Ethics Governance, Modernity and Human Beings' Capacity to Reflect and Decide

A Genealogy of Medical Research Ethics in the UK and Singapore

A thesis submitted for the degree of Doctor in Philosophy

David Reubi
Department of Sociology
London School of Economics and Political Science

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ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

Declaration

I certify that the thesis I have presented for examination for the degree of Doctor of Philosophy of the London School of Economics and Political Science is solely my own work other than where I have clearly indicated that it is the work of others.

Abstract

This PhD thesis explores how bioethics has reconfigured the way we think about, discuss and govern the scientific and medical use of the human body in the UK and Singapore. The thesis starts by analysing the language, knowledge, institutions and mechanisms that allowed people to render intelligible and organise the medical use of the human body before the emergence of bioethics. Then, drawing on the work of Michel Foucault, Ian Hacking and Nikolas Rose, the thesis examines and compares the conceptual, material and political conditions that made it possible, in both the UK and Singapore, to identify the medical use of human tissue as a 'problem of ethics' needing to be assessed and regulated. The thesis furthermore discusses a key component of bioethics – the procedure of informed consent – and analyzes how its use is reconfiguring subjectivities and contemporary notions of citizenship in both countries.

On the basis of a systematic content analysis of key bioethics' journals from 1960 to the present and over twenty in-depth interviews with key experts in the field, the thesis makes two important findings. First, it explains how, in the UK, bioethical governance was developed to protect human beings from the dangers of modern science, while in Singapore it was introduced as part of the country's drive to be a modern and developed nation. Second, it argues that bioethical governance has brought into being, through its language, categories, procedures and experts, a new figure of the subject and citizen: the human being capable of reflecting and deciding on his or her own existence. These findings make an original contribution to (1) the sociological study of bioethics and the bioethical governance of the life sciences and (2) the literature on govern-mentality.

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Table of Content

Chapter 1 7
Introduction 7
Organisation of the Thesis 9
Chapter 2 13
A Genealogy of Bioethical Governance 13
Genealogies of Governmental Logics: Problems, Rationalities and Technologies 14
Modes of Subjectification, Technologies of the Self and Citizenship Projects 19
Sociologies of Bioethics 23
Sociology of (Scientific) Governance 23
Sociology of the Biomedical Sciences 25
Sociology of the (Biomedical) Economy 28
Locating the Thesis in Relation to this Literature 30
Contemporary Ethical Logics of Government and their Globalisation 31
Methodological Considerations 35
Constructing a Relevant Corpus of Materials for Analysis 35
Why Contrast the United Kingdom and Singapore? 40
Conclusion 43
Chapter 3 46
Southwood Smith, Bentham and Titmuss: Governing the Medical Use of the Human Body Before Bioethical Governance 46
Modern Anatomical Rule 49
'Scanty' Supplies & the 'Happiness of the Living' 54
Of Inspection, Secrecy & the Poor – Bentham's 'Body Providing Bill' 58
Haemato-Social Rule 62
Of Shortages and Social Progress 66
Gifts, Community Donors & Propaganda 71
Singapore 75
The Absence of Modern Anatomical Governance 76
Haemato-Social Governance & Modernisation 77
Conclusion 81
Chapter 4 85
'A Problem of Ethics' – the Dangers of Modern Medicine and the Will to Protect Human Beings 85
Bioethical Governance in the United Kingdom Today 86
The Dangers of Modern Medicine, the Will to Protect Humans & the 'New' Medical Ethics 90
The 'New' Medical Ethics 92
A Critique of Modernity – Science & Medicine as Dangers 96
The Will to Protect Human Beings 100
Ethical Expertise – the Bioethics Committee 103
'Ethical Codes' 106
Ethical Technologies 109
The 'Scientific and Medical Use of Human Tissue' as a 'Problem of Ethics' 111
'Human Tissue' as an 'Ethical Issue' 112
The Will to Respect the Human Body 115
Conclusion 120
Chapter 5 123
'A Question of Reputation' – Ethics Governance and the Will to Modernise 123
Bioethical Governance in Singapore Today 124
The Will to Modernise – Singapore's Unremitting Desire to Progress 127

Modernisation as Economical Development 129
Government as Planner and Mobiliser 130
Developing the Population 132
Infrastructure 133
Survival 134
After the 1960s 136
Biomedical Research as the Path to Modernity 138
Biomedical Research as an Engine of Growth 140
Hewers of Wood & Drawers of Water 143
Government as Planner and Mobiliser of Biomedical Research 144
Education 146
The Technology Corridor & Biopolis 147
Soft Infrastructure 149
Ethics Governance: a Necessary Component of a Modern Singapore 150
Developing Ethics Governance in Singapore 151
The Absence of Modern Medical Ethics in Singapore until the 1990s 153
Ethics Governance as 'Soft Infrastructure' 157
Ethics Governance as Mechanism to Produce International Credibility 158
Importing Bioethical Governance from the West 161
Conclusion 164
Chapter 6 166
A Human Being Graced with a Capacity to Reflect and Decide – Devising a New Figure of the Citizen 166
Informed Consent and its Importance within Bioethical Governance 168
The Human Capacity to Reflect and Decide 173
'A Being Able to Think, Act and Communicate' 174
'Adults, Children and the Mentally Incapacitated' 178
'Doctors Must Abandon Paternalistic Attitudes' 181
'A Process of Communication' 185
Of Content and Quantity 186
'There is No Right to Remain in Ignorance' 187
Asking Questions, Listening & Showing Sensitivity 192
Of Quality 197
Time & Space to Think 202
Conclusion 209
Chapter 7 212
Conclusion 212

Chapter 1
Introduction

This thesis suggests that, over the last twenty years, a new logic of government or style of thinking has progressively reconfigured the way the scientific and medical use of the human body and parts thereof is problematised and administered. It terms this new mentality of rule: 'ethics governance' or 'bioethical governance.'[1]

Among the different concepts, expertise, problems, institutional forms and procedures that compose ethics governance, three elements are particularly characteristic of this new style of thought. The first is the belief that the collection and use of the human body in medical research are fraught with potential dangers for the lives and dignity of human beings. According to this logic of government, these dangers constitute 'ethical issues' that should be solved by re-organising the collection and use of the human body in biomedical research in ways that are respectful and protective of human beings. The second element characteristic of this new style of thought is the bioethical committee. Staffed with experts from philosophy, law, theology, social science and medicine, these committees are mandated to identify, analyse and recommend solutions to the ethical issues that the scientific and medical use of human tissue are thought to generate. The third element characteristic of bioethical logic is the notion of 'ethical framework:' an assemblage of ethical codes, practical instructions and guidance, formal procedures and monitoring institutions that aims to put in place a way to collect and use the human body for medical research that respects and protects human beings, their lives and their dignity.

This new way of thinking and governing the collection and use of the human body in medical research has become increasingly widespread and influential of late. This style of thought was initially developed in scholarly texts written by experts on bioethics working for research centres at universities, in official reports published by national ethics commissions and at

[1] This thesis uses the terms government and governance interchangeably to refer to an assemblage of rationalities, institutions and technologies. It does not subscribe to the distinction drawn by some authors between government as a form of rule characterised by a single source of power, hierarchy and command and governance as a form of rule characterised by a multiplicity of sources of power, partnerships and dialogue (e.g. Rosenau, J.N. and E.-O. Czempiel, *Governance without Government*, Cambridge: Cambridge University Press, 1992; Rhodes, R.A.W., *Understanding Governance*, Milton Keynes: Open University Press, 1997).

conferences organised by organisations promoting bioethics such as the International Association of Bioethics. Today, ethics governance can be found at work in a much larger number of documents, institutions and procedures: declarations and reports published by international organisations like UNESCO, the WHO or the OECD; ethical guidelines adopted by funding agencies and professional medical associations; corporate social responsibility programmes developed by pharmaceutical companies; formal procedures and research ethics committees put in place by laboratories and tissues banks in universities and hospitals; and information leaflets produced and distributed by patients advocacy groups. At the same time, the influence of ethics governance has also expanded geographically. Initially developed in North America and Europe, it has since been adopted in an ever increasing number of countries, most notably in South America and Asia (cf. Morioka 1995; Diniz, Guilhem et al. 1999; Fox and Swazey 2008:Chapter 8).

Taking a genealogical approach (Foucault 1991a; Foucault 2004a; Foucault 2004b), this thesis explores the transformations in the ways we think about, problematise and organise the medical use of the human body brought about by the emergence of bioethical governance. First, it locates and charts the development of the rationalities and practices that make the identification of the collection and use of the human body as an ethical issue possible today. Second, the thesis analyses how the new ways of thinking and governing that make up ethics governance have reconfigured the way we understand ourselves as subjects and citizens. To explore these two questions, the thesis focuses on both the United Kingdom, one of the countries in the West where ethics governance was first developed, and Singapore, an Asian country and former British colony where bioethical logic was only recently introduced. It first compares the conceptual, material and political conditions that make it possible for ethics governance to emerge and exist in the two countries. It then examines how a key component of ethics governance – the procedure of informed consent – has transformed contemporary subjectivities and notions of citizenship in both the UK and Singapore.

The thesis hopes to make an original contribution to two different bodies of literature. The first one is the sociology of bioethics and the ethical governance of the biomedical sciences (e.g. Hoffmaster 2001a; Corrigan 2003; Jasanoff 2005; Waldby and Mitchell 2006; Salter 2007; Sunder Rajan 2007). Although the thesis shares the same thematic interest in the ethical regulation of the biomedical sciences as the sociology of bioethics, it takes a markedly different approach to the topic. The sociology of bioethics is primarily concerned with highlighting the 'failures' of bioethical governance (e.g.: its 'bureaucratisation;' its incapacity to account for the 'socio-cultural context;' its complicity with the 'medico-industrial complex') and deploring the

shortcomings of its understanding of the subject (e.g.: too Western; too abstract; too individualistic). In contrast, this thesis aims to locate the rationalities and practices that make ethics governance possible in the first place and aims to determine the concept of the subject brought into being by ethics governance.

The second body of work to which this thesis aims to contribute is the literature on governmentality (e.g. Burchell, Gordon et al. 1991; Barry, Osborne et al. 1996; Dean 1999; Rose 1999a; Foucault 2004a; Foucault 2004b; Miller and Rose 2008). In this case, the thesis and governmentality studies share the same conceptual approach (genealogy) but apply it to a different empirical field. The literature on governmentality has primarily used the genealogical approach to examine the way liberalism and neo-liberalism have reconfigured modern mentalities of rule. In contrast, this thesis uses the same approach to explore how one particular contemporary language of virtue – bioethics – has transformed the way we govern today. In doing so, it contributes to a burgeoning literature which has sought to apply a genealogical approach to the modern ethical discourses – the ethics of war; environmental ethics; corporate ethics; bioethics; etc. – that seek to infuse human activities like war, trade or science with a renewed sense of morality (e.g. Osborne 2003; Barry 2004; Power 2007).

Organisation of the Thesis

Chapter 2 introduces the reader to the theoretical concepts used in the thesis, situates the thesis in relation to two bodies of literature to which it aims to contribute and offers an overview of the methodology pursued. It starts by discussing a series of key theoretical concepts that figure prominently in the thesis and which are drawn from the work of Michel Foucault in particular. These concepts include: genealogy, problematisation, rationalities, technologies, govern-mentalities, modes of subjectification and citizenship projects. The chapter then locates the thesis in relation to sociological and anthropological studies of the ethical governance of the life sciences, explaining how the thesis relates to these two bodies of work. Finally, the chapter discusses some methodological considerations, most notably the research methods used to access and reconstruct the ways of thinking and acting that make up bioethical governance and the reasons for choosing to contrast the United Kingdom and Singapore.

Chapter 3 does *not* address ethics governance itself. Instead, it explores the rationalities, institutions and procedures that allowed people to problematise and administer the collection

and use of the medical body in research before the emergence of ethics governance in the 1990s. More specifically, it examines the logics that dominated the ways of governing the movement of the human body in the nineteenth and twentieth centuries. Given that the most influential logics at the time were developed in the UK rather than in Singapore and given the paucity of the historical scholarship on this issue in Singapore, the chapter focuses essentially on the UK. It argues that, during this two hundred year period, there were two principal logics of rule that dominated, in succession, the way of problematising and administering the medical use of the human body. The chapter then describes the knowledge, institutional forms and forms of subjectivities that made up each of these two mentalities of rule which it terms 'modern anatomical' and 'haemato-social governance' respectively. This description offers an interesting contrast to bioethical governance and provides an overview of the context in which the rationalities and practices that make up ethics governance were progressively assembled.

Chapter 4 examines the conceptual, material and political conditions that make the emergence and existence of ethics governance possible in the United Kingdom. Having demonstrated the prevalence and the main characteristics of bioethical governance in the UK in the last ten years, the chapter goes on to argue that the new way of problematising and administering the medical use of the body that is characteristic of ethics governance is the product of a will to respect and protect human beings from the dangers of modern medicine. This will, it further argues, is a style of thinking that emerged from modern medical ethics (or bioethics) and became increasingly influential in the UK from the 1960s onwards. After providing an overview of the emergence and rise of bioethics to pre-eminence between 1960 and 1990, the chapter describes each of the five main elements of this style of thinking: (1) the belief that modern medicine was dangerous; (2) the desire to protect and respect human beings; (3) the bioethical committee; (4) ethical codes; and (5) ethical technologies. The chapter then demonstrates how it was this style of thinking that made it possible to identify the medical use of the human body and parts thereof as an ethical issue requiring an ethical framework.

Chapter 5 examines the conceptual, material and political conditions that make the importation and adoption of ethics governance possible in Singapore. Having demonstrated the prevalence of bioethical governance in Singapore today, the chapter goes on to argue that despite the striking similarities between the British and Singaporean versions of bioethical governance, their conditions of possibility are thoroughly different. Indeed, the will to respect and protect human beings against the dangers of modern medicine that made the emergence of ethics governance possible in the UK did not play any significant role in Singapore until the turn of the century. Moreover, as the chapter also points out, modern medical ethics was virtually

unheard of in the South-East Asian Republic until well into the 1990s. The chapter argues that, in contrast to the UK where ethics governance was the product of a will to respect human beings, the development of ethics governance in Singapore was the result of a relentless will to modernise the country that has characterised the thinking of the Singaporean leadership ever since independence in 1959. To demonstrate this, the chapter first describes the different element that make up this style of thinking, notably the economically determined notion of modernisation and the concept of industrial infrastructure. It then shows how this same will to modernise has informed Singapore's attempt to turn the Republic into a world-class hub for the biomedical sciences from 1985 onwards. It notably shows how the biomedical sciences have become conceptualised as an engine of economic growth and how the meaning of infrastructure was transformed to support a knowledge-based economy rather than an industrialised one. Finally, the chapter explains how ethics governance was developed as part of Singapore's 'soft infrastructure' that would ensure that Singapore's biomedical research base had a 'good reputation' across the globe and in particular among foreign multinational pharmaceutical companies.

Chapter 6 explores the ways in which the different rationalities and practices that make up ethics governance reconfigure modern subjectivities and forms of citizenship. To do so, the chapter focuses on a key element of bioethical governance: the principle of informed consent and the numerous strategies, procedures and ethical technologies devised to operationalise it. It argues that informed consent is articulated around a particular figure of the subject whose reality it both presupposes and helps to construct: the human being capable of reflecting on and deciding about his or her own existence and body. To substantiate this argument, the chapter examines, first of all, the way the literature on informed consent portrays the human being as 'a person' who is 'able to think, act and communicate.' It describes how these texts conceptualise this person and his or her particular capacity: its different dimensions; its development and possible loss; and the methods to assess its presence or absence. Second, this chapter examines how these same texts portray informed consent as a mean to transform the doctor-patient relationship so as to enable the 'patient as person' to think and act about his or her health and body. It shows, in particular, how the literature on informed consent seeks to eliminate the paternalistic ethos around which this relationship was articulated and which negated the patient as person. It also shows how this literature aims to rebuild the rapport between doctor and patient as a 'process of communication' where the patient is given time, space and resources to think and decide. Given that, as demonstrated in chapter 5, the UK and Singaporean versions of ethics governance are very similar, this chapter explores the impact of informed consent on modes of being in the UK and Singapore at the same time, drawing its

examples from the two countries. Where there are marked and relevant differences, these are noted and explained.

Chapter 2
A Genealogy of Bioethical Governance

Approaching the field of bioethics and the ethical governance of the life sciences with the view of writing its 'history of the present' or 'genealogy' has to be distinguished from other approaches which are dominant within the sociological and anthropological literature analysing this topic. A genealogical approach has, in particular, to be distinguished from approaches which either seek to demonstrate the 'shortcomings' and 'alienating nature' of bioethics or, conversely, purport to praise its 'realisations' and 'advantages.' Instead of taking such approaches, this thesis explores the conditions that made it possible, from the late 1980s onwards, to think about and organize the scientific and medical use of the human body according to the logic of ethics governance. In other words, this thesis traces the genealogy of the rationalities and practices that allow us to see, today, the use of human body parts in medical research as an 'ethical problem' that needs to be assessed and regulated in order to protect human beings. Furthermore, this thesis examines how these different rationalities and practices reconfigure the way we understand ourselves as subjects and citizens. Put differently, it analyses how the ways of thinking and acting that make up bioethical governance are overflowing into and transforming our modes of being.

To write a genealogy of the way we think about and regulate the medical use of the human body today is of course to build on an important literature which has sought, following Foucault, to analyse how particular issues like crime, prostitution, families, illness, cities, development, citizenship, or the self have been comprehended, problematised and governed (e.g. Foucault 1973; Foucault 1977a; Collini 1979; Donzelot 1980; Rabinow 1989; Corbin 1990; Escobar 1994; Rose 1999b; Isin 2002). This is an approach which, through the use of analytical concepts like 'problematisation,' 'forms of rationalities,' 'technologies of government' and 'modes of subjectification,' attempts to show the singularity and contingency of the present in order to lay open both its limitations and possibilities (cf. Dean 1994; Rabinow 1996; Dean 1999; Rose 1999a; Hacking 2002; Lemke 2002; Rabinow and Rose 2003; Miller and Rose 2008). This chapter discusses some of these analytical concepts developed by this literature and explains how I have used them to examine both: the transformations in how the circulation of the human body for medical research is understood and organised; and, the ways in which these transformations have reconfigured contemporary notions of subjects and citizenship.

This chapter also situates this thesis' particular approach to the field of ethics governance in relation to both the sociological and anthropological literature on the ethical governance of the life sciences (e.g. DeVries and Subedi 1998; Elliott 1999; Jasanoff 2005; Salter and Salter 2005; Petryna 2006; Waldby and Mitchell 2006; Sunder Rajan 2007) and the literature on 'governmentality' (e.g. Burchell, Gordon et al. 1991; Barry, Osborne et al. 1996; Dean 1999; Rose 1999a; Foucault 2004a; Foucault 2004b; Miller and Rose 2008). In relation to the first body of work, this thesis offers a fresh perspective on the development, globalisation and functioning of the rationalities and practices that make up ethics governance. It does so by emphasising contingency in the emergence and dissemination of bioethics and by stressing bioethics' productive force in shaping subjectivities and citizenship. Beyond its original contribution to the sociological study of bioethics, the thesis also deploys the analytics developed by the literature on governmentality in a new field of research. Indeed, instead of contributing to the genealogy of liberalism written by governmentality studies, this thesis participates in the burgeoning analysis of how contemporary ethical discourses, from the ethics of war to corporate and environmental ethics, have reconfigured the administration of economic, social and personal life across the globe (e.g. Osborne 2003; Barry 2004; Guilhot 2005; Power 2007). In that respect, a genealogy of bioethical governance is an attempt to increase our understanding of these new 'languages of virtue' that are articulated around the figure of the human being.

Finally, this chapter sets out the methodology that has enabled me to access and reconstruct the ways of thinking and acting that make up bioethical governance and their development in both the United Kingdom and Singapore. Firstly, this chapter explains how, following Bruno Latour's (1988:9-12) 'Method for Composing Our World,' I accessed and mapped the *dispositif* of ethics governance through, notably, a systematic content analysis of four of the field's key journals from 1960 to the present and over twenty in-depth interviews with key experts in bioethics (lawyers, bio-ethicists, doctors, etc.). Secondly, the chapter also clarifies the reasons for choosing to compare and contrast the United Kingdom and Singapore.

Genealogies of Governmental Logics: Problems, Rationalities and Technologies

As stated, this thesis is a genealogy of the rationalities and practices that make up ethics governance. As such, it explores the transformations in the ways we think about, problematise and govern the scientific and medical use of the human body which have taken place over the

last 20 years and charts the conceptual, material and political conditions that have made such transformations possible. It seeks, in other words, to locate the rationalities and practices that make it possible to identify the medical use of the human body as a 'problem of ethics' (Nuffield Council on Bioethics 1995:v) that has to be examined and regulated. It also attempts to trace how these rationalities and practices were progressively developed as well as the ways in which they were assembled in a complex bioethical assemblage and disseminated in different locations. As already explained, to approach the field of bioethical governance of the life sciences in these terms is to build on the research ethos and analytics developed by Foucault and others when analysing how particular forms of rationalities (e.g.: criminology; psychiatry; sociology; neo-liberal theories; development studies) make it possible to think, problematise and govern particular issues (e.g.: crime; the self; families; government; the third world) in particular ways at a given time and place (e.g.: Foucault 1972; Foucault 1973; Foucault 1977a; Foucault 1977b; Donzelot 1980; Rabinow 1989; Corbin 1990; Burchell, Gordon et al. 1991; Foucault 1991a; Escobar 1994; Barry, Osborne et al. 1996; Rose 1999b; Isin 2002; Joyce 2003; Larner and Walters 2004; Foucault 2004a; Foucault 2004b; Miller and Rose 2008).

By focusing on the 'process of problematisation' at the heart of ethics governance – namely its identification of the use of the human body in medical research as a 'problem of ethics' that needs to be reviewed and regulated in order to protect human beings – this thesis draws on the notion of 'problematisation' developed by Foucault and others (cf. Dean 1999; Rose 1999a; Rabinow and Rose 2003; Miller and Rose 2008). The notion of 'problematisation' was put forward by Foucault as part of his project to historicise reason and examine 'how men govern themselves and others by the production of truth' (Foucault 1991a:79). For Foucault, one needed particular forms of rationalities and regimes of practices to make it possible to think and act in a certain way at a given date and place – 'one cannot speak of any thing at any time' (Foucault 1972:44). And, for him, the task was to explore 'the ensemble of discursive and non-discursive practices that make something enter into the play of true and false and constitute it as an object of thought, [problematisation and intervention] (whether in the form of moral reflection, scientific reflection [or] political analysis)' (Foucault cited in Rabinow and Rose 2003:12-13). Understood within this wider perspective, the concept of 'problematisation' draws attention to the different forms of rationalities and regimes of practices that make it possible for something to be identified as a 'problem' and invites us to study how these ways of thinking and acting were progressively developed and assembled over time:

> 'If the conduct of individuals or collectivities appeared to require conducting, this was because something in it appeared problematic to someone. Thus, it makes sense to start by asking how this rendering of things problematic occurred. The term "problematising" was a useful way of designating

> this as a process, for it removed the self-evidence of the term "problems." It suggested that "problems" are not pre-given, lying there waiting to be revealed. They have to be constructed and made visible, and this construction of a field of problems is a complex and often slow process. Issues and concerns have to be made to appear problematic, often in different ways, in different sites, and by different agents' (Miller and Rose 2008:14).

It is this notion of 'problematisation' that determines the way I have approached the field of bioethical governance of the life sciences in this thesis. Indeed, unlike much of the anthropological and sociological literature on bioethics that approaches the way the use of the human body in medical research is regulated today with the will to describe either its 'shortcomings' or its 'advantages,' I do not assume that the medical use of human tissue is an 'ethical problem' which needs to be reviewed and regulated. Instead, I look backwards and ask how the use of human tissue became a problem in the first place. In other words, I explore the history of the different forms of rationalities and practices in our present that makes it possible to identify the medical use of the human body as a 'problem of ethics.' I analyse the 'complex and often slow process' during which these rationalities and practices were progressively developed and brought together in a complex assemblage that makes the use of human tissue in research 'appear problematic' today.

In order to analyse the different forms of rationalities and practices that make up ethics governance, this thesis draws on another concept developed by Foucault and others, namely the notion of 'govern-mentality' (cf. Burchell, Gordon et al. 1991; Barry, Osborne et al. 1996; Hindess 1997; Dean 1999; Rose 1999a; Lemke 2002; Joyce 2003; Foucault 2004a; Foucault 2004b; Ong 2006; Miller and Rose 2008). This concept was first coined and discussed by Foucault in a series of lectures at the Collège de France in 1978 and 1979 (Lemke 2001; Senellart 2004; O'Malley, Valverde et al. 2006; Valverde 2007; Donzelot 2008; Tierney 2008). In these lectures, which continued the genealogy of modern states' knowledges and powers that he begun in 1976, Foucault argued that an important transformation of the ways in which the government of human beings was conceived had taken place in late 18th century Europe. He showed how, due to the emergence of liberal theories of government found in the writings of the French Physiocrats and, more significantly, of political economists like Adam Smith, one had shifted from a formula of rule articulated around theories on reason of state (*Raison d'Etat*), mercantilist economic models, the science of police (*Polizeiwissenschaft*) and a diplomatic-military apparatus to a model based on political economy, notions of the market and liberty and apparatuses of security. It was to denote this new way of conceiving government which had emerged in the late 18th century under the influence of classical liberalism that Foucault first coined the term govern-mentality:

> 'What I would like to undertake is something which I would term a history of "governmentality." By this word I mean three things. First, the ensemble formed by the institutions, procedures, analyses and reflections, the calculations and tactics that allow the exercise of this very specific albeit complex form of power, which has as its target population, at its principal form of knowledge political economy, and at its essential means apparatuses of security. Second, the tendency which, over a long period and throughout the West, has steadily led towards the pre-eminence ... of this type of power which may be termed government, resulting, on the one hand, in the formation of a whole series of specific governmental apparatuses, and, on the other, in the development of a whole series of expert bodies of knowledge (*savoirs*). Third, the process, or rather the result of the process, through which the state of justice of the Middle Ages, transformed in into the administrative state during the fifteenth and sixteenth centuries, gradually becomes "governmentalised"' (Foucault 1991b:102-103; cf. also Foucault 2004a:111-112).

Thus, for Foucault, 'govern-mentality' was, first of all, yet another one of those historically delineated 'discursive formations' or 'regimes of practice' made of an assemblage of knowledges, institutions, procedures and tactics which reconfigured the ways we think about, problematise and act upon a particular set of issues, like nineteenth century pathological anatomy in relation to notions of illness or penology in relation to concepts of punishment (cf. Foucault 1972; Foucault 1973; Foucault 1977a; Foucault 1991a).

> 'Can we talk about something like a "govern-mentality" which would stand in relation to the state as techniques of segregation stand to psychiatry, as techniques of discipline stand to the penal system or as biopolitics stand to medical institutions?' (Foucault 2004a:124; my translation).

From this historically delimited understanding, Foucault would, during the course of his lectures, soon generalise the meaning of govern-mentality to denote an analytical device applicable to *any* particular mentality, logic or style of reasoning concerned with the direction of human conduct:

> '... what I have suggested to term governmentality ... is nothing else than a grid to analyse the way one conducts the conduct of men ... [The aim of these lectures was] to see how this grid – which is also valid to examine the way one conducts the conduct of the mad, the sick, criminals, children, etc. – could be useful to analyse phenomenon at a larger scale, as with, for example, a political economy, the management of a social body, etc.' (Foucault 2004b:192; my translation).

It was this more general meaning of governmentality that was adopted by the Anglo-Saxon scholars who continued the analysis of the impact of liberalism on formulas of rule started by Foucault in his 1978 and 1979 series of lectures (cf. Dean 1999; O'Malley, Valverde et al. 2006; Donzelot and Gordon 2008). So, for Mitchell Dean (1999:2) for example, 'govern-mentality' or, rather, 'govern-mentalities' were 'the mentalities, arts and regimes' concerned with 'the conduct of conduct,' while for Nikolas Rose (1999b:xxi) they were 'mentalities and practices ... for acting on upon the action of others towards certain ends' (1999b:xxi). From a term denoting a particular transformation in the knowledges and powers of the modern state in the 18th century, the notion of govern-mentality became an analytical device with which to analyse

the government of any aspect of political, economical, social and personal life, be it the workplace, childhood, crime, marriage, insurance, colonies shopping malls, refugees, poverty, cities or hospitals (O'Malley, Valverde et al. 2006; Miller and Rose 2008:Chapter 1).

Such mentalities or styles of government were, according to these scholars, made up of particular grids of intelligibility, series of technologies and types of authorities brought together in a complex strategic assemblage which Foucault termed a '*dispositif*' or 'apparatus': a 'resolutely heterogeneous grouping composing discourses, institutions, architectural environments, policy decisions, laws, administrative measures, scientific statements, philosophic, moral and philanthropic propositions; in sum, the said and the not-said' (cited in Rabinow and Rose 2003:10-11. Cf. also: Dean 1999; Rose 1999a; Miller and Rose 2008. Cf. Hacking 1992 on the related notion of 'style of reasoning'). By 'grids of intelligibility,' these authors meant 'rational schemas' (Foucault 1991a:80) which allow one to perceive, represent, analyse and evaluate a particular reality and which include: a particular language, idioms and argumentative style; key categories and concepts; typical explanations about how best to govern; ideals or moral principles; distinctive problems that can be addressed; and a specific understandings of both the objects and subjects of government, such as a particular figure of the citizen. Unsurprisingly given the increasing role played by formalized kinds of knowledge (*savoirs*) in the government of conduct (cf. Gordon 1991; Foucault 2004a), these ways of thinking, representing and evaluating stem from expert bodies of knowledge, such as theories of management, medicine, criminology, economics, political science or, in the case of ethics governance, a mixture of law, moral philosophy and medical sociology. By 'technologies,' Foucault and others referred to ways of intervening upon and changing the reality that the grids of intelligibility allow to perceive and represent. They are mechanisms for the operationalisation and realisation of thought; they include written instructions, *ad hoc* procedures for evaluating a problem, architectural complexes, methods' manuals, timetables and systems of supervision and control. Finally, by 'types of authorities' these authors referred to the institutional forms and the kind of expertise which are deemed competent and legitimate to enunciate, deploy and transform the grids of intelligibility and technologies that compose particular forms of rationalities and practices.

The assemblage of forms of rationalities and practices which constitute, in both the UK and Singapore, the logic of ethics governance include: categories such as human tissue; the concepts of 'respect for life' and 'ethical issue;' reports on the use of human tissue; guidelines relative to the collection and use of human tissue in research; human tissue banks; instruction manuals and tests to determine whether an individual has the capacity to grasp information

and take decisions; translators and professional intermediaries who guarantee that research subjects are free to decide whether or not to give parts of their bodies; suggestions to take time to reflect; invitations to ask questions and lists of potential themes to be discussed; articles in bioethics journals on the human capacity to reflect and decide; patient information sheets and consent forms; systems through which the interactions between researchers and research subjects are documented; national ethics commissions like Singapore's Bioethics Advisory Committee; medical law textbooks on the procedure of informed consent; professional degrees in medical law and ethics; research centres on bioethics; and regulatory agencies like the British Human Tissue Authority. This thesis traces a genealogy of this particular bioethical *dispositif*, of this assemblage of grids of intelligibility, technologies and forms of authorities that allows us to think of the medical use of human tissue as a problem and regulate it.

The aim of such a genealogy is, first of all, to offer an understanding of how the medical use of human tissue is construed, problematised and regulated today. It should 'show how to understand, act out, and resolve present problems' (Hacking 2002:24). But, beyond providing such an understanding, an analysis of the process through which the medical use of the human body was problematised should, by 'emphasis[ing] the contingency of the events that led to the predicaments we find pressing or inescapable' (ibid.), point out the singularity, possibilities and limits of how we think about, discuss and organise the medical use of human tissue today (c.f. Foucault 1977b; Gordon 1986; Foucault 1991a; Hacking 1992; Dean 1994; Rabinow 1996; Hacking 2002; Rabinow and Rose 2003). As Foucault argued, 'it is a matter of shaking this false self-evidence, of demonstrating its precariousness, of making visible not its arbitrariness, but its complex interconnections with a multiplicity of historical processes, many of them of recent date,' it is a matter of 'wearing away certain self-evidences and commonplaces' that allows us 'to show that things "weren't as necessary as all that"' (Foucault 1991a:75, 76 & 83).

Modes of Subjectification, Technologies of the Self and Citizenship Projects

This thesis does not only explore the recent transformations in the ways we think about, problematise and govern the medical use of the human body and attempt to locate the rationalities and practices that make ethics governance possible. It also examines how these different rationalities and practices reconfigure the ways we understand ourselves and others as subjects and citizens. In other words, it analyses how the different grids of intelligibility, technologies and authorities that make up the bioethical *dispositif* overflow into and transform our modes of being. To ask such questions is to build, once more, on the analytics developed

by Foucault and others in their studies of how particular rationalities and technologies have constituted modern subjectivities and current conceptions of the citizen (e.g. Foucault 1973; Foucault 1977a; Foucault 1988b; Foucault 1991a; Rose 1999a; Rose 1999b; Hacking 2002; Isin 2002; Lemke 2002; Isin 2004; Rose 2007).

For Foucault and others, there is no universal, fixed object – a figure of the subject or the citizen – in relation to which one could proceed to govern. Instead, for them, notions of subjectivity and citizenship that exist at a given time and place have been progressively 'constituted through' what they term 'practices or modes of subjectification.' As Paul Rabinow and Nikolas Rose (2003:15) argue in their discussion of Foucault's notion of subjectification, 'the human being, from [his] perspective, is not so much an entity ... than the site of a multiplicity of practices and labours.' This refusal to accept a universal, pre-established figure of the subject or citizen was of course a key part of Foucault's genealogical project to 'wear away the self-evidences and commonplaces' of our present by pointing out to their contingency and, thereby, opening up possibilities. As Foucault reminded his interlocutors in an interview shortly before his death, 'all my analyses are against the idea of universal necessities in human existence' (Foucault and Martin 1988:11). In other words, his project was *not* to write a universal theory of the subject or to critique existing rationalities of government by comparing them with a universally valid figure of the citizen. Rather, he and others were concerned with analysing the different 'modes of subjectification' through which subjects were constituted over time in a specific location and time. As Foucault argued, 'we should try to discover how it is that subjects are gradually, progressively, really and materially constituted through a multiplicity of organisms, forces, energies, thoughts, etc' (cited in Hacking 2002:104).

At the heart of the processes of subjectification are what Foucault (1988b:18) termed 'technologies of the self' – a series of practices which 'permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform themselves.' Thus, for Foucault and others, human beings constituted themselves through the use of these series of intellectual and practical techniques such as categories, concepts, languages, explanations, moral principles, methods, procedures and spaces. There is, furthermore, a close relationship between these technologies of the self and the logics of government: the 'practices of subjectification ... are inextricably linked to government and knowledge' (Rose 1999a:43). Indeed, logics of government and the particular expert bodies of knowledge around which they are articulated –

insurance and social security, medicine, pedagogical theories, advertising and psychology – provide human beings with the means to be, talk and do particular things:

> The 'human being is constituted through devices, gazes, techniques which extend beyond the limits of the flesh ... [which] are assembled together in [*dispositifs*] such as those of social security with its offices, procedures, forms, requirements of compliance; of health with its surgeries and consulting rooms, its doctor-patient relations; of schooling with its classrooms, desks, partitioning of days and hours, regimes of assessment and examination, spaces for work and sport; of advertising and consumption with their habitat of images of personhood and pedagogies of conduct and comportment which provide the means for understanding and acting on the self' (Rose 1999b:xx).

Ian Hacking (2002) has showed this close relationship between techniques of subjectification, government and knowledge in his piece 'Making Up People' on how particular descriptions of human beings or human action such as 'perverts,' 'homosexuality' or 'suicide' bring into being new types of persons and new possibilities for human action:

> 'Numerous kinds of human beings and human acts come into being hand in hand with our invention of the ways to name them ... Our spheres of possibility, and hence our selves, are to some extent made up by our naming and what that entails' (Hacking 2002:113).

He describes, for example, how the idea of 'suicide' was invented by the medical profession in France in the early years of the nineteenth century in France, and how their description of what counted as suicide, right down to the notion of the suicide note, made it possible for coroners to identify suicides, for statisticians to count them, for Durkheim to discuss the causes of suicide and for people, in general, to think about it and, unfortunately, sometimes commit it. Similarly, in his genealogy of modern subjectivity, Nikolas Rose (1996c; 1999b) shows how the 'languages, techniques, authorities, judgments' of the 'psy-sciences' (psychology, psychiatry, etc.) have come to 'shape the texture of our intimate dealings with ourselves and with our closest companions' by reconfiguring our 'practical ways of formulating, understanding and responding to temptations and aspirations, to happiness and sorrow, to achievements and frustrations' (Rose 1999b:xx).

To convey this central role played by rationalities and practices of government in the constitution of subjects as citizens in particular, Nikolas Rose (2007:4-5) has formulated the concept of 'citizenship projects:'

> 'By citizenship projects, I mean the ways that authorities thought about (some) individuals as potential citizens, and the ways they tried to act upon them in the name of citizenship. For example: defining those who were entitled to participate in the political affairs of a city ...; imposing a single legal system across a national territory; obliging citizens to speak a single national language; establishing ... universal ... education; designing building in the hope that they would encourage certain ways of thinking, feeling and acting; creating prisons, asylums, workhouses and reformatories

> to reshape lapsed citizens, developing social insurance systems to bind national subjects together in the sharing of risks; exhorting women, as wives and mothers, to produce and rear ... future citizens ...; inaugurating universal health inspection of schoolchildren to detect and rectify threats to the vitality of the future citizen; ... [and establishing] a national radio corporation [to] link all inhabitants of a territory into a single collectivity.'

As Rose shows, these projects of citizenship were, for a long time and as the examples listed above demonstrate, national; they were exercises in the building of the nation. But, in the West, from the late 1970s onwards, this started to change. Projects of citizenship were no longer articulated around the notions of the nation-state and society; instead they were now built around the idea of an active and responsible consumer-citizen who was to be shaped and governed through techniques such as advertising, public dialogues or the psy-sciences (cf. Rose 1996b; Rose 2007; Miller and Rose 2008).

My use of the notions of 'subjectification,' 'technologies of the self' and 'citizenship projects' very much shapes the way I have approached the field of bioethical governance of the life sciences in this thesis. Unlike most of the anthropological and sociological literature in the field, I do not assume the pre-existence of a particular type of subject or citizen against which I judge the success or failure of bioethical governance. Instead, this thesis forms an attempt to analyse the figure of the subject or citizen that is both presupposed and constituted through different categories, rhetoric, institutions, procedures, spaces and other moral principles that make up the bioethical *dispositif*. In order to do so, this thesis focuses on the procedure of informed consent, a legal mechanism that has become central to the way the medical use of human tissue is thought about, problematised and regulated. It examines the particular figure of the subject which the bioethical literature on informed consent presupposes and, at the same time, helps to constitute through its rhetoric and the series of technologies it has devised to operationalise the notion of informed consent.

Furthermore, and similarly to the work of Nikolas Rose (1996c; 1999b) on the impact of the psy-sciences in the shaping of the self, this thesis' focus on bioethical governance's different technologies of the self enables me to highlight the key role played by bioethics in constituting modern subjectivities since its emergence in the 1960s in the United States of America and the United Kingdom. Understood loosely as the 'meeting ground for a number of ... discourses [like medical law, the sociology of medicine or moral philosophy] ... concerned with ethical, legal and social questions [related to] medicine, science and biotechnology' (O'Neill 2002:1), bioethics has developed a series of categories, languages, ideals, mechanisms and authorities in order to, in the words of British bioethics pioneer Alastair Campbell (1975 [1972]:7-8), analyse, represent and intervene upon individuals' 'beliefs, attitudes and codes of rules' and their

capacity for 'moral judgement.' As this thesis suggests through an analysis of the mechanism of informed consent, these grids of intelligibility and technologies developed by bio-ethicists have reconfigured modern subjectivities by allowing individuals to think of themselves as 'human beings' graced with a 'capacity to reflect and decide' about their own lives and bodies and to act as such. Conceptualised in this way, bioethical governance illustrates, alongside other contemporary moral discourses such as corporate ethics, the ethics of war or environmental ethics, a new type of citizenship project articulated around another figure of the citizen – a human being graced with the capacity to reflect and decide.

Sociologies of Bioethics

Given the key role currently played by bioethics in the governance of the life sciences and in the ways we think, discuss and organise the medical use of human tissue today, it is unsurprising to see that there is an increasing number of social scientists who are studying this issue. Of course, the growing literature on the topic shows a great diversity in the ways these scholars have approached the field and in the type of questions they have found interesting to ask. Nonetheless, it is fair to say that most approaches have been rather critical of bioethical governance, highlighting its 'failures' and passing judgments on its assumptions. In order to locate this thesis in relation to this sociological literature on ethics governance and to spell out the distinctiveness of its approach, it is helpful to chart this literature in terms of its analytical concepts and its questions. One can, in that respect, identify three predominant approaches to the study of bioethics and the ethical governance of the life sciences – the sociology of (scientific) governance; the sociology of the (biomedical) economy and the sociology of biomedicine. This tripartite division is best understood not as a historical or sociological classification but as an heuristic device that enables to differentiate my own concerns and analytics from those informing these other three approaches.

Sociology of (Scientific) Governance

Drawing on concepts from liberal political philosophy like 'democracy,' 'the state' or 'legitimation,' many scholars working on the governance of science in general and medicine in particular have addressed the role that bioethics have come to play within this regulatory project (e.g. Elliott 1999; Stevens 2000; Wynne 2001; Galloux, Mortensen et al. 2002; O'Neill 2002; Jasanoff 2005; Salter and Jones 2005; Bogner and Menz 2006; Sperling 2006; Salter and Salter 2007; Holden and Demeritt 2008). Their analyses describe in particular what they refer

to as the 'professionalisation,' 'institutionalisation' and 'bureaucratisation' of bioethics from its inception in the 1960s. Thus, these scholars show how bioethics became dominated by a new class of 'professional experts' comprising philosophers, lawyers, scientists and sociologists which sought to transform their moral expertise into a recognised, financially viable trade (Stevens 2000:Chapter 2; Jasanoff 2005:Chapter 7; Salter and Jones 2005). They also show how, through the creation of national ethics commissions and international bodies like the International Conference on Harmonisation, bioethics was 'institutionalised' by 'the state' which identified it as a 'mechanism for legitimating biomedical research' (Galloux, Mortensen et al. 2002; Jasanoff 2005:Chapter 7; Salter and Jones 2005; Salter and Salter 2007). They argue furthermore that this professionalisation and institutionalisation of bioethics brought about a 'bureaucratisation' of bioethics which became articulated around 'standardised moral principles' and 'formal criteria,' 'forms, applications and written records,' 'official committees,' as well as 'administrative procedures' and 'routinized practices' (Elliott 1999:Chapter 1; O'Neill 2002:Chapter 1; Jasanoff 2005:Chapter 7; Sperling 2006; Salter and Salter 2007; Holden and Demeritt 2008).

The problem, for some of these scholars, is that these developments have led to the betrayal of the original ideals of bioethics. These scholars generally share and celebrate many of these ideals. In particular, they believe that people should be treated as human beings graced with a capacity to reflect, discuss and hold opinions about biomedical science; and they consider, together with bio-ethicists, that the role of bioethics is, or should be, to protect and encourage humans' capacity to reflect on and listen to their opinions. This can be illustrated with Jasanoff's (2005:Chapters 7 & 10) concept of 'civic epistemology,' according to which bioethics should ideally be a neutral 'language of deliberation' or a 'new deliberative space' in which 'human beings' are recognised and respected as 'proactive, dynamic' and 'knowledgeable agents' who can 'shape, craft, reflect on, write about, experiment and play with, test and resist [medical] science and technology.' Similarly, in their analysis of the development of bioethical governance in Singapore, Holden and Demeritt (2008:82-84) lament the 'dystopian' and 'darker possibilities' of a future without the liberal and democratic 'individuated subjects [of bioethics] who ... know exactly ... their rights, ... can withdraw, complain and appeal ... [and] can refuse treatment or form patient activist groups to lobby government or influence the design of research.' For these scholars, the professionalisation, institutionalisation and bureaucratisation of bioethics – best symbolised by the procedure of informed consent – is tantamount to a betrayal of these original ideals, most notably the will to respect and protect human beings' capacity to reflect, discuss and take decisions. Indeed, this triple transformation of bioethics converts 'hot affect ... into cold rationality' (Sperling 2006), turns 'personal

relationships' into 'protocols' and 'impersonal administration' (Holden and Demeritt 2008:82-83) and 'appropriate[s] ... a person's sovereignty over herself' by taking away a 'proportion of the persons' moral agency' (Elliott 1999:14).

A good illustration of the approach taken by this literature is the work of Stefan Sperling (2006) on the ethical regulation of stem cell research in Germany. Sperling shows how the adoption of the *Stem Cell Law* by the German Parliament in 2002 all but silenced the lively debates in which almost all sections of the population had taken part. He argues that, by appointing a Central Ethics Commission composed of five physicians and four philosophers to judge the merit of individual applications to use stem cells on the basis of three 'formal criteria' (the use is important for basic research; there has been prior animal studies; and the question can only be answered by using stem cells), the legal text 'convert[s] ethics into reason,' 'neutraliz[ing] the affective charge' and wiping out a 'site of ongoing reflection on ... ethical concerns' (ibid. p.1, 3). Another relevant example is the recent work of Kerry Holden and David Demeritt (2008) on Singapore's adoption, in 1998, of an ethical framework for clinical trials based on the regulatory standards of the International Conference on Harmonisation. They argue that these standards were imported by the state in order to promote its biomedical industry internationally rather than spread bioethics' 'liberal, individualist values' (ibid. p.71) among its population. This, they also argue, was made possible by the way the Singaporean state conceived of ethics: as a series of centralised 'administrative processes,' 'international ethical standards' and 'forms and documents' which were completely detached from any 'consideration for the ethical concerns that the Singaporean people may have' (ibid. p.79-80). Holden and Demeritt explain that:

> In Singapore, [ethical] guidelines do very much what they say on the tin, but the individual subject being protected is deafeningly silent ... The mapping of ICH guidelines onto Singaporean society defies the very logic of those guidelines. We do not think that [members of the national ethics committee] have given much thought to the question of individual autonomy or what it entails, and we doubt that the Singaporean state has either. Bioethics is simply paperwork. As long as the consent forms are signed and the paper trail is clear, there should be no qualms about what it means' (ibid. p.81-82).

Sociology of the Biomedical Sciences

The sociology of the biomedical sciences has been similarly critical of bioethics but from an altogether different perspective. This vast literature studies the 'gap' between the ideals of the discourse of bioethics and the 'social' or 'cultural' reality of the field revealed 'empirically' through the 'thick description' (Geertz 1973) of the ethnographer (e.g. Fox and Swazey 1984; Hoffmaster 1992; Kleinman 1995; DeVries and Subedi 1998; Kleinman 1999; Kleinman, Fox

et al. 1999; Bosk 2001; Hoffmaster 2001a; Lock 2001b; Corrigan 2003; Dyer 2004; Hedgecoe 2004; Tutton and Corrigan 2004; Geissler 2005; Parry 2005; Franklin 2006; Parry and Gere 2006; De Vries, Turner et al. 2007). A key assumption of this approach is its understanding of bioethical governance as part of a sphere described variously as 'imaginary,' 'ideal,' 'abstract,' 'utopian' or 'theoretical.' This sphere, and thus bioethics, has to be distinguished from and opposed to another, second sphere termed the 'social context,' 'cultural milieu' or 'the everyday lived experience.' For the sociology of biomedicine, this second sphere is reality itself with its 'contradictions,' 'practices,' 'relationships,' 'particularisms' and 'struggles' that come and 'muddle' the ideals of bioethics. Of course, this dichotomy between the ideal/bioethics and the real/social context is at its apex when bioethical governance is exported to places outside the Western world which have a different 'culture' to the one in which bioethics originated. Indeed, bioethics having been developed in the West is 'ethnocentric' – it has a 'Eurocentric orientation and [a] grudgingly limited engagement with non-Western and ethnic value orientation' (Kleinman 1999:69; cf. also Kleinman 1995) – and thus even further removed from the everyday life experiences of people from other cultures. Faced with this dichotomous world, the role of the social scientist is to concentrate on reality itself (the socio-cultural context) and explore it 'in detail' through 'qualitative approaches' and, in particular, ethnography – 'a method of knowledge production by which the ethnographer enters into the ordinary, everyday space of moral processes in a local world' (Kleinman 1999:77). The ambition of this exploration of everyday lived experience is to not only to increase knowledge but also to *improve bioethical governance* by correcting it where it fails: 'bioethical analysis [and governance] can be made sharper if more attention is paid to the context of medical decision making, and ethnography is the ideal method for accomplishing this' (Bosk 2001:199; cf. also: Hoffmaster 1992; Kleinman 1999; Hedgecoe 2004).

This research ethos is well captured by Sarah Franklin (2004) in her preface to an edited collection of ethnographies of the interactions and practices which take place when people give parts of their bodies for medical research:

> 'What is ... important is the level of empirical detail provided by the contributors, for these perspectives will tell us what happens "when the rubber meets the road," which may be a far cry from what was promised, intended, or imagined. For example, while it is widely acknowledged that the principle of informed consent is problematic in the context of genetic donation, we will need to know much more about why and how this is so before we will be able to propose practical ethical alternatives. Without the kind of detailed studies of the actual relations and practices that shape the conditions of genetic donation, we will not have enough information to produce an informed critical account of them' (ibid. p.viii).

Another telling quote is that of Barry Hoffmaster (2001b) in his Introduction to an anthology aptly entitled 'Bioethics in Social Context:'

> 'Bioethics, in this view, is situated in rationality and generality. It prescinds the messy details and attachments that give our lives meaning and vigour, the nagging contradictions that make us squirm and struggle ... Because they are yoked to the abstractions of reason and theory, judgements about matters of bioethics frequently outstrip the contexts that generate and shape those matters and ignore the agonizing experiences of the people which grapple with them ... Putting bioethics in personal, social and cultural contexts opens the way for modes of moral deliberation that are not general, rational, and impartial but embrace the distinctive histories, relationships, and milieus of people and engage their emotions as much as their reasons ... This is a bioethics situated in lived human experience. The qualitative research approaches of the social sciences, ethnography in particular, can be used to explore ... that experience ... The ultimate goal of this endeavour is a bioethics that is more attuned to the particular and more sensitive to the personal – a bioethics that is more humane and more helpful' (ibid. p.1-2).

As with the sociology of scientific governance albeit for different reasons, the procedure of informed consent has come to symbolise all that the sociology of biomedicine has found problematic with bioethical governance and has thus attracted the brunt of the critique (e.g. Wolpe 1998; Corrigan 2003; Busby 2004; Corrigan 2004; Haimes and Whong-Barr 2004; Hoeyer 2004; Kaye 2004; Geissler 2005; Molyneux, Peshu et al. 2005; Molyneux, Wassenaar et al. 2005; Busby 2007; Hoeyer 2007). For this literature, the problem is the notion of 'the fully informed individual who is free to choose' around which the mechanism of informed consent is articulated. Such a concept of the human being is a 'reductionist abstraction' (Corrigan 2003:787), a product of Western liberal political theory (D'Agostino 1998), which bears no relation to a 'real person' whose very constitution is radically informed by the socio-cultural context in which he or she lives. The task of the sociologist or anthropologist is to conduct an ethnography in order to 'flesh out the social process involved when ... research subjects consent' and understand the 'pre-existing norms and values ... that shape [these subjects'] expectations and direct their behaviour' (ibid. p.768, 780). Helen Busby's (2004) study of the donation of tissue to both the UK National Blood Service and the UK Biobank is a good illustration of such 'thick descriptions' of the everyday lived experience. Based on interviews with over hundred donors, Busby argues that it is the different level of trust that donors place on the institutions collecting and using the samples (NHS, universities, pharmaceutical companies) rather than (as bio-ethicists would have it) the level of information about what is done with the samples that leads donors to consent to give their tissues. Another interesting example of such rich description is Wenzel Geissler's (2005) ethnography of the collection of blood samples in rural Luoland in Western Kenya by Western medical researchers. He shows how, when asked to consent to the collection of blood, the local population, rather than using

bioethics' notions of information and consent, articulates its concerns around a local Swahili idiom about blood-stealing strangers – *kachinja.*

Sociology of the (Biomedical) Economy

For the third and last approach, the sociology of the (biomedical) economy (e.g. Andrews and Nelkin 1998; Cooter 2000a; Andrews and Nelkin 2001; Lock 2001a; Scheper-Hughes 2001b; Hodges 2004; Petryna 2005a; Petryna 2005b; Cooper 2006; Petryna 2006; Sunder Rajan 2006; Waldby and Mitchell 2006; Petryna 2007; Sunder Rajan 2007; Elliott 2008), bioethics and the ethical governance of the life sciences can only be understood in relation to the way the management and financing of science in general and the life sciences in particular was radically reconfigured between the late 1960s and the early 1990s. The old model, codified in V. Bush's (1945) report *Science – the Endless Frontier* and articulated around a national, centralised science policy, state funding, the notion of 'pure science' and peer-reviewed publications, began to be challenged in the late 1960s. By the late 1980s, early 1990s, it had been displaced by a new model of management and financing influenced by neo-liberal theories of government: 'the global biomedical economy' (Sunder Rajan 2007:80). In this global biomedical economy, the management of the life sciences was organised around the notion of the market and constituted by a remodelled system of intellectual property rights and patents, partnerships between universities and the pharmaceutical industry, scientists as entrepreneurs, venture capitalism, science parks and concepts like 'productive science,' 'innovation' and 'technological transfer.' For the sociology of the (biomedical) economy, the consequence of this reorganisation of the management and financing of the life sciences was to heighten 'inequalities' and favour the 'exploitation of the underprivileged,' not the least because of the importance given to 'ownership' and the 'pursuit of profit' in the new model of management.

These concerns were often rendered through the narrative of the 'commodification of the human body' (cf. Andrews and Nelkin 1998; Andrews and Nelkin 2001; Scheper-Hughes 2001b; Hodges 2004; Cooper 2006; Waldby and Mitchell 2006). According to this narrative, the reconfiguration of the management and financing of the life sciences dramatically affected the way human tissues used in medical research were collected and exchanged. Instead of having citizens 'giving' parts of their bodies to their fellow nationals via the redistributive mechanism of the social state as Richard Titmuss had argued in *The Gift Relationship*, human tissues were now to be exchanged according to the laws of the market: human body parts were 'owned' and could be 'sold for profit.' This 'reduction' of the body to 'an object' that could be owned and sold opened the door, it was argued, to the exploitation of the most

underprivileged, who would be forced to sell their bodies for financial reasons. The 'commercialisation of science' (Kenney 1986) had brought about the 'commercialisation of body tissues' (Andrews and Nelkin 1998) and the 'commodification of life' (Cooper 2006:16):

> 'The medical industry ... view[s] the human body as a rich source of marketable commodities to be used for research and industry. In other words, the medical profession has commodified the human body' (Hodges 2004:2-3).

The aim of this literature is to provide both a theoretical and an empirical critique of this new biomedical economy by charting how it promotes injustice and exploitation (Petryna 2006:55; Sunder Rajan 2007:80; Elliott 2008). Given this aim, to analyse bioethics and the bioethical governance of the life sciences in relation to the notion of a global biomedical economy is, for this literature, to explore whether ethics governance mitigated or facilitated the injustice and exploitation produced by this reconfiguration of the way the life sciences were managed and financed. The answer the exponents of this literature provide is overwhelmingly negative. As Sunder Rajan (2007:83) argues in his analysis of the globalisation of research ethics for clinical trials: 'far from mitigating the structural violence from capital, [bioethical governance] serves instead to facilitate it.' Bioethics' ways of facilitating the 'structural violence from capital' are manifold. Some authors have showed how, by accepting to work for the pharmaceutical industry and for profit, bio-ethicists have shed any approach which is too critical or 'muckraking' (Lemmens and Freedman 2000; Elliott 2008). Others have argued that the language and mechanisms that make up bioethical governance are blind to, and thus unable to address, the inequalities and exploitation created by 'market driven human research' (Scheper-Hughes 2001b; Petryna 2005a; Petryna 2005b; Petryna 2006; Sunder Rajan 2006; Petryna 2007). So, for example, Petryna's (2006:51, 54) ethnographic analysis shows how the in-built variability in the international bioethical regulation for clinical trials makes it impossible for this regulatory system 'to capture' and address the 'exploitativeness' caused by 'the pharmaceutical industry's pursuit of [research subjects]' across the developing world.

> '[Bioethics'] procedural issues [which] researchers rely on in realizing human subjects protection are insulating researchers from the contexts of inequality in which they work ... [The] exclusive focus on informed consent narrows [their] vision of the broad array of factors that are overwhelmingly ethics' (ibid. p.55).

Similarly, Sunder Rajan (2006) and Scheper Hughes (2001b) argue that bioethical governance's inability to address ownership rights coupled with its overemphasis on a notion of informed consent which is almost synonymous with the neo-liberal notion of 'choice' makes bioethics a very ineffectual critique of the biomedical economy. Worse still, through its dominance of the governance of the life sciences, it eliminates 'dissident voices' and 'alternative ethical positions'

based on notions of 'social justice' which could address the inequalities created by an industry-driven research market (ibid. p.31, 32). Finally, some authors have shown how different elements that make up bioethical governance assist in the functioning of the global biomedical economy (Waldby and Mitchell 2006; Sunder Rajan 2007). So, for example, looking at the ethical regulation of human tissue research in the United Kingdom, Waldby and Mitchell (2006:Chapter 2) argue that the procedure of informed consent makes it possible to transfer ownership rights from the research subject giving parts of his or her body to the medical researchers.

> 'Informed consent is the mechanism that transforms a gift into property ... [Its] function, allied to the commercial aspects of tissue research [is] to regulate and formalise the transfer of possession from donor to recipient ... [It enables] the transfer of legal claim to the tissue' (ibid. p.71-72)

Locating the Thesis in Relation to this Literature

What this thesis shares with the three predominant approaches to the ethical governance of the life sciences discussed above is a preoccupation with the increasingly important role that bioethics has come to play in the regulation of medicine and the life sciences and in the way we think, discuss and organise the scientific and medical use of human tissue today. However, unlike these three approaches, this thesis does not analyse bioethical governance with a view to highlight its 'failures' such as its 'bureaucratisation,' its incapacity to account for the 'socio-cultural context' or its complicity with the 'medico-industrial complex' in 'exploiting the underprivileged.' Indeed, in contrast to these three approaches, this thesis does not assume that the medical use of human tissue is a problem that needs regulation and does not see its task to be one of reviewing the regulation put in place by bioethics in order to correct and improve it by 'de-bureaucratising' it, making it more 'socially and culturally aware' or rendering it less exploitative. Instead, this thesis asks how the scientific and medical use of human tissue became an 'ethical problem' in the first place; it asks what are the conceptual, material and political conditions that make it possible to identify the medical use of the human body as a 'problem of ethics.' To do so, it does not draw on concepts such as 'the state' and 'professional expertise,' 'the everyday lived experience' of 'ordinary people' or the 'medical industry' and 'ownership rights.' Rather, it uses notions like 'mentalities of government,' 'apparatuses,' 'grids of intelligibility' and 'technologies' to analyse the 'complex and often slow process' during which the different rationalities and practices that make it possible to perceive the medical use of the human body as problematic today were assembled.

Furthermore, this thesis does not, like the three approaches charted above, assume the pre-existence of a particular type of subject or citizen against which to judge the success or failure of bioethical governance and which, in the case of bioethics' failure, it tries to re-establish. Thus, unlike the sociology of (scientific) governance, this thesis does not assume that all human beings have a capacity to reflect that should be protected and does not see its role to be the defence of this particular capacity against the encroachments of professional expertise, institutionalisation or bureaucracy. Nor does this thesis consider its task, as does the sociology of biomedicine, to be the rescue of the true everyday lived experience of real people in a fight against the abstract, Western notion of the free reflexive and decisive individual championed by bioethics. Nor does this thesis see its role, as does the sociology of the biomedical economy, to be the recovery of Titmuss' citizen who gives his or her body to his or her fellow citizens in need against the onslaught of the neo-liberal market. Instead, drawing on notions like 'subjectification,' 'technologies of the self' and 'citizenship projects,' the thesis forms an attempt to analyse the figure of the subject or citizen that is constituted through different categories, rhetoric, institutions, procedures, spaces and other moral principles that make up the bioethical *dispositif*. Within such an approach, the procedure of informed consent is *not*: a bureaucratic procedure which stifles the true human capacity to freely reflect and decide; a mechanism which fails to understand the real person embedded in his or her socio-economic context; or a mechanism which displaces Titmuss' real volunteer in order to exploit the underprivileged. Rather, the procedure of informed consent – together with all the languages, categories, ideals, experts, forms, techniques and systems of accountability that constitute it – is a means to create and operationalise a particular type of subject and citizen.

Contemporary Ethical Logics of Government and their Globalisation

It is important to locate this thesis not only in relation to the sociological and anthropological literature on bioethics but also in relation to the literature on governmentality (e.g. Burchell, Gordon et al. 1991; Barry, Osborne et al. 1996; Hindess 1997; Dean 1999; Rose 1999a; Hindess 2002; Lemke 2002; Joyce 2003; Foucault 2004a; Foucault 2004b; Ong 2006; Miller and Rose 2008). The relationship between the latter body of work and this thesis is multifaceted. In terms of their analytical framework, there is an intimate connection between the two. Indeed, as already clarified before, this thesis borrows a series of theoretical concepts developed by the literature on governmentality in order to explore transformations in the ways we think about, problematise and govern the scientific and medical use of the human body that have taken place over the last 20 years. Conversely, in terms of their thematic interest,

there are some significant differences between the two. Most importantly, perhaps, is the fact that governmentality studies have been principally interested in how liberalism and neo-liberalism have reconfigured mentalities of rules whereas this thesis is concerned with how contemporary ethical discourses have transformed logics of government. This difference of focus separates this thesis from the genealogy of liberalism attempted by governmentality scholars, although, of course, there are some links between the two projects.

The conceptual link between governmentality and liberalism has existed from the very start (O'Malley, Valverde et al. 2006; Valverde 2007; Donzelot 2008; Donzelot and Gordon 2008; Tierney 2008). When Foucault coined the term in his 1978 and 1979 series of lectures, he used it to examine how liberal theories of government (such as Adam Smith's *The Wealth of Nations*) brought about transformations in mentalities of rule in the late eighteenth century and how two neo-liberal schools of thoughts (the German *Ordoliberalen* and the Chicago School economists) rethought modern logics of government in the twentieth century (Foucault 2004a; Foucault 2004b). It was this very focus on liberalism that attracted numerous scholars from the USA, the UK and Australia to the notion of governmentality. Indeed, it provided them with an analytical tool to examine the various impacts of liberal theories on formulas of rule at a time when the neo-liberal revolution was unfolding in their midst. Their detailed empirical studies on the effects of liberal and neo-liberal doctrines on the ways to conceive and administer economic, political and social life identified three successive families of liberal rule each characterised by particular concepts, institutions, technologies, procedures and types of subjects (Gordon 1991; Dean 1994; Rose 1996b; Dean 1999).

The first family of liberal rule was classical liberal governmentality, promoted most significantly by political economists such as Adam Smith and David Ricardo, which became dominant from the early nineteenth century onwards. It was characterised by the idea that the realities to be governed such as the economy and the population are autonomous entities functioning in accordance with their own natural laws and that the aim of government is to steer clear of disturbing these natural laws while at the same time ensuring that they could function (Gordon 1991; Osborne 1996; Rose 1996b; Dean 1999); an idea which, according to these same authors, was itself based upon liberal understandings of agency, the economic subject of interest exemplified by Adam Smith's self-loving agent (Walter 2008). Much of the governmentality literature forms an attempt to show how this idea permeated and transformed the way of thinking, discussing and governing various aspects of the economic, political and social life in nineteenth century Europe. One relevant example is Thomas Osborne's (1996) analysis of British Victorian public health and sanitary discourses, where he shows how the sanitary

reforms conducted by people like Southwood Smith and Edwin Chadwick were shaped by this will to govern so as to 'assure the integrity of the natural phenomena, economic processes of population' (ibid. p.102).

From the late nineteenth century onwards, a second sort of liberal rule – social liberal – emerged, displacing classical liberal governmentality. This transformation in the mentalities of rule had much to do with the writing and activities of social liberal thinkers such as L.T. Hobhouse, William Beveridge and John M. Keynes in the UK and Emile Durkheim and Léon Duguit in France who, judging economic liberalism to have failed in eradicating the hardships of the industrial revolution, argued that the administration of economic, political and personal life had to be re-organised around notions of 'society,' 'social solidarity' and 'welfare' (Collini 1979; Donzelot 1980; Rabinow 1989; Donzelot 1991; Gordon 1991; Rose 1996b). Many governmentality scholars showed how this 'socialization' of both government and citizenship was made possible through the development of particular knowledges and technologies like sociology or social insurance (Collini 1979; Defert 1991; Donzelot 1991; Ewald 1991). By the late 1970s, social liberal governmentality gradually gave way to advanced liberal or neo-liberal ways of thinking and governing. This time the impulse to reconfigure formulas of rule came mainly from a network of neo-liberal scholars like Friedrich von Hayek and Milton Friedman, even though thinkers from a range of other philosophical and political persuasions shared many of the concerns put forward in neo-liberal doctrines, thus giving increased credence to the latter (Gordon 1991; Rose 1996b; Dean 1999; Rose 1999a; Foucault 2004b). Central to this latest embodiment of liberalism is the reactivation of market considerations in decision-making and the figure of the citizen as both an entrepreneur and consumer who shapes his/her life through acts of choice. The literature on governmentality has unearthed many of the various technologies like audit, budget discipline and accountancy which have brought into being this third major liberal transformation in government and citizenship (Power 1994; Rose 1996b; Rose 1999a; Miller and Rose 2008).

My thesis does not add to this genealogy of liberalism; instead, it contributes to the study of how contemporary ethical discourses have developed and transformed mentalities of rule and subjectivities. Scholars using a theoretical approach inspired by the literature on governmentality have started to recognise the rising significance of these new languages of virtue which seek to infuse various domains of life such as war, trade and science with a renewed sense of morality (Rose 1999a:Chapter 5; Strathern 2000b; Osborne 2003; Barry 2004; Guilhot 2005:Chapter 1; Rabinow and Palsson 2005; Barnet, Clarke et al. 2007; Power 2007; Walters, Tietavainen et al. 2008):

> 'The language of ethics is proliferating ... one hears of an ethical foreign policy, ethical banking, ethical investment, ethical agriculture, ethical business, ethical politicians, the ethic of public service, ethical shopping, as well as the increasing salience of more traditional ethical disputes in the areas of medicine, genetic technologies and the rights of life and death' (Rose 1999a:191-192).

> 'The world ... is marked by a remarkable and growing concern with ethics. This is an era when notions of corporate social responsibility, ethical audit, ethical consumption and environmental sustainability have become commonplace' (Barry 2004:195)

Many of these scholars have begun to study how these new languages of virtue – discourses on human rights and democracy, agendas for environmental sustainability, corporate social responsibility programmes, bioethics and the like – have developed and are reconfiguring modern governance and contemporary notions of citizenship (Strathern 2000b; Osborne 2003; Barry 2004; Guilhot 2005:Chapter 1; Barnet, Clarke et al. 2007; Power 2007). Some have started to examine the links between these modern ethical forms of governance with the long-standing tradition of philanthropy (Guilhot 2005), while others have discussed the shift from an opposition to capitalism to an 'ethicisation' of capitalism brought about by the end of the Cold War which has allowed these politics of virtue to proliferate (MacDonald 2003; Osborne 2003; Guilhot 2005). A few have also identified the central role played by a series of new 'moral fieldworkers' (Strathern 2000b:2) and forms of 'moral entrepreneurship' (Guilhot 2005:5), including the figure of the non-governmental organisation or NGO (Strathern 2000b; Barry 2004; Guilhot 2005; Rabinow and Palsson 2005). Furthermore, some scholars have started to analyse new technologies of governance that have started to emerge as a consequence of these politics of virtue and the ways in which they can be exported around the globe (Strathern 2000a; Barry 2004; Power 2007). So, for example, Power (2007:93, 94) points to instruments like 'standardised narrative reporting,' 'league tables and rankings' which make up the 'new governmentality of organisations' brought about by 'the increasing centrality of values and ethics to corporate governance.' Finally, some scholars have discussed new forms of citizenship such as that of the 'ethical consumer' which are brought into being by these new languages of virtue (Barnet, Clarke et al. 2007).

Through its analysis of the conditions of possibility of one particular contemporary ethical discourse – bioethics – and the way it has transformed modern formulas of rule and subjectivities, this thesis is to be understood as a contribution to this burgeoning body of work. The focus of analysis of both this emerging body of work and my thesis are contemporary ethical discourses themselves, not liberalism as with the literature on governmentality. In particular, the aim is not to show how these new languages of virtue resemble and are influenced by neo-liberal discourses and thus participate with them in advanced liberal

governmentality as Nikolas Rose (1999a:Chapter 5; 2000b; 2006:22-31; 2007) has done in his work on 'etho-politics.' Indeed, although there is much merit in such an approach, it presents two critical weaknesses. First, in order to associate neo-liberalism and contemporary ethical theories within one logic of government (advanced liberal rule), one has to use a criteria of association (active citizenship) which is so general and vague that it explains very little and forecloses any detailed empirical accounts of these new politics of virtue. Second, as Jacques Donzelot (Donzelot and Gordon 2008) has argued, by assuming that both neo-liberalism and (through its association with neo-liberalism) the new languages of virtue are morally invalid, such an approach can be deemed to be based on problematic assumptions and to be unnecessarily disparaging. Instead, the aim of both the emerging body of work on languages of virtue and my thesis is to take these new ethical discourses seriously and provide a detailed picture of their emergence, development and globalisation as well as their impact on mentalities of rule and contemporary concepts of the subject and the citizen. In this perspective, the relationship between ethical formulas of rule and liberalism is not ignored altogether but discussed as one aspect among many others. So, for example, in chapters 3 and 4, I discuss the interactions between bioethics and both social liberal and neo-liberal ways of conceiving, problematising and governing the medical use of the human body.

Methodological Considerations

In order to contribute to our understanding of the development and impact of bioethics in particular, and contemporary ethical discourses in general, one needs of course to access and map out the assemblage of rationalities, technologies and authorities which allow one, in both the United Kingdom and Singapore, to think of the medical use of the human body as an ethical problem and to govern it accordingly. I therefore set out here the methodological considerations that have guided my efforts to identify and describe both the assemblage of a bioethical *dispositifs* in the United Kingdom and Singapore and the forms of subjectivity and citizenship these *dispositifs* have brought into being in both countries. Furthermore, I also clarify the reasons for choosing the United Kingdom and Singapore as empirical sites.

Constructing a Relevant Corpus of Materials for Analysis

The first strategic methodological choice in my attempt to access and describe the rationalities and technologies that make up bioethical governance has been to adopt the 'method for composing our world' developed by Bruno Latour (1988:9-12) in his analysis of the

development and diffusion of the technique of pasteurisation in late nineteenth century France. According to him:

> 'The method I use does not require us to decide in advance on a list of actors and possible actions. If we open the scientific literature of the time, we find stories that define for us who are the main actors, what happens to them, what trials they undergo. We do not have to decide for ourselves what makes up our world [or] who are the agents ... Nor do we have to know in advance what is important and what is negligible and what causes shifts in the battle we observe around us. Semiotic studies of texts of the time will do the job of inter-definition for us ... [The writers of the period] attribute causes, date events, endow entities with qualities, classify actors. The analyst does not need to know more than they; he has only to begin at any point, by recording what each actor says of the others. He should not ... impose some predetermined sociology on the sometimes bizarre inter-definition offered by the writers studied. The only task of the analyst is to follow the ... translations, drifts and diversions as they are made by the writers of the period' (ibid. p.9, 10, 11).

In other words, and adapting Latour's words to address the issue tackled in this thesis, there is no need to define in advance what bioethical governance is, who the main actors defining, promoting and resisting bioethics are or what the key moments in the development of bioethics are. Rather, we need to record what doctors, medical researchers, philosophers, lawyers, sociologists and other policy specialists have said and written about bioethical governance and its importance, the events that gave rise to it, the key actors in its development and the main issues encountered when trying to operationalise it. A patient and meticulous recording and analysis of what these different 'writers' have published will allow us to 'understand at once the *content* [of bioethical governance in the UK and Singapore] and its *context'* (ibid. p.12).

In order to record and analyse the texts of these 'writers,' a corpus of their writings must be gathered, for which I have used a three-pronged approach modelled on Latour's method (cf. ibid. p.11-12). First, I gathered all the relevant articles from the *British Medical Journal (BMJ)* and the *Singapore Medical Journal (SMJ)* between 1960 and 2007, searching a series of over sixty key words in the journals' indexes, including (bio)ethics, (informed) consent, research/experiment, patient, human, different types of body parts (kidney, embryos, tissue, etc.), pertinent medical sub-disciplines (genetics, etc.), key institutions (Nuffield Council, Royal College of Physicians, etc.) and the names of key actors in the field. As the official journals of the British Medical Association (BMA) and the Singapore Medical Association (SMA) respectively, the BMJ and the SMJ discuss in their columns any events relating to the development and change of medical and bio-ethics, mentioning the key actors and actions.

The decision to collect and analyse data for the year 1960 onwards in the United Kingdom was based on the fact that historians have located the emergence of modern bioethics in both the

USA and Europe in the 1960s, an interpretation confirmed by my own research (cf. Rothman 1987; Toulmin 1988; Weisz 1990a; Rothman 1991; Baker 1993; Reich 1994; Reich 1995; Bompiani 1996; Malherbe 1996; Reich 1996; Viafora 1996; Jonsen 1998; Pellegrino 1999; Stevens 2000; Cooter 2000a; Hazelgrove 2002; S. Lock 2002; Amstrong 2007; Fox and Swazey 2008). It could be argued that the immediate post-WWII period and, especially, the drafting of the *Nuremberg Code* in 1947 would constitute a more relevant starting date for a genealogy of modern research ethics. Indeed, many social scientists and bio-ethicists see the *Code* as the origin of both bioethics and today's ethical regulatory systems for biomedical research (e.g.: Campbell, Gillett et al. 1992:81; Kennedy and Grubb 2000:1667-1678; Corrigan 2003:771-772; Jasanoff 2005:174; Holden and Demeritt 2008:81). One of their reasons for doing so is that many of the principles laid out in the *Code* have been integrated and play a key role in today's ethical frameworks for medical research. But, while the impact of the *Nuremberg Code* on modern bioethics cannot be overemphasised, historians argue that modern bioethics only started to develop from the 1960s onwards. Firstly, they show that the *Code* failed to get much attention in either the USA or Europe up to the 1960s, when it was 'rediscovered' by the nascent discipline of bioethics. Secondly, the rationale which informed the *Nuremberg Code* was very different to the one which informed modern bioethics. The Allies drafted and conceived the *Code* not as an instrument to condemn medical research in general but as the perversion of medicine by the Nazis and totalitarian rule more generally. In other words, the *Code* was a 'Code for Barbarians' that was irrelevant to research undertaken in the USA and Europe. In contrast, bioethics in the 1960s centred on a questioning of modern medicine and the practice of medical experimentation in general. The decision to collect and research data from 1960 onwards in Singapore is based on two main reasons. Firstly, the timeframe guarantees a certain symmetry to the comparison between the two countries. Secondly, the year 1960 corresponds to Singapore's independence from the British Empire in 1959, a time which saw the creation of a series of national institutions such as Singapore's Legislative Assembly and the SMA, with the latter publishing the SMJ from 1960 onwards after gaining its independence from the BMA. This examination of the SMJ from 1960 onwards shows that in Singapore, in stark contrast to the United Kingdom, modern bioethics only developed from the mid-1990s onwards.

In addition to my survey of the BMJ and the SMJ and using a similar research technique, I also gathered all pertinent articles published in: (1) the *Journal of Medical Ethics (JME)*, one of the leading international bioethics journal, from its launch by the BMA in 1974 to the present; (2) the *Singapore Medical Association Newsletter (SMAN)*, a complement to the SMJ which covers political, economic and professional matters relating to the practice of medicine in Singapore,

from its launch by the SMA in 1966 to the present; and (3) the *Straits Times*, Singapore's main daily newspaper and the government's official outlet, from the moment Singapore introduced bioethics (circa 1990) to the present. Finally, on the basis of all the articles already gathered, I identified key people and institutions in the field of bioethical governance in both countries and collected the different documents they had produced: legal documents; records of parliamentary debates; reports and guidelines from government departments, expert commissions, bioethics committees, academic research centres, professional medical associations and patients' groups; books and articles published by doctors, medical researchers, philosophers, lawyers, sociologists and other policy specialists; manuals, forms and directives issued by hospitals, research institutes, tissue banks and universities; reports and directives from European institutions like the European Union or the Council of Europe which are of importance in the United Kingdom; and documents from international organisations like the WHO, UNESCO or CIOMS which are used in both countries.

It is the systematic content analysis of this large and robust archive of documents which has allowed me both to identify the rationalities, technologies and authorities that have made it possible to conceive of the medical use of human tissue as an ethical problem necessitating regulation and to determine the way these bioethical *dispositifs* have transformed subjectivities and notions of citizenship in both countries. Such a document-based analysis is perhaps somewhat in contrast to the ethnographic and narrative-based research promoted by the sociological and anthropological literature on the biomedical sciences discussed above. However, I have not collected and analysed my corpus of texts in isolation; rather, my reading and understanding of these documents has been guided and facilitated by a four-pronged, complementary research strategy.

Firstly, I interviewed over twenty key experts in the field of bioethics, including: Alastair V. Campbell, Professor of Medical Ethics at the Centre for Biomedical Ethics, National University of Singapore, and member of Singapore's Bioethics Advisory Committee; John Elliott, Professor of Psychology, National University of Singapore and Research Fellow at Singapore's Bioethics Advisory Committee; Sarah Franklin, Professor of Sociology at the London School of Economics and member of the UK Human Stem Cell Coordinators' Organisation; Emily Jackson, Professor of Law at the London School of Economics and member of the UK Human Fertilisation and Embryology Authority and the Medical Ethics Committees of both the BMA and the Royal College of Physicians; Terry Khan, Professor of Law, National University of Singapore and member of Singapore's Bioethics Advisory Committee; Bartha M. Knoppers, Professor of Law at the University of Montreal, member of

UNESCO's International Bioethics Committee and International Advisor to Singapore's Bioethics Advisory Committee; Pin Lim, Professor of Medicine, National University of Singapore and Chair of Singapore's Bioethics Advisory Committee; Darryl Macer, UNESCO's Regional Advisor on Bioethics for Asia and the Pacific and member of UNESCO's International Bioethics Committee; Genevra Richardson, Professor of Law at the Centre for Medical Law and Ethics, Kings College London and member of both the UK Medical Research Council and the UK Stem Cell Bank's Steering Committee; and Chor Hiang Tan, Senior Director of Health Regulations at Singapore's Ministry of Health and member of Singapore's National Medical Ethics Committee's Workgroup on Biomedical Research on Human Subjects.

Secondly, I visited tissue banking facilities in both Singapore and London, including: the Assisted Conception Unit, Guy's Hospital, London; the Tissue Repository, the National Cancer Centre, Singapore's General Hospital; the Tissue Repository, National University Hospital, Singapore; and the Singapore Tissue Network. These visits gave me a useful insight into how such facilities were run on a day-to-day basis, from obtaining the patient's consent to the collection and deep-freeze storage of the tissue, and were an excellent opportunity to talk with the people working there, in particular the nurses in charge of getting the patients' approval to collect and use parts of their bodies.

Thirdly, I attended several conferences on bioethics where I listened to relevant lectures as well as met and discussed with many eminent and less eminent bio-ethicists. These conferences included: a workshop on the 'Regulation and Standardisation of Stem Cell Research in the UK and China' organised by the London School of Economics in June 2006; a one-day 'Ethics Symposium' organised by the Singapore Stem Cell Consortium in February 2007; and the eighth 'Asian Bioethics Conference' organised by the Asian Bioethics Association and held in Bangkok in March 2007.

Fourthly, I benefit from being what early anthropologists would have called a 'native,' having been trained in and practiced law and, in particular, medical law. Indeed, I was trained at the University of Neuchâtel, Switzerland, where I was taught by one of the country's first experts in the field, Professor Olivier Guillod, who wrote his PhD thesis on *Le consentement éclairé du patient* (The Informed Consent of the Patient, 1986) and opened one of the most important centres for medical law in Switzerland in 1994, the 'Institut du droit de la santé' at the University of Neuchâtel. Furthermore, I worked as a lawyer for the Swiss Ministry of Public Health, dealing among other things with the issue of Patients' Rights.

Finally, besides conducting the empirical research explained above, I have also used historical books and articles to further contextualise the development of bioethical *dispositifs* in both the UK and Singapore. To the best of my knowledge, there has been no work done on the history of bioethics in the UK as such, apart from the excellent but very specific work of Whong-Barr (2003) on the London Medical Group. But, for historical contextualisation in chapter 4 in particular, I refer to the following key studies: the instructive work of Hazelgrove (2002) on the reception (or, rather, non-reception) of the *Nuremberg Code* in the UK between 1946 and 1973 which shows the absence of modern bioethics in the UK during that period; and the work of Rothman (1987; 1990; 1991), Jonsen (1998) and Stevens (2000) on the development of modern bioethics in the USA from the 1960s onwards, a rich source of information given the many exchanges between American and British bio-ethicists. Furthermore, to help me track Singapore's post-independence discourse on modernisation discussed in chapter 5, I relied on the work of Margolin (1989), Huff (1995), Perry, Kong and Yeoh (1997), George (2000) and Rodan (2006). Finally, chapter 3 of this thesis, which examines how the medical use of the human body was thought of and governed *before* the emergence of bioethics in the 1960s, is significantly informed by the historical work done by other scholars. Most of my discussions on the 1832 English *Anatomy Act* are based on the excellent work of Ruth Richardson (1987) and Thomas Tierney (1998) whilst my treatment of Richard Titmuss' *The Gift Relationship* owes much to the exceptional scholarly research done by Philippe Fontaine (2002) as well as Douglas Starr's (1998) detailed history of blood.

Why Contrast the United Kingdom and Singapore?

Finally, I need to justify my choice to study and compare the United Kingdom and Singapore. There are four reasons for choosing these two countries. Firstly, both countries are currently at the forefront of development in both biomedical research and research ethics (Ong 2005; Franklin 2006; Holden and Demeritt 2008). While the UK has a long tradition in both these domains, Singapore has made an extraordinary effort to level up in the last ten to twenty years. This offers a very different dynamic to studies (e.g.: Geissler 2005; Petryna 2005a; Petryna 2005b; Petryna 2006; Petryna 2007; Sunder Rajan 2007) which contrast a First World and a Third World country in which researchers from the former travel to 'use' the population for research and where there is an unequal relationship which translates into a particular type of ethics for developing countries (e.g. Nuffield Council on Bioethics 2002). Indeed, Singapore is now considered as a competitor and partner of the United Kingdom (e.g. Department of Trade and Industry 2004) and, unlike Third World countries which might feel obliged to adopt

ethical norms developed in the West, Singapore willingly chose to import Western modern bioethics.

Secondly, the two countries have had close links since the colonisation of Singapore by and its subsequent integration into the British Empire in 1819. The almost 150 years spent as a part of the British Empire has made Singapore's political, economic and social organization often strikingly similar to that of the United Kingdom (cf. Turnbull 1989; Chew and Lee 1991; Perry, Kong et al. 1997). The organisation of the medical sciences is certainly no exception, with the British having opened up the first hospitals, set up the medical education system articulated around the King Edward VII College of Medicine opened in 1905 and structured the medical profession by establishing the Malaya Branch of the British Medical Association, which later became the Singapore Medical Association (Lee 1978; Tan 1991; Cheah 2003). Although the British influence diminished significantly after 1959, with the newly independent Republic opening up to other influences, most notably North America, ties with the United Kingdom have stayed strong and exchanges have remained important. This is particularly striking when examining the import of ethics governance to Singapore in the late 1990s and early 2000s. Indeed, not only was the city state's ethical framework for human tissue research explicitly modelled on the British system, British bioethics experts, such as Alastair Campbell or Martin Bobrow, were also hired to help set up and run Singapore's ethical framework as well as to teach bioethics to local students. This direct influence has furthermore been reinforced by the large number of both British life scientists and multinational companies active in the biomedical sciences that started arriving from the mid-1980s onwards as part of Singapore's drive to build up its capacity in medical research. With these émigrés and companies came the influence of their compulsory training in medical ethics and awareness of bioethical issues. These numerous similarities have an important impact on the sort of comparison undertaken here. Indeed, instead of imposing an 'etic' analytical grid in order to compare what is considered to be, for an external observer, the relevant moral norms in both countries, this thesis follows empirically the language, concepts and procedures that make up bioethical governance as they are transported from the UK to Singapore by experts in bioethics and within bio-ethical reports and guidelines.

The third reason for contrasting the UK and Singapore is that the two countries also present some key differences which stand in a productive tension with the similarities discussed above. To start with, there are differences in the way that bioethical governance was developed in each country. In the United Kingdom, it was developed from the late 1980s onwards by a network of British lawyers, doctors and philosophers working in research centres,

governmental commissions and professional associations that had been put into place between the early 1960s and the late 1980s. In contrast, in Singapore ethics governance was imported from the West in the 1990s and parachuted, ready-made, into a country which had little or no expertise in bioethics. Furthermore, the recent history of the two countries presents some notable contrasts in the last forty years or so. At the time when bioethics was first developed, the United Kingdom was contending with the collapse of the Empire, de-industrialisation and the emergence of neo-liberalism and post-1960s radical discourses. In contrast, during that same period, Singapore underwent intense post-independence nation-building programmes as well as near-obsessive efforts to develop and modernise the country, first through intense industrialisation and, more recently, through the development of the biomedical sciences. These differences make the comparison between the two countries productive as it allows us to explore both the different rationales for the development of bioethics in both countries and how the bioethical principles, categories and techniques developed in the UK are transformed and adapted to Singapore's different political, economical and social context.

The fourth and final reason for comparing the UK and Singapore is the fact that for most of the 1980s and the 1990s, the Singaporean government argued, in its bid to deflect human rights-based criticisms against the Republic's 'illiberal' policies, that the Island's population is, in terms of its culture, radically different from the West (George 2000). Based on the concept of 'cultural relativism,' which many American anthropologists used to oppose the Universal Declaration of Human Rights in 1948, the government developed the idea that people in Singapore held what it termed 'Asian values.' These values, the government further argued, were incompatible with the Western individualistic morality embodied in modern human rights, including modern bioethics (e.g. Kuhse and Singer 1999; Sakamoto 1999; Doering 2002; Yu 2002). By doing so, Singapore was using a rather successful critique of a universally valid morality that led some philosophers, political theorists and bio-ethicists to reframe modern human rights and bioethics so as to acknowledge and incorporate the notion of 'cultural difference' (e.g. Campbell, Gillett et al. 2001:Chapter 3). By following the diffusion of bioethics from a Western country (the UK) to an Asian one (Singapore), this thesis can examine the role that the notions of 'culture' and 'cultural differences' played in the eyes of those who attempted to import bioethics in Singapore.

Conclusion

This chapter describes both the analytical approach as well as the method used in this thesis to explore the field of the ethical governance of the life sciences. The approach adopted in the thesis is a genealogical one. The chapter explains the research ethos and the analytical concepts (problematisation, govern-mentalities, rationalities, technologies of government, forms of authorities, modes of subjectification) that characterise this approach which was developed by Foucault and others (e.g.: Donzelot 1980; Rabinow 1989; Burchell, Gordon et al. 1991; Barry, Osborne et al. 1996; Isin 2002; Foucault 2004a; Foucault 2004b). It shows, in particular, how the genealogical approach allows one to explore the progressive and contingent development of the rationalities and technologies that make it possible to identify something as a problem in the present. In our case, it allows us to explore the history of the different forms of rationalities and practices that make it possible to identify the medical use of the human body as a 'problem of ethics' today in both the UK and Singapore. The chapter also shows how the genealogical approach allows one to analyse the way in which a given set of rationalities and practices constitutes a particular figure of the subject and citizen. In our case, it allows us to examine how the linguistic categories, institutions and procedures that make up a key element of bioethical governance – the mechanism of informed consent – have reconfigured subjectivities by allowing individuals to think of themselves as 'human beings' graced with a 'capacity to reflect and decide' on their own lives and bodies.

The method employed in this thesis to access and map out the rationalities and technologies that make it possible to identify the medical use of the human body as a problem of ethics is Latour's (1988:9-12) 'method for composing our world.' The key methodological rule posited by Latour is that the identification of a governmental logic's key moments, actors, ideas and issues is best left to those who developed the logic themselves. In our case, Latour's approach means that we have to analyse what doctors, philosophers, lawyers and other bioethical experts have written and said about bioethical governance. The chapter explains how a corpus of writings from these moral experts was gathered by examining four key journals in the field of bioethical governance from 1960 to 2007. It also describes how this corpus was extended to include other documents (reports, guidelines, etc.) produced by the people and institutions identified as key in the field on the basis of the analysis of four journals. Furthermore, it explains how this document-based analysis was complemented by a series of interviews with key experts, attendance of several bioethics conferences and my 'native' insights. Finally, the chapter also justifies the choice to contrast the UK and Singapore by highlighting the

productive mixture of similarities and differences between the two countries as well as to their rich and eventful relationship.

Aside from outlining the analytical approach and the method used in this thesis, this chapter also outlines the original contribution made by the thesis to the existing literature and, more specifically, to the two following bodies of work: (1) sociological and anthropological studies of bioethics and (2) governmentality studies. As this chapter explains, what makes the thesis an original contribution to the first body of literature is the different analytical perspective it adopts when examining the field of ethics governance. To start with, unlike this body of work, it does not assume that the medical use of human tissue is indeed an ethical issue and attempt to uncover bioethics' shortcomings when addressing this issue (bureaucratisation; lack of socio-cultural awareness; facilitating human exploitation). It purports, instead, to analyse the conditions that make it possible to identify the medical use of human tissue as a problem in the first place. Furthermore and also in stark contrast with this first body of literature, this thesis does not view bioethical governance in general and the mechanism of informed consent in particular as negating individuals' true nature (be it their capacity to reflect and decide, their socio-cultural dimensions or their right not to be exploited). On the contrary, it seeks to highlight bioethical governance's productive force in shaping modern subjectivities. The thesis shows, in particular, how the language, procedures and institutions that make up the mechanism of informed consent, a key component of bioethical governance, contributes to the constitution of modern subjectivities.

As this chapter also explains, what makes this thesis an original contribution to the literature on governmentality is the empirical reality to which it applies the genealogical perspective it shares with governmentality studies. In other words, while this thesis shares a similar Foucauldian analytical framework with the literature on governmentality studies, it applies it to another field of research. Following Foucault, the literature on governmentality has, by and large, contributed to a genealogy of liberalism and neoliberalism, mapping out their conditions of possibility and modes of subjectification. Instead, this thesis applies the analytical concepts it shares with the literature on governmentality to what I term 'contemporary ethical discourses.' By this term I refer to these new languages of virtue that aim to infuse various domains of life such as war, trade and science with a renewed sense of morality, including: discourses on human rights and democracy, agendas for environmental sustainability, corporate social responsibility programmes and bioethics. A burgeoning field of literature has begun to study the development of these contemporary ethical their reconfiguration of modern governance and citizenship (e.g.: Rose 1999a:Chapter 5; Strathern 2000b; Osborne

2003; Barry 2004; Power 2007). By analysing how one such language of virtue – bioethics – has emerged in the UK and been exported to Singapore and by analysing how bioethics has transformed modern subjectivities, this thesis aims to contribute to this nascent body of work.

Chapter 3

Southwood Smith, Bentham and Titmuss: Governing the Medical Use of the Human Body Before Bioethical Governance

This chapter does not address ethics governance itself. It does not, in particular, examine the different concepts, expertise and subjectivities that make up bioethical governance and make it possible to think and organise the medical use of the human body today. Nor does it examine the ways these concepts, expertise and subjectivities were progressively assembled. Instead, this chapter describes and analyses the languages, institutional forms and subjectivities that allowed people to problematise and administer the circulation of the human body for medical research *before* bioethical governance became the prevalent governmental logic in the 1990s. More specifically, the chapter explores the logics that have dominated the way of governing the circulation of the body from the start of the modern era, in the early nineteenth century, to the late twentieth century. Furthermore, the chapter focuses primarily on the United Kingdom rather than Singapore, both because the most influential logics governing the circulation of the body were developed in the UK (rather than in Singapore) and because of the paucity of historical scholarship on this issue in Singapore. Nevertheless, a short and necessarily superficial account is given of how some of logics of government that dominated in the UK were exported to Singapore. The aim of describing and analysing the often very different ways of problematising and governing the circulation of the human body that prevailed before the rise of bioethical governance is two-fold. First, it offers an interesting contrast to the bioethical logic that is prevalent today in both the UK and Singapore. Second, it provides us with an overview of the context in which the different elements that make up ethics governance were progressively assembled from the 1960s onwards.

As explained, the bulk of the chapter examines the styles of government which have dominated the way of conceiving and governing the circulation of the human body for medical research in the United Kingdom between the early nineteenth century and the late twentieth century. It argues that, during that period, there have been two principal logics of rule that have, in succession, dominated the way to think, problematise and govern the medical use of the human body (Reubi 2009). The first of these two styles – which I term 'modern anatomical

governance' – became prevalent with the adoption of the *Anatomy Act* in 1832. Drafted by physician and health reformer Thomas Southwood Smith and philosopher Jeremy Bentham, the *Act* set in place a comprehensive scheme to govern the collection and dissection of human corpses by anatomical schools and hospