociology uncovers hard and soft emotionalities used together in more subtle ways to create more comfortable ambivalences. Witness Summerskill and Pope (2002), who manoeuvre these themes into a pincer-effect with their concluding sentence. They propose a strategy to

> '.. avoid forcing GPs to choose between 'evidence' and what they see as other important aspects of patient care, such as responding to patient anxiety or nurturing long-term professional relationships.'
>
> Summerskill and Pope (2002:610).

The language of 'responding to anxiety' and 'nurturing' is recognisably soft, and 'evidence' denotes the hard-other which risks placing GPs in a position of unavoidable compromise and vulnerability. This admixture of softness and hardness recalls the assurances of Sackett et al (1996:72) that 'clinicians who fear top-down cookbooks will find the advocates of EBM joining them at the barricades'. Such an expression of sympathy and brotherhood brings with it the insistence that there are indeed barricades which (although metaphorical) are real not imagined, and a battle which necessarily must be fought in aid of some unspecified greater good. The hard and the soft work together to constitute the clinician, from the outside, as someone who faces an inescapable and difficult choice.

Ambivalence is a rational emotional response to being placed in such a position as this. When reading EB-writing, one consequently becomes accustomed to having to assimilate phrases in which caveats and qualifications force one to look in two directions at once. For example,

Moseley and Tierney (2005), writing broadly in support of EBP at policy level, but still requiring to maintain sympathy for practical clinical perspectives and knowledges, construct this sentence:

> 'There may, understandably, be some ideological opposition to EBP if it is (mis)conceived as a threat to professional expertise and autonomy'
>
> Moseley and Tierney 2005:115.

This sentence puts the reader firmly into limbo, having been told at once that EBP is and is not a threat to autonomy, and that opposition to EBP is both a logical expectation and an error. Ambivalent phrases and sentences are convenient for demonstrating the awkward positions in which writers find themselves. In these latter cases though, there is not the urgent tension found elsewhere, but the maintenance of ambivalence as a stable emotional state. The tonal contrasts between trust and distrust in such statements are not harsh, but gentle.

Trust Within Ambivalent Sociological Narratives.

As I have mentioned, there is a sociological tradition of interest in trust as it can be observed amongst others; but reflexive sociologists must also be aware of their own position as brokers of trust and allocators of trust and distrust in particular ways. I noted that Pope (2003) encountered a dilemma as to whether to trust the accounts of surgeons she had interviewed; they were simultaneously trustworthy (their opinions were sincere) and untrustworthy (their hidden concern was to protect their own status as experts). Dilemmas of who and what to trust affect all sociologists writing about EBHC; for the discourse depends on a lack of trust. Neither clinical nor research knowledge is necessarily to be trusted. The two 'sides' in the controversy are defined in distrust for each other.

This lack of trust entails a paradox; for the summative effect of EB-discourse is to protect and maintain healthcare institutions, which means increasing their social status in terms of confidence, faith and trust. The logic of this process is that collectively We can be assured that clinicians and researchers are being held accountable (through their mutual distrust) for healthcare-knowledge production. We can therefore trust that healthcare institutions produce knowledge which does not just seem right, but is right. Sociologists are in a unique position to monitor this process: to look at the terms of EB-discourse and ask how it works. Sociologists

have not uncovered the dialogical mechanisms of EB-discourse to see how the same questions are repeatedly asked and never answered. In emotional terms sociologists, through their role as brokers of trust in EB-discourse, have contributed to the restoration of trust in health institutions.

Some examples show how this has occurred. Consider first the sociology-in-EBHC debate over medical autonomy and inter-professional politics, a debate of which the various writings of Timmermans are emblematic. These writings can be interpreted in the emotional terms of trust. Can guidelines be trusted as a means of holding doctors to account? Timmermans (2005) thinks not. Can guidelines be trusted as an indication of a shift in the epistemology of medicine? Timmermans and Kolker (2004) think so. Can doctors themselves be trusted with the handling and interpretation of guidelines? Timmermans and Mauck (2005) think not, but Timmermans and Angell (2001) think so. Can EBM be trusted to make medicine scientific and responsive to change? Timmermans (2008) thinks so. Thus are various possibilities for institutional trust and mistrust played repeatedly against each other.

The impression created is thoroughly ambiguous; but it is also to suggest unequivocally that EB-discourse fits its function as a field in which these types of questions can legitimately be asked and answered. Questioning the terms of EB-discourse is beyond the reach of these types of analysis. Consider also the sociology-of-EBHC debate over the macro-social significance of EBHC, of which the writings of May are emblematic. These too can be interpreted along the emotive lines of trust for EB-discourse within a broad social context. Are RCTs a type of Evidence which health policy-makers either should trust, or generally do trust? May (2006) thinks not. Can EBM, in concert with patient-centred care, be trusted to facilitate the technological re-conditionning of clinical behaviour? May et al (2006) think so. Can EBHC be trusted as an indicator of and vehicle to a global shift to corporate healthcare? May (2007) thinks so.

In each of these cases there may be nuances as to whether groups of people trust each other or don't; but the emotional climate is one in which what is happening institutionally, situated in its broad social context, is happening in good faith. Sociologists stamp EB-discourse with the validation implicit in their technical understandings; something which medical writers, left to the emotionally restrictive devices of their quasi-dialogues, have not been in a position to do. Together medicine and sociology make a further notable contrast with allied clinical professions.

In sections of the literature may be discerned a possibility of guilt in relation to EBHC[12]. Generally, medical and sociological writing does not purvey feelings of guilt in the way that, I have suggested, physiotherapeutic writing does. The minor profession takes on the less palatable emotional work. In its wholeness EB-discourse is a guarantor of trust in healthcare; but once again, different sectors bear the weight of different emotional responsibilities.

Completing the Disciplinary Picture: Helen Lambert and Anthropology.

To develop this point about the distribution of emotion across disciplines, and to add a final layer to the discussion of trust and ambivalence as emotional partners, I look in detail at two pieces from anthropologist Helen Lambert. Lambert (2006) gives an 'assimilationist' history of EBM while Lambert (2009), with some reservations, urges anthropologists to follow the evidence-based imperative to make transparent the evidential basis for their own discipline. This internalisation of EB-imperatives is something which, by and large, has not affected sociologists of EBHC. In a sense these pieces of Lambert's are analogous to the physiotherapeutic literature I have considered, being in the fashion of EB-discourse 'turned inwards', within the context of a sub-discipline concerned to protect its own institutional space. They are also useful for drawing together the themes I have been writing about, and moving towards the conclusions to come.

Lambert maintains an even pace of writing, without abrupt transitions between hard and soft states. Her style is characterised by an adversarial hardness, evident for example in a swipe at 'social scientists of an interpretive bent who can (and all too readily do) mock with great fluency the positivist tendencies of biomedical science' (2006:2633). This hardness is punctuated by moments of persuasive-softness in sympathy for EBHC. Lambert (2006) follows the familiar dialogical strategy of demarcating EBHC by listing and categorising the objections it has elicited. By typologising the 'alleged limitations' of EBHC, she marshals them into submissive positions but, unlike others who follow this strategy, she neither dismisses nor upholds them, and so maintains a position of dialogical balance.

Through the perspective of assimilationism, Lambert (2006) demonstrates how the survival of EBHC is assured, so long as it remains flexible enough to bend out of the way of any criticisms

[12] This comes closest to expression, I think, where the power wielded by pharmaceutical companies is considered.

which might arise[13]. To illustrate, she recounts a diagram devised by Haynes et al (2002), which makes space for 'clinical expertise' as a recognised knowledge form, but also sneakily undermines it by the use of a dotted, rather than solid line. Similarly she praises the EBMWG (1992) for their 'admirably frank admission that there is little or no evidence that EBM improves outcomes' (2006:2639), thus avoiding the dilemmas associated with the evidence paradox. Lambert does not address these tensions, but moves on to a discussion of other rhetorical strategies deemed effective in neutralising threats to the respectability of EBHC (2006:2637).

She thus holds the reader in an ambivalent state, a state reflected in the equivocal sentence 'this limitation is dealt with by encompassing it' (ibid). The temptation to read inverted commas around the words 'dealt with' is strong; for the unspoken implication here is that the objection has simply been hidden from view. The implicit critical question is that if EBHC is indeed inoculated against all criticism, if its content is so mutable as to be indefinable, then what can it be taken to mean? And what interests are served in this situation, where the only certainty seems to be the preservation of EBHC as a sign which does not refer consistently to anything outside of itself? Lambert provokes these questions, but does not acknowledge them. Further tensions arise with downplaying the conflictual nature of EBHC, in relation to which Lambert deploys softly-persuasive strategies.

For example, she uses the increasing presence of EBHC modules in medical curricula as evidence for the success of EBHC in practice, playing on the indeterminability of the embodiment of EB-discourse (see chapter 6). This strategy brings the discourse back to its point of origin (the possibility of a gap between pedagogical theory and practice), a problem crystallised through the following double-voiced sentence:

> 'Far from being an incidental indicator of EBM's success, the pedagogical dimension is central to the EBM initiative (…)'
>
> Lambert 2006:2638.

The thought that EB-pedagogy might indeed be an incidental indicator of EBM's success occurs in the mind of the writer; but she hardens herself against it, and invites the reader to do so too (ibid). EBM emerges from Lambert's account as curiously formless and faceless:

[13] This is reminiscent of the dialogical interpretation I have given, although Lambert does not interpret its significance as I do.

> 'EBM is an indeterminate and malleable range of techniques and practices unified not (…) by methodological rigour, but by the pursuit of a new approach to medical knowledge and authority.'
>
> Lambert 2006:2639.

Evidence-basedness here transcends its birth-connection to methodologies, becoming mystical in its power.

Neither is this power attached to any particular group or contextual goal, but to the disembodied and quintessentially modern life-force that is newness. Something thus removed and transubstantiated might be presented as un-emotional in itself; but this presentation displaces the emotional workload onto the reader who is manoeuvred under ambivalent tension into the witness and approval of an investment of trust in EBHC. Thus a developing theme throughout the narrative is the strengthening of the author's own emotional commitment to EBHC, especially once the meaning of EBHC has slipped its chains and become obscure. EBHC here is a vital, compelling and self-guaranteeing force, and a trustworthy vehicle to reach a utopian state which is free, at last, from doubt.

Lambert (2009) builds upon the ambivalent tensions of Lambert (2006), and makes clear where trust, which will resolve the dilemmas of EBHC, is to be found. This article begins by positioning EBM within a culture of audit, and as having achieved hegemony. A twist comes when the position of qualitative methods in EBHC comes to be considered. Anthropology is a discipline with a qualitative tradition, but tests of methodological rigour developed for RCTs are not necessarily transferable to qualitative research. Lambert has pledged her faith firmly to EBHC, posing a dilemma which brings her into the realms of openly-emotive writing:

> '(we) *need* to ensure quality and veracity by adhering to disciplinarily variant standards of research integrity. In order to do this, however, we *badly need* to clarify what these standards are within our own discipline.'
>
> Lambert 2009:19, emphasis added.

In these sentences, which are the first time Lambert (2009) makes an appeal to her anthropological readership to create a 'we', EBHC is brought home to roost. She continues;

> 'Our reluctance to examine the nature of anthropological knowledge production seriously limits our ability to make claims regarding its evidentiary status. If anthropology is to

> contest the encompassing tendencies of EBM (…), it is no longer sufficient to provide a deconstructive commentary without explicating the grounds for it.'
>
> Ibid.

This passage is paradoxical, arguing that evidence-basedness is to be challenged by aquiescence to evidence-basedness; resistance pursued through compliance. Suddenly, the restraint falls away from Lambert's writing as she looses her distrust in the direction of her own discipline:

> '… unless and until we take seriously our own notions of evidence, we are in no position to critique natural-science based notions of evidence (…). While our activities rely on accepted criteria for the evaluation of evidence, these remain largely implicit (…). Failure to consider the generic nature of anthropological evidence (…) rules out the possibility of academic anthropology making any such claims (to truth).'
>
> Ibid.

Here, anthropology is isolated from any other socially-validated knowledge forms and left defenceless, in a way which suggests that its status as a discipline is entirely self-guaranteed, and that it might quite possibly have no claim whatsoever to trustworthiness. The concurrent implication is that epidemiological and statistical evidence, by opposition, is absolutely trustworthy and need be subjected to no criticism by standards other than its own. The solid ground of quantitative evidentialism having been gained, Lambert (2009:20) is able to finish by reflecting on her evidential imperatives as being 'a sign that the discipline is maturing', just as Bury (1996:75) began her fearful warnings for physiotherapy with speculation that the healthcare industry was 'coming of age'.

Limited Sociological Awareness of Emotion.

Finally I note two sociological perspectives upon the role of emotion in EB-discourse, and their significance for theorising emotion. Dopson et al (2003), having identified a failure of EBM to infiltrate medical practice, plan to assist the transition with emotional tactics:

> 'EBM has thus far concentrated on *logos* – the clarity and logic of argument (…). Effective rhetoric, however, also relies on *pathos* – the power to stir the emotions, beliefs, values knowledge and imagination of the audience and generate empathy (…).'
>
> Dopson et al 2003:318, italics preserved.

Dopson et al (2003) give no sign of being aware of the paradox in their position – using a principle supposedly antithetical to EBM to argue for EBM. Emotion is here something to which the other (as audience) is hoped to be susceptible; and what is tacitly dismissed is the possibility that emotion is already active in conditioning the consciousness of the self.

Underlying this reflexivity issue is a tacit commitment to Barbalet's 'critical' use of emotion in support of reason. Consider again Cronje and Fullan (2003) who put themselves in the circular position of having to rationalise why rationality should be preferred to irrationality, and argue this:

> 'Rationality appeals because we believe that rational procedures provide reliable results. EBM, because it focuses on integrating quantified scientific evidence into the decision-making process, thus promises to be a more reliable practice with better health outcomes for patients.'
>
> Cronje and Fullan 2003:354.

To escape a position of circularity, Cronje and Fullan make recourse to the concept of reliability. Rational (reasonable) beliefs are argued to be better than irrational (unreasonable) ones because they are more reliable. This is presented in the manner of an empirical statement – implying that irrational and unreasonable beliefs could contingently have turned out, to people's perpetual surprise, to be systematically reliable. This reasoning is tautological because reliability is so close to rationality and reasonableness. But insofar as reliability can be separated from these, it is because it is an emotional idea, which implies trustworthiness, reassurance and comfort. What happens then, is that Cronje and Fullan (2003), in trying to justify the exclusion of emotion, draw immediately on an emotional category for persuasive support.

Like Barbalet's (2001) discussion of Weber discussed earlier, this conventional approach gives way to the radical one, where emotion is the basis for reason. Sociologists are in a better position than clinicians to notice the emotional properties of EB-discourse, and it is to the credit of both Dopson et al (2003) and Cronje and Fullan (2003) that they have done so. However,

these examples suggest that sociological commentators on EBHC have yet to begin the process of coming to a reflexive emotional consciousness.

7.6 Conclusion.

In this chapter I have examined the significance of emotion in EB-discourse. Having introduced some social-theoretical perspectives on emotion, I followed it into the same literary sectors as I have used throughout this thesis – of earlier and later medical, physiotherapeutic and sociological writing. Principally using the metaphor of softness and hardness, I found a set of emotions which occur in dialogical relation to each other. In early medical EB-discourse there is a climate of confidence where 'hard' emotions predominate and produce a dynamic which is carnivalesque and (at times) grotesque. Elsewhere, I found different emotional currents: in Greenhalgh, a discourse saturated with softer emotions, revealing possibilities for considerable depth of feeling within evidence-basedness; but in Upshur, an emotional trajectory which led back towards the hard emotions of polemic. These are testament to the broad repertoire and ubiquity of emotion within EBM.

In physiotherapy I found the soft-other to the hardness of medical EB-discourse, where fear, shame and guilt held dominion. Such emotions were associated with conformity, meaning a broad incapacity to engage with evidence-basedness through creative thought. This tallies with the contrast found in chapter 5 between medical EB-discourse experienced as productive, and physiotherapeutic EB-discourse as repressive forms of power. In sociology I found a situation more emotionally complex, where hard and soft emotions operate together to create an emotional dialogue harmonious with the genuine-dialogues of rationality I have previously identified. In this context, trust and ambivalence are recurrent emotional themes through which (to borrow the phraseology of Ahmed (2004)) the relations between those represented in the discourse take shape. I used the emotionally-rich writing of Helen Lambert to collect many of these emotional themes together. Trust and ambivalence were there, and emotional hardness; but also detectable were the softer emotions familiar from physiotherapy, where Lambert sought to position anthropology within evidence-basedness.

Although I have offered theoretical perspectives on the emotions found, the primary objective in this chapter has been empirical; to map the systematic occurrence of emotions in different sectors of EB-discourse. Previously this rich emotional content has not been recognised. Using

just a few examples, I have uncovered an emotionally-saturated form of social life. This task is just begun, but still complete enough to return now to theorisations of emotion and see what can be added for understanding social power. As I explained, space for emotion can be found in both Foucault's and Bakhtin's accounts of social life, but neither of them elaborated a full theory of emotions in relation to power or in relation to other things which are not-emotion. Ahmed and Barbalet had moved towards recognising the central importance of emotions in social life.

To my earlier conclusions that contemporary power works dialogically, and that it works by instituting a separation and hierarchy between mind and body, can now be added another dimension. Power works through emotion, and through emotional dialogues. As Ahmed has found, emotions are relational, meaning they occur through contact between social entities constructed in mutual difference. Emotions power social life within contexts (as where doctors are engaged in emotional antagonisms with each other) and between contexts (as where different emotional climates are produced in disciplines institutionally juxtaposed). Also, emotions themselves exist in dialogue with rationality. But as Barbalet has found, the distinction between rationality and emotion is not tenable. Rationality is a product of emotion, or a type of emotion, or an artefact of emotion. Without emotion, no rationality is possible.

Consequently sociologists are entitled to expect discourses of rationality to be a good source of material for studying emotion. EB-discourse is a prime target for such study not just because it rests upon attempts to exclude emotion, but also because its participants have barely begun to grasp the profound significance of emotion in the work they do. In this context raw emotions can be accessed in ways not possible in other domains of social life. It is because of the supposition that emotion could be removable from social life that it becomes so powerful in EB-discourse. Like the splitting of power and knowledge, like the splitting of mind and body, the splitting of rationality and emotion is an effect of power. It makes our own emotions seem foreign to us, and a source of threat. EB-discourse shows that if we become worried about our vulnerability to emotion, the last thing we should do is make a stranger of emotion. For then emotion becomes more powerful than we can imagine.

Chapter 8

Conclusion: on the Nature of Power.

Summary.

This thesis begins as a study of EBHC, and a study of EBHC it remains to the end. But EBHC is of interest because it is a manifestation of power, and the thesis becomes progressively more 'of power' as it proceeds. Steps towards an understanding of power are taken by making the conceptual move from EBHC to EB-discourse, and by identifying dialogue as the principle which structures this discourse. Two key dialogues, of embodiment and emotion, are discovered as being specifically important to the discourse. These dialogues reflect broader features of contemporary modern social life, in which body is tacitly subordinated to mind, and in which emotion is supposedly subordinated to reason. The principle of dialogue is imagined in terms of being general to the social condition. Without something which is dialogical, there can be nothing which is power.

In this concluding chapter I summarise the thesis in its implications for sociological thought, which bring implications for future research. These discussions take up the bulk of the chapter. They are arranged in accordance with the three strands of dialogue, embodiment and emotion. They contain no new analysis, but I give some further commentary on familiar examples in illustration of the arguments I have made. In the course of my analysis, however, a particular outcome has emerged in relation to the patient as they are thought about in EBHC and in bureaucratic healthcare. It has ethical implications which were unforeseen, but which are important for healthcare itself. I present these at the end with added emphasis. I finish the chapter with some reflections on the role of sociology, and the sociologist, as they are implicit in this thesis.

8.1 Implications for Sociological Thought.

Power as Dialogue.

When I have written in this thesis about Evidence-Basedness discourse (EB-discourse) as a discourse of power, I have relied upon an instinctive and tacit definition of power as something which is an inherent feature of social life. In classical Marxism power is something attributable according to social class. It is attached to higher classes, and wielded downwards in the subjugation of lower classes. Among post-Marxist theorists, it is Foucault who made a contribution to the re-conceptualisation of power which has become socio-theoretical orthodoxy. Power, he said, is productive and diffuse, exercised everywhere and in all directions. Effectively people do not wield power, but power wields people. This step of Foucault's was not merely to correct the understanding of power, but to alter the meaning of the term.

In this thesis the influence of classical Marxism persists. Like no other discourse in recent times, EB-discourse has made defensible the social institutions of healthcare. That this is an act of Marxist-type power can be seen from the observation that the conditions of illness treated by healthcare remain systematically related to social inequality. This is demonstrable statistically from population studies, and can also be witnessed in experience. As a way of thinking about conduct in institutions socially constructed, EB-discourse well fits the Marxist concept of ideology. My debts to Foucault and Bakhtin, both of whom found trouble with the Marxist distinction between ideological superstructure and material base, have not discouraged me from using the term. Especially in chapter six, I perceive EB-discourse as an ideology which is built upon a material base of embodiment.

While having these characteristics which spell Marxism, EB-discourse has others which are Foucauldian. Many have criticised evidence-based healthcare (EBHC), but without necessarily seeing it as a repressively-deployed force. It is easy to imagine EBHC as a productive set of ideas which elicits new ways of working and a new type of collective confidence, and easier still to see it as a pervasive force which wields people, rather than being wielded. Through my studies of the discourse in which these perspectives on power can be found together, I have reached a position from which the meaning of power can be shifted again. I propose new ways of answering the question 'how does power work?' which move away from doctrinaire generalities where power is all-repressive or all-productive, just-locatable or just-diffuse. To say that power works through dialogue is a generalisation which opens the way to elaboration and specification.

Dialogical power works by being split into different forms which inter-relate. There are superficial dialogues and there are deep dialogues. There are both productive and repressive dialogical forms. Dialogue is an answer to the question of how power works, but it also re-frames the definition of what power is: power is the dialogical constitution of social life. Everything dialogical can be read in terms of power. Wherever people interact dialogically there must be issues of power at work, as experienced from the inside or viewed from the outside of dialogue, and whether interpreted as productive or repressive. The dialogical principle consequently offers a route to a social-epistemological basis for understanding power. If the basic social unit is the dialogical pair, and all social life is involved with power, then all power must be dialogical.

Dialogue and Social Epistemology.

Dialogical power offers people choices. In EB-discourse, the primary choice is between two idealisations of healthcare, and two power-streams; a top-down approach (which clinicians can think of as statistical, and sociologists can think of as biopower) and a bottom-up approach (which clinicians can think of as expertise, and sociologists can think of as disciplinary power). The effect of dialogical splitting is to make it seem as if these choices exhaust all the plausible ways of thinking about healthcare, and that they are not both expressions of power. Participants in dialogical discourses align themselves with one choice or the other. This process of choice-making is not generally active and conscious, but feels natural. The oppositional choice, revealed to people as the 'other', appears as an expression of power and something to be resisted.

People become systematically aligned with or against each other, and their energies, by these identifications, are productively channelled into the reproduction of social systems (in this case the healthcare system). Thus power becomes productive: a system of healthcare knowledge-making and practice is created and maintained. Key to this productive splitting of power is the distinction between power and knowledge. Foucault (1975) was suspicious of this distinction, and characterised it as an equivalence. Re-casting this equivalence as a dialogue, and power as dialogical, allows me to express this suspicion in a different way by saying that the distinction between power and knowledge is itself an artefact of power. Power being conceived in dialogue with knowledge has consequences for understanding the social institution of knowledge in dialogical terms. In EB-discourse the presence of the power-knowledge distinction is reflected

not in the dialogue between research and practice, but in the dialogue between politics and philosophy.

I have drawn at points on the social epistemology of Martin Kusch (2002). Kusch's theoretical social philosophy can now be supplemented with an empirical-sociological result. Through EB-discourse there is achieved the collective *agreement* that healthcare institutions are legitimate and that their knowledge is valid. How is this agreement achieved? For the most part it is not achieved directly by consensus. We social beings do not spend much time explicitly agreeing upon the knowledge-status of healthcare institutions; in fact we generally disagree about the details of how they should run. But through our dialogues and disagreements, healthcare institutions and health knowledge are protected and preserved. The dialogical account of power provides a way to make sense of the tension between collective agreement and disagreement. Through disagreeing on the details of how to perform healthcare, people are able to endorse and perpetuate healthcare as a social institution without doing so explicitly.

By committing to a position set against other positions in EB-discourse (of which there are many, dialogically inter-related), people can agree that the sign of Evidence-Basedness is equipped to focus debate about the issues in healthcare which are important. The more fervently do people explicitly disagree on points within the discourse, the more fervently do they tacitly endorse the legitimacy of the discourse and the institutions to which it is attached. By this means is EB-discourse, and by association healthcare, continually constructed and energised. This productivity is not absolute; power cannot create something from nothing. Where power is experienced as productive, it is also repressive in a way which is hidden from view. To make things visible which had been hidden is not to step outside of power (for power has no outside) but to access a repressive stream of power.

Embodiment and Repressive Power.

As classical Marxism tells, power is not purely ideological, but also material. By thinking about embodiment, the material manifestations of power in EB-discourse can be brought to light, and a dialogical repressive relation between ideological and material realms made visible. In EB-discourse this relation appears in different forms. The discourse itself is *about* embodied behaviour (that is, its subject is the things people do in an embodied way in clinics); but its content has very little to do with embodiment (it pays little heed to embodied and tacit

knowledge, for example). Embodied knowledge is dependent for expression upon testimony; but EB-discourse militates against the recognition of testimony as generative of knowledge (and it has well-developed technologies which are means to the disguise of testimony).

These dialogical relations reflect a power-hierarchy which is endemic to contemporary social life: the dominance of (disembodied) mind over body. Sociologists might ask what is new about the subordination of body to mind in the context of EB-discourse. At least since Engels (1845) they have been aware of the association between ideological inequality and embodied ill health. Leder (1990b) has written about the body as a necessary phenomenological and theoretical absence (which we can only perceive when it is in dysfunction). Feminist sociologists have been aware of the material implications of gendered asymmetries in the theorisation of embodiment (see eg. Witz 2000). These absences and asymmetries seem to match up with a concern that classical sociology has not been attentive to issues of embodiment (a charge which Shilling (2001), for example, defends against).

Interest in embodiment seems often to be presented as something new, but in truth it is a well-worn theoretical issue, which remains difficult to conceptualise because of the contradiction in discussing the extra-discursive. What my study of EB-discourse yields, however, is a new urgency in theorising embodiment because of the tangible consequences of the mind-body split for lived experiences of power. The dualism of mind and body is not a point of innocent and incidental theoretical abstraction, but a manifestation of power whose effects in illness are real. In EB-discourse I have highlighted three ways of noticing these power effects. First, a disconnection between EB-discourse as ideology and the embodiment of practice. Second, a disguise of testimony as knowledge-generative, which makes us think of social interactions in terms of trust. Third, and arguably most important, an inability to recover the patient.

Practice and testimony as blind spaces.

In the historical narrative of EB-discourse it might be possible in hindsight to locate a tipping-point when EBHC became less a proposal for the future and more a doctrine of the present. Due in large part to protocols and guidelines, healthcare workers can now (in 2013) claim to be doing things because of The Evidence, and so to imply that healthcare in the past had no genuine basis in secure knowledge. The present is thus kept in constant renewal, and validated by dissociation from the past. The impossibility of giving evidence-for-evidence – the evidence

paradox and attendant condition of unknowability – warn that we should be wary of cutting the past adrift. Before EBHC, clinicians had justifications for the treatments they administered to patients, treatments administered after-the-fact of illness and to economic benefit. After EBHC, clinicians have justifications for the treatments they administer to patients, treatments administered after-the-fact of illness and to economic benefit. The justifications have changed, but the social dynamics have not.

The past is always lost to the present. We cannot easily give evidence that EBHC has substantively changed the embodied practices of healthcare, even though most commentators on the topic believe it to be so. Besides, faith in the present remains necessary for functional social life. This necessity of faith in the present is not an accident. It is EB-discourse as power which, along with other discourses, encourages us in this faith, and which has renewed our collective commitment to the institutions of healthcare. EB-discourse as ideology has kept the embodiment of health practice a secret which now can never be told. It is not by chance that we cannot tell how EBHC has changed health practices, but is an effect of power. Power splits the body from the mind, and keeps the body as leverage to dictate the thoughts of minds. It makes us believe that we can wield it with our minds; but all the time it wields us.

Embodied knowledge can only come into linguistic discourse through testimony, and in EB-discourse testimony is banished. It is only once testimony has been disguised as something non-testimonial that EB-discourse will have us think of it as knowledge. A dialogue between quantitative and qualitative is the key pathway for this effect. First, quantitative expressions are imagined as being non-testimonial and disembodied, even as being outside of language. Then qualitative expressions are re-instated as also being data, as potentially having the same status as is accorded to numbers. This dialogical flip-flopping makes us forget about testimony, and consequently we forget also about embodiment as being a necessary source of knowledge. In this way the disconnection of mind from body is siphoned into an implicit dialogue of rationality against irrationality. Rational-mental forms are played against each other, and the body, imagined as irrational, left behind.

Residual worries about testimonial knowledge are channelled into concern over trust. EB-discourse draws our attention to attributions of trust which we can consciously make, particularly as to which types of evidence are trustworthy. Here the effect of power, like when it convinces us that we can use our minds to control our bodies, is to make us feel in control – as though the allocations of trust which we make consciously are the ones which matter. In EB-

discourse, the important allocations of trust have already been made for us. They are the decisions which make testimonies seem as if they cannot possibly become evidence, and which make the criterion for Evidence that it is independent of testimony, when in fact all evidence is originally testimonial. This process of exclusion affects everyone present to EB-discourse; but the person most severely affected is the patient. This leads into a discussion of implications for healthcare, which I reserve until the end of the chapter.

Emotion and Productive Power.

I lastly argue that another dialogue basic to EB-discourse and to power is between rational thought and emotion. Like the mind-body split, in which our bodies are made strange to our minds creating an asymmetry through which power is generated, the dialogue of thought and emotion is asymmetrical. Thought is elevated above emotion, and emotion driven out of sight. We are socially conditioned to fear emotion, to guard ourselves against it, to cast it out, and not to recognise it. By this exclusion we make ourselves unable to acknowledge emotion as it returns in the structuring of our thoughts, and the control of our actions. We have no means to explicit dialogue with emotion, having ourselves denounced it. We make emotion powerful, and in so doing we become subservient to it.

The dialogue of thought and emotion (although it involves the repression of emotion) leads to productive power. Here the powerful influence of emotions can be described using a metaphor of power to energy[1]. The topics addressed explicitly in EB-discourse are of rational thought, and the rationalisation of rationalities. Yet the discourse is saturated with emotional undercurrents which regularly break the surface and become visible. EB-discourse hums with emotional life. It is driven by emotional energy which holds its participants in thrall, but which they cannot acknowledge. Without emotional will, people would not be compelled to participate in EB-discourse. Without emotion to power it, this rational discourse would come to a halt. Emotions thus guide actions in a way whose relationship to conscious intentions is ambiguous.

[1] A philosophical-sociological precedent for this use is Collins (1993).

Coming to emotional consciousness.

In what I have written about the emotions of sociological EB-writing there is the implication that sociologists, more than their clinical counterparts, have the capacity to channel the emotions of EB-discourse in accordance with the rationality of their arguments. I do believe that sociology is better positioned than other disciplines to trouble the dichotomy of thought and emotion, and indeed that sociologists have a responsibility to do so. Judging from EB-discourse though, this process is yet to begin. If they acknowledge emotion as a legitimate social factor at all, sociologists are likely to imagine it as something which can be deployed in service of rationality or which supports rationality, not something which is a necessary part of rationality.

I have argued through my methodology that if sociologists are to understand emotion in relation to power – as they must do if they are to understand social life – they must be prepared to use their selves as a means to analysis. As I have also noted, emotion (being connected to embodiment) is something at least partly outside of linguistic discourse. Ethnographic immersion is therefore necessary for emotion to be experienced, and the task of bringing it into conscious expression remains difficult. To think outside of a simple dichotomy between emotion and rationality demands great care and effort, but must nevertheless be attempted. EB-discourse is a forum in which this dichotomy is unusually sharp, and therefore one in which the consequences of trying to escape emotion can be investigated. Further, the profusion and immediacy of emotional experience in EB-discourse – its emotional saturatedness – suggests that the attempt to expel emotion from rational social life is quite the most futile of endeavours.

Emotion and social theory.

These insights contribute directly to the developing field of sociology of emotions. They are an empirical manifestation of Barbalet's (2001) radical approach which sees emotion as fundamental to rationality. They also work against current understandings of emotion which do not recognise the implications of the dialogical situation of emotion as other to rationality. For example, Simon Williams has argued (1998, 2001) that in a modernity which is rationalising, emotions remain a source of authenticity which is to be celebrated. He writes:

> '… however troubling their manifestations may be, [emotions] none the less express the irrepressible spirit and recalcitrant language of the heart: one which, despite its best efforts, rational modernity will never manage to crush or destroy.'
>
> Williams 1998:764.

For Williams, emotions are always a site of resistance to nefarious rationality. He does not see that the experience of emotions as 'troubling' is an effect of power. He does not see that emotion and its valorisation is as much a part of modernity as is rationalisation. The two are dialogical partners in power.

My study suggests that emotion precedes rationality, transcends rationality in its power to determine our actions, and is the basis of rationality. Perhaps we should indeed fear the power of emotion! Except that the great part of the power of emotion is power which it accrues through our inability to recognise it, and our unexamined conviction that we subdue it to rational control. Indications from EB-discourse are that the more we try to formalise the rational control of emotion, the more unwittingly emotional do we become. Therefore we should not see our task as being to tame emotions to our rational will; nor should it be to celebrate our emotions for their mystical and unquenchable humanity. It should be to ask how we are led to recognise things as emotional or not, and to what vulnerabilities we expose ourselves by making a natural distinction between emotionality and rationality.

Towards the end of his life, Foucault (in *The History of Sexuality*) began to consider emotion as power in terms of the subject's relationship to self. It fell to Nikolas Rose (various) to develop the idea that we are 'governed through our desires'. In light of the present thesis I make the argument that 'desires' are merely a small subset of the emotions which power the actions of participants in EB-discourse. Confidence, anger, indignation, resentment, bravery, fear, shame, determination, trust, guilt, suspicion and complex ambivalences are the emotional capillaries for power in the writings of EB-discourse. The work of Jack Barbalet has helped me to follow the details of some of these emotional pathways. With the aid of Bakhtinian dialogism, I have reached further beyond Barbalet. I have shown how these emotional currents are in dialogue with each other; and I have raised the strong possibility that the importance of emotion for conducting social power is precisely a consequence of the dialogical exclusion of emotion from rationality in modern social life.

Through the categories of embodiment and emotion I have shown that in EB-discourse much of the ideological work of power is done without the acknowledgement of those whose actions are manifestations of power. That is to say, power works through a kind of collective subconscious. In this respect a possible theoretical next step for my work is towards psychoanalysis, where the idea of the subconscious is given a full explanatory capacity. In that case, an area for development would be the reconciliation (or not) of the psychological (individualistic)

understandings of subconscious mind, which are central to psychoanalysis, with an understanding of the subconscious which is originally social.

8.3 Implications for Future Research.

Dialogical Method.

In moving to the dialogical model of power I have drawn upon the theory of Mikhail Bakhtin. Although Bakhtin is recognised as a social theorist, he remains peripheral to sociology (Bell and Gardiner 1998). There are positive reasons why the Bakhtinian perspective is the most helpful in this case. Bakhtin recognises language (and discourse) as fundamental to empirical social study. Language is the observable trace of social life, but, Bakhtin tells us, it does not fix meaning. It exists in dialogue and its character is dialogical; it speaks always with more than one voice. Through recognising the dialogical nature of language, sociologists can understand the structural mechanics of social thought. They can describe the dialogues which are found in social life, from the particular to the general; and they can describe how these dialogues operate in dialogue with each other.

The principle of dialogue links theory with empirical practice. It thus allows sociologists to span a wide range of inquiry from empirical sociology to social epistemology. While using dialogue to describe the intricate mechanisms of power, sociologists can also make space to think outside of dialogical boundaries; to ask what thoughts are excluded from powerful dialogues, to get access to residual categories and see things which are normally outside of thought. That is, sociologists can witness the repressive as well as the productive aspects of power. This is what I have done in addressing phenomena which by their nature are difficult to access through rational (powerful) linguistic discourse. Embodiment, being supposedly outside of the mind, and emotion, being supposedly outside of rationality, are elusive topics for thought. But the importance of their influence can be perceived from its effects in EB-discourse.

The value of the dialogical approach has been that it enabled me at length to find some solid ground for sociological analysis. In EB-discourse, which is densely populated with straw-men, commenting on any single perspective keeps the researcher chasing phantoms. The substance of the discourse is not in its separable perspectives, but in the support they offer each other, even

(or especially) when placed in opposition. In this discourse where every truth which is asserted can be doubted, the dialogical method allowed me to find something real in the relationality between versions of truth. Sociologists before me have drawn upon dialogical principles in social research and social theorising; but in general I feel that the explanatory potential of dialogue for sociology has yet to be realised.

No doubt there are ways of taking issue with the details of my account of EB-discourse, and ways it could be expanded (perhaps to include health professions which I have not addressed, and evidence-basedness outside of healthcare). However I see my principal findings – the need for a dialogical approach, and the fundamental importance of embodiment and emotion – as being robust. The most promising of possibilities are those which lead away from EB-discourse towards other fields of study. In institutional policy-making there is a possibility for more research into the emotional work done through unexamined values of science, and particularly through the affective value accorded to numbers. The emotional properties of numbers could be investigated within the institutional contexts of their social use and exchange, but also for their more inherent capacities as vectors for emotion.

This would mean working towards a more fully-developed sociology of pure-mathematics, which could connect in turn to applied mathematics and an updated sociology of financial institutions. In relation to science and mathematics, there is more to be known about the dialogical dynamics of their rhetorical form. For example, think of the phenomenon of science, which is indisputably among the most powerful knowledge-generating institutions in contemporary life. A crucial principle in science (and particularly in health-related scientific study) is that of null-hypothesis, in which an argument is made for a proposition not directly, but by showing that an argument against the proposition is unsupported. The equivalent technique in EB-discourse, which I have highlighted, is to make arguments not about what evidence-basedness is, but about what it is not. By investigating such dialogical strategies, sociologists can demonstrate the processes through which thoughts attain powerful expression: they can observe the intricate details of dialogical power even in technical discourses.

In politics the dialogical principle might be used in relation both to exercises of repressive power which are clear-cut, and to more symmetrical cases. For example, the current UK coalition government has introduced initiatives in the name of safeguarding the national economy. This productive endeavour, insofar as it is achieved, has come at the expense of the systematic persecution of vulnerable social sectors, framed as cost-cutting. The repressive and productive

streams of this power are both visible. In contrast, The Troubles in Northern Ireland are an example of stable conflict, which continues on well-established terms with sporadic unsuccessful attempts at resolution. Here the dialogical approach could be used to demonstrate the collusion which underlies conflict, where the sides tacitly agree to maintain the extant situation by continual reference to the past.

Embodiment and Emotion in Science.

It is through embodiment that the dialogue between the material and ideological aspects of power can potentially be revealed. In EB-discourse I have shown that embodiment is a channel for repressive power, but this might not always be the case: in sociologies of science, for example, embodied expertise (as tacit knowledge) can be conceptualised as productive. It might be that in science, there is a reversal of roles with EB-discourse, in that emotion is associated with repressive power. I have speculated that emotions as such do not simply exist by themselves, but in dialogical relation to things which we perceive to be non-emotional. It is with this possibility in mind that the emotional role of science in EB-discourse can be made sense of.

In chapter two I noted a scientific impulse which contributed to the eventuality of EBHC; but I hesitated to describe EB-discourse as a scientific discourse, as it is far removed from the hard-science of the laboratory in which there is a tradition of sociological interest. What can be said is that EB-discourse involves an affective aspiration towards scientific ideals, not just on behalf of those who advocate EBHC, but on behalf of many of those who contribute to the discourse. It is in the realm of emotionality that EB-discourse is continuous both with other discourses in healthcare and policy, with discourses which are securely scientific, and with bureaucratic modern discourses generally. This indicates a possibility for sociologies of science-as-emotion.

Barbalet (2002) has written about science in terms of emotion. His focus is on the role of particular emotional patterns – relating to joy, commitment and competition, and 'moods of solidarity' (2002:144), for example – in scientific processes. Expanding this emotional understanding of science just slightly, science itself might usefully be typified not just as necessarily involving emotions, but as *being* an emotion (albeit a complex one). Those of us who have passed through scientific phases in our lives can perhaps consider those times in terms of being in the embodied experience of an emotion. This emotion might be resolved into combinations of other emotions, but is nonetheless a coherent and stable emotion in itself. In an

embodied way, one can feel science just as one can feel anger, happiness or regret. The emotional complex of science is ubiquitous in EB-discourse – it is among the principal emotional currents which drives it.

This typification of science as emotion can be taken more literally or more metaphorically; science is an emotion, or it is something like an emotion. Either way, the case of science can be a lens for splitting the dialogicality of rationality and emotion, for science is constructed out of the urge to rationality. As Barbalet (2002:132) also notes, science is commonly imagined to be formed from the exclusion of recognisable emotion. The propositional, disembodied and explicit parts of science we can think of as being rationality (even if rationality is an emotion); but its embodied and tacit parts we can think of as being emotional, and impossible to rationalise. Thus is the interdependence of rationality, embodiment and emotionality revealed. Science as emotion is condensed from the rational language in which it is constructed, and exists through embodiment, outside of linguistic thought.

8.3 Implications for Healthcare.

Power and the Patient.

My arguments around embodied practice and exclusion of testimony have a macro-social character which relates to broad social trends in the recognition of expertise and knowledge. Their effects might be perceived in micro-social interactions by clinicians; and insofar as they are perceived, they indicate whether EBHC has indeed changed the nature of health practices, for better or worse. Changes in ideology are real changes, even if their relation to embodied and material changes is opaque. My analysis has identified a problem in relation to the patient which operates at the micro-social level and has the potential to directly affect the experiences of particular people. The impact of this problem is not eased by spreading the load across disciplinary groups, but can fall heavily upon the individual recipient of healthcare. It amounts to an ethical issue which leads into an area of ongoing concern for health practice.

In EB-discourse the patient must be present at the beginning (as the site for evidence production) and at the end (as the target for practice). Throughout the discourse the patient is assumed simply to exist. Their potential influence upon the definition of evidence is ignored. Their

provenance and social construction is not subjected to scrutiny. Their passivity is not questioned. EB-discourse can be imagined as constructing a trap for the patient; it demands of them always to be a patient, required for the derivation of evidence and the performance of practice. But through the obliviation of testimony, it denies them the right to enter discourse through speech which is their own. In these ways the materiality of the power expressed in EB-discourse is given a point of acute focus. As researchers, clinicians and policy-makers, people might experience EB-discourse as ideological and productive. But from the viewpoint of the patient, EB-discourse is material (through embodiment) and repressive.

The two examples of this repressivity which I gave – both from first-person accounts of cancer – have the character of illustrations. They show that EB-discourse does in some cases have deleterious effects for illness sufferers because it makes their views impossible to acknowledge. Without these examples I would perhaps make my argument less assertively, but still I would make it. The absence of the patient from any active role in EB-discourse immediately raises ethical concerns: partly because sociologists know the patient-class to be connected in its production to social inequality; partly because of the dishonesty inherent to the act of hiding the patient as a generative source of knowledge; and partly because in practice, anyone can become a patient and find their testimony unheard. Consequently this argument around the patient in EB-discourse has something of a predictive character; the patient is silenced in ideology, and so sociologists should expect to find them silenced in body, as I have found.

Re-thinking Patienthood.

The role of the patient is sometimes acknowledged as problematic in EB-discourse; and where this problem has been called to account, it has been through the parallel discourse of patient-centred care. The argument I make, arrived at through theoretical interest in embodiment, is not a continuation of patient-centred care. The concern is not with giving the patient rights as-a-patient, or with telling the patient that it is proper for them to be active in their own institutional care. This would merely encourage the patient to speak as a patient, and so to consolidate their own identity-status as patient. The concern is to allow them to speak as a being. This means making a disconnection between the illness and the person experiencing it, a connection which is made through the body.

This disconnection makes space to question the category of patient, a category of which the non-questioning is largely the embodied basis for EB-discourse. The questioning of the category of patient carries the hope that collectively we can work towards the deconstruction of the patient in ways that would be experienced as productive rather than repressive. In this thesis I do not offer specific recommendations for working towards the liberation of people from patient-status, but I can identify some areas of possibility. First there is a need to recognise the social genesis of illness, rather than focus narrowly on reactive treatment. Healthcare should not be confined within the clinic, where special rules about evidence and practice are to apply. Nor should it be thought about as 'preventive', where people routinely take medicinal measures to counteract the specific risks of social life.

Healthcare should begin with the politics of social equality. Indeed, this is the concern with which epidemiology began, before it became clinical epidemiology and then EBM. Healthcare ought not just to treat the patient who is already sick, nor be preoccupied with how they *became* sick, as if their sickness were a matter of mere happenstance. It should ask how they were *made* sick. This conceptual move would make permeable the boundaries of the clinic, boundaries within which the person who finds themselves a patient may have no voice to speak. It requires an act of sociological imagination, and it allows people who pass through the clinic to give testimony not as accidental witnesses, but as equal and competent members of the social body. This means that at the level of clinical interaction, the constructed distinction between clinician and patient identities also requires attention.

The experienced construction of patienthood – particularly in bureaucratic healthcare – should be investigated by sociologists without commitments to institutional healthcare, rather than by those working in disciplines where the naturalised notion of patienthood is secure. Such study would not necessarily start with patients, but more likely with professionals. Greenfield and Findlay (2012) have already presented a study which found that doctors who fell ill found it difficult to play the social role of patient, preferring not to acknowledge their symptoms or to self-medicate. A situation where doctors cannot easily see themselves as patients is symptomatic of a powerful discourse built upon the tacit systematic subjugation of the patient. I have suggested that because of its unique proximity to practicalities of embodied knowledge and patient testimony, physiotherapy should be considered a crucial disciplinary case. Physiotherapists must work in continuity with patients, and in spite of EB-discourse, in a manner of which further study might be beneficial for working towards the more general validation of patient testimony.

8.4 Closing Comments.

Uniting Dialogue, Embodiment and Emotion.

As I have presented them, the three analytic strands of this thesis exist in a hierarchical relationship to each other. The dialogical principle of power comes first, and its character is one of generality. The principles of embodiment and emotion are instances of the dialogical principle which are specific to EB-discourse. They are both streams of dialogical power within the discourse, and they operate in dialogical relation to each other. In both cases there are dialogues-within-dialogues; and dialogical relationships between those sub-dialogues. There are also areas where the concepts merge. This is an indication of the common origin of embodiment and emotion in the realm outside of language. It suggests a further dialogical relation between linguistic and non-linguistic discourse. Sociologists should be cautious of this relation in its powerful consequences: the conviction that we can use language to make sense of the world, including its non-linguistic elements, is another manifestation of power.

In this respect the analyses of embodiment and emotion – because they reveal the mechanisms of power in specific dialogues – provide empirical support for the idea that power is dialogical by nature. The dialogues of power may change between contexts, but the necessity of dialogical mechanisms for power to operate does not. Regarding this argument, there is not so much need for caution. The argument is not that power is in some cases dialogical; that it is dialogical only in modernity, or only in bureaucracy, or only in global capitalist-industrial societies. The character of the argument is that power is always and everywhere dialogical – that the idea of power requires dialogical understandings if it is to be meaningful. It is both a theoretical and an empirical argument, and indeed one in which the theoretical and empirical aspects work together dialogically.

For sociology as a discipline the arguments within this thesis have implicit consequences. At present there is pressure in academia to demonstrate 'impact' – that research should feed quickly back into social life outside educational contexts. Methodologically, I employ academic discourse-analysis as a type of anthropology (and writing as ethnography) in a way which is counter-intuitive to the imperative for involvement with non-academic life. I portray the sociologist not as someone involved in the immediacy of social proceedings at the expense of understanding, as sociologists of EBHC have generally been. Instead I see the sociologist as an outsider prepared to exercise a critical conscience. This leads to a sociology where understanding precedes impact. (In the case of the patient, theoretical understanding leads very

quickly to a suggestion for practical change.) As sociologists, I hope that if we pursue proper understanding, we can have ambitions to achieve impact which goes further than those who customarily use the term would have us aspire to.

Appendix.

Three philosophical arguments concerning EBHC.

A.1 The co-existence of philosophies in EBHC and EB-discourse.

Consider the issue of objectivity in evidence-based healthcare (EBHC). EBHC can be understood, to begin with, as an attempt to correct an existing, errant body of practices and knowledges in accordance with an objective standard. The redemption promised by advocates of EBHC can be presented as unassailable in its objectivity, and it is this supposed objectivity which critics frequently position themselves against. Thorne (2009), for example, defending knowledge-diversity in nursing practice, re-states the potential for objective scientific knowledge to show that clinical wisdom is untrustworthy:

> '. . the human mind can most certainly be misled. (…) [EBP] asks us to consider that which can be known objectively as a prompt for practice.'
>
> Thorne 2009:574.

McNutt and Livingston (2010), doctors writing in *JAMA*, mount a critique of meta-analysis specifically on the basis that the quest for objectivity is misguided. For them, knowledge must be contextually-located to count as truth, and the yardstick for evidence ought not to be whether it is objective, but whether it is clinically helpful. They affirm the 'need for judgement where certainty is impossible' (ibid:455). Those who relinquish the claim to objectivity can make recourse to other sources of legitimacy, which for McNutt and Livingston (2010) are pragmatic[1].

Not all detractors from EBHC give up so easily on objectivity. Holmes et al (2006), writing from a postmodern perspective in nursing, give a scathing critique of EBP as 'microfascism', but their advocacy of the deconstructive method rests on the argument that a sceptical approach constitutes objectively better science. Critiques of EBHC are generally to the effect that EBHC, in its supposed objectivity, is flawed not subjectively but objectively. If it could be shown in the first place that EBHC did itself rest upon a claim to objectivity, then maybe these types of arguments could be sustained. Paying attention to the detail of early advocacies of evidence-based medicine (EBM) though, shows that the problem of objectivity is not a firm bedrock for

[1] An earlier discussion of objectivity in EBM was between Gupta (2003) and Couto (2003)

this philosophical analysis. Consider once again the view of Davidoff et al (1995), proponents of EBM, who explain themselves as follows:

> 'In earlier eras limitations in our understanding of human biology and the absence of powerful research methods meant that major advances were published far less commonly than now. Consequently, clinicians' failure to keep up did not harm patients.'
>
> Davidoff et al 1995:1085

Davidoff et al's explanation makes a passing foundational-objectivist reference to human biology; but the line of reasoning followed is based on social institutions: advancing research methods, profuse publishing, and a failure by clinicians to keep pace with *social* progress. The harm done to patients is not absolute, but relative; a consequence of changing conventions and expectations. This becomes gradually clearer:

> 'Most doctors lack the time or skill to track down and evaluate evidence. (…) Consequently there is a widening chasm between what we ought to do and what we actually do. [EBM can] halt the progressive deterioration in clinical performance that is otherwise routine.'
>
> Ibid.

The danger here is not presented in terms of objective rights and wrongs, but in terms of an expectation for change which creates a *chasm*. What 'ought to be done' is constantly changing; clinical performance deteriorates not by getting worse, but by staying the same.

Although they do not comment upon it, Davidoff et al (1995) suggest a conventionalist or relativist, at any rate non-objectivist, justification for EBM. Similarly, the EBMWG (1992) had laid claim to the Kuhnian status of 'paradigm shift' for EBM. As Laudan (1990) points out, Kuhn's theory of paradigm shifts has clear implications of relativism. For this to be significant, it is unimportant that the initial presentation of EBM as a paradigm shift was subsequently criticised. The significant thing is that EBM-advocates laid claim to a relativistic philosophy in an attempt, however rhetorical, to influence perceptions of EBM. This shows that advocates of EBM need not be committed to objectivism as a basis for EBM. They might have other, non-objectivist philosophical commitments which can be explicated; or they might have grounds for advocacy which are not properly philosophical in character.

Moving on from objectivism then: an empiricist philosophical position often introduced in terms of a contrast with positivism (Sayer 1999), and relevant to the problems of EBHC, is Critical Realism. Critical realism is of relevance because of the exclusion in EBM of 'pathophysiologic rationale', or explanatory causal mechanisms, from Evidence. Intended perhaps to guard against the implementation of harmful drug treatments which have not been scrupulously tested[2], this aspect of EBM has drawn critical comment (see eg. Tonelli 1998, 2006). A parallel can be noted between these complaints and critical realist complaints about positivism. In critical realism the necessity of invoking real causal mechanisms as a path to explanation is insisted upon. Such mechanisms are not directly observable, and so are classed, under strict positivism, as nonsense. A look at the reasoning underlying the randomised-controlled trial (RCT), the totemic research method of EBM, allows the relevance of this problem to be made clear[3].

Imagine an RCT in which population Z with problem Y is divided randomly into two halves, to which interventions A or B are blindly administered. Observation of the difference in change between the two groups enables a causal influence to be attributed, or not, to intervention A compared to intervention B. The EBM-advocate, eschewing pathophysiologic rationale, cannot advance an account of the mechanism by which A is effective, but at the same time they must use a concept of causation if they are to claim that the trial has the capacity to generate meaning. This replicates the realist critique of positivism: that it relies tacitly upon causal principles which are explicitly renounced in its doctrine. The EBM-advocate must simultaneously follow positivist (causation-denying) and realist (causation-invoking) epistemological schemes. In strictly-philosophical terms these schemes are mutually incompatible (see Keat and Urry 1975:27), leaving the EBM-advocate in need of a new philosophical model. Alternatively, they might decide not to worry too much about philosophy, and maintain faith in the RCT for pragmatic and political reasons.

In writing on EBHC, the exclusion of pathophysiologic rationale is not usually elaborated in such a way as would bring this philosophical difficulty to light. It is sometimes noted, however, that EBM-advocates are reliant on causal suppositions in order to decide which interventions to test by RCT. This predicament has led to some elaborate sarcasm, for example from Smith and Pell (2003:1459-61), who present a systematic review of RCTs on 'parachute use to prevent death and major trauma related to gravitational challenge'. While also poking fun at the

[2] the classic example being thalidomide (McBride 1961).
[3] Oakley (1998) gives a sociological history of the RCT. For a medical perspective see Deveraux and Yusuf (2003).

'medicalisation of free fall' and the demonisation of the 'parachute industry', the sharp end of their humour is offered to protagonists of EBM, who are invited to follow their principles to logical conclusion, and participate in a randomised trial of parachute use. Such mean-spirited banter reflects the carnivalesque character of medical EB-discourse; but the earnest philosophical point of interest is the difficulty of constructing an after-the-fact philosophical account of EBHC which is both coherent and a faithful reflection of the controversy.

I have identified two philosophical contradictions in EB-discourse. EBHC seems to be both objectivist and relativist; and it seems to be both positivist and realist[4]. From a viewpoint situated inside the discourse, concerned either to defend or attack EBHC, this matters; it feels as though some way must be found to unify the theory of EBHC, or else concede that it is fatally flawed. From an outsider's viewpoint though, the significance of these difficulties is different; they demonstrate that EBHC does not require philosophical unity in order for EB-discourse to be powerful. It is likely that multiple philosophies are necessary to make the discourse 'work'. But it is also interesting that writers within the discourse would present philosophical discussion as if it did have the potential to settle disputes over EBHC. A sociology of EB-discourse should be able to make sense of the purpose served by philosophy in the maintenance of the discourse. I now present two more case-studies in the philosophy of EBHC. The first I call the Hermeneutic Programme, the second I call the Evidence Paradox.

A.2 The Hermeneutic Programme.

In writing on EBHC, hermeneutics has been mentioned as a way of dissociating ideas from evidence-basedness. For example, physiotherapist-writers Gibson and Martin (2003:351) use the term in opposition to 'mathematical' evidence, and nurses McKenna et al (2004:372) use it in conjunction with 'phenomenology' to characterise health research conducted at the qualitative end of the method spectrum. Upshur et al (2001:93) use 'hermeneutic dimensions' to connect to a 'concern with the interpretation of meaning rather than quantities or properties of objects', as if quantities and properties of objects are not themselves concerned with meaning. Upshur (2005:480), written in a period when he was becoming more openly critical of EBM,

[4] I could also have used falsificationism for a philosophical case study, referencing Shahar (1997) among others. While this could link to the politics of fallibility (see Goodman 2002), i see it as a philosophically trivial point given the practical ambitions of EBHC, which are ultimately not to undermine practice but to support it.

cites the hermeneutics of Gadamer in support of an argument that EBM excludes by definition considerations of patients' perspectives.

To make such connections as these is understandable; hermeneutics has come to be used as a catch-all term for philosophies which are imagined to be obscure and non-scientific[5]. What these authors, and most authors in EB-discourse have not acknowledged, is a more fundamental way in which EBHC is conservatively and obviously hermeneutic. Hermeneutics as the study of texts has its historical origins in the interpretation of biblical scripture (see Thiselton 2009). Although references to the religious zealotry of EBHC are common in the discourse, (hence Greenhalgh's (2006:xiii) request not to be seen 'as an evangelist for the gospel according to EBM') this is not the sense in which I appropriate the term. EBHC is hermeneutic simply because it is concerned with knowledge transmission through the act of reading.

Greenhalgh's popular textbook on critical appraisal, 'how to read a paper' (1996 and later editions) is exemplary of this hermeneutic initiative. It is a treatise on the act of reading for clinical practice, and a manifesto for the discipline of reading a particular type of literature (health-research reports). It is presented in a way which, in Foucauldian language, governs productively; clinicians are empowered in their subjectivities, one might say, by learning to read the language of research. They are incited to want to read and think in an evidence-based way. This incitement concurs with a prototypical form of the hermeneutic programme in early advocacy of EBM, which is seen in Rosenberg and Donald's (1995) prescriptive guide to literature searching and appraisal.

Using an example of a 77 year-old patient with impaired ventricular function, Rosenberg and Donald describe a process of literature searching, in which important supporting actors are computer technologies and librarians; appraisal, in which the individual clinician takes centre-stage as a critical reader; and implementation, in which the clinician returns to the social frame and, by demonstrating to colleagues their hermeneutic skill, institutes a clinical action[6]. The clinician is imagined as a reader; not a reader of bodies, or patients, or clinical scenarios (cf. Leder 1990a), but a reader of literature. Their hermeneutic work takes place not at the bedside with the stethoscope, but in the library with the database. Further, the path from library to

[5] Kusch (2002:5) notes with disappointment that some philosophers have associated hermeneutics with 'sloppy thinking', and chooses an alternative terminology as a result.

[6] The political nature of Rosenberg and Donald's (1995) hermeneutic vision is clear. They conclude by contemplating the consequences of EBM for the hierarchical dynamics of medicine: 'some will rue the day when a junior member of the team, by conducting a search and critical appraisal, has as much authority and respect as the team's most senior member.' 1995:1125.

clinic is unproblematic. The clinical act is an act of heroic exegesis – 'sticking to the letter of hallowed texts'[7].

As an ideal based around texts as vectors for knowledge and determinants of action, the epistemological properties of EBHC are basically hermeneutic. Mykhalovskiy (2003) draws attention to texts as the fundamental technology of EBM, and the act of reading as its central practice: it is a 'technology of applied reading' (2003:341) which 'centers (sic) on and is enabled by texts' (2003:332), and can achieve 'immanent normalisation' by 'hooking readers into a common system of representation' (2003:338). Reading becomes a process of 'rehabilitation' (2003:341) for doctors, and their reading practices constituted as 'an object for intervention' (2003:343). In this ontological inversion, the doctor has become a patient, rather than the heroic figure imagined by Rosenberg and Donald (1995); but still a patient who sees themselves as ill and desires health.

The hermeneutic programme brings with it a demand for skilled writers as well as readers. The emergence of a new figure, the medical science ghost-writer, reflects this. As writing mercenaries, science ghost writers have caused anxiety among medical researchers (see Bodenheimer 2000, DeAngelis and Fontanarosa 2008) which has begun to attract sociological attention (Lynch 2004). The secretive nature of this emerging form of hermeneutic expertise suggests something concealed, perhaps shameful. The ease with which a principle of hermeneutics can be applied to EBHC causes philosophical and political trouble if EBHC is held to depend upon principles incompatible with the hermeneutic tradition; foundationalism, naturalism and empiricism. If EBHC is hermeneutically based on social-conventional acts of reading, it is more difficult to think of it as natural-scientific, an idea central to the rhetoric of EB-advocacy.

A.3 The Evidence Paradox.

Alongside the mainstream philosophies just discussed, EBHC can be philosophised in terms of lesser-known philosophical problems. In particular, there is a problem with providing evidence-for-Evidence which can be assessed with reference to Harry Collins' concept of 'experimenter's regress' (Collins 1992). The experimenter's regress encapsulates the circular relation between

[7] These are the words of Zygmunt Bauman in Bauman and Tester (2001:23), from a passage which links into the emotions associated with reading.

empirical procedures and scientific outcomes[8]. In one of Collins' exemplars, the existence (or non-existence) of gravitational (G) waves is shown to coincide with the validation of apparatus and statistical techniques used to attempt their detection (Collins 1998). This means that one cannot know whether G-waves exist until one has (or has not) detected them; but one cannot know whether one's means of detecting G-waves is reliable, except by first knowing the correct result (whether or not G-waves exist). This crisis can be resolved only through the influence of secondary factors; theories as to whether G-waves 'should' exist, or other reasons to trust the means of detection.

Collins' interest is in the role of social-political factors in deciding the outcomes of such scientific controversies. The experimenter's regress can be rephrased in such a way as to make clear its relevance to EBHC. In empirical science, experimenters are not normally required to provide a general justification for empirical method. (There are special cases where experimental method and scientific outcome are instituted together, for example Louis Pasteur's successful demonstration of vaccination techniques (see Latour 1983)). For the most part, scientists work within a culture of experimentation without being asked to justify it in general terms. But if the experimental method is called to account, it must be justified by means other than the experimental method.

No experiment can be done which itself demonstrates the legitimacy of experiments, because this would set up a circularity of reasoning. Other reasons – philosophical, political or theological ones, perhaps – must be given in support of the conviction that experiments yield knowledge. In EB-discourse, the issue of evidence for Evidence is discussed. EBHC is, evidently, an unusual case in which justification is required; but on pain of circularity, Evidence-Based methods cannot be advanced in their own defence. This difficulty has gone unnoticed in the literature on EBHC. EBHC-advocates from EBMWG (1992) onwards (eg. Djulbegovic et al 2000, Grol and Wensing 2004, Jensen et al 2005, Schreiber and Stern 2005) have lamented the absence of comparative trials which would support their cause. Critics, conversely, seize upon this absence to claim that EBHC is inconsistent, and a failure to itself (Charlton 1997, Goodman 1999, French 2002, Arndt and Bigelow 2009).

Consider Norman (1999) who presents a critique of EBM which itself takes an evidence-based approach. He summarises his argument as follows:

[8] It is related to Mary Hesse's (1980) work on the theory-laden nature of observation.

> 'It seems reasonable that practitioners who keep up to date are going to deliver better care. Do we need the burden of numerical proof to support such a self-evidently correct assumption? The answer is, of course, 'Yes'. EBM, if it has done nothing else, has made us wary of accepting unsubstantiated claims of efficacy, regardless of how plausible they may appear. Regrettably, the claims of EBM fall into the same category.'
>
> Norman 1999:144.

The 'of course' in this passage, as usual, is significant. It signals a problem of which authors are conscious at some level, but which is silenced. By the logic explained above, an Evidence-Based argument could not be used to support Evidence-Basedness, even if it were possible to produce appropriate data for it. Norman's (1999) argument against EBM is based on an EBM ideal. It is an acceptance of EBM in order to reject it.

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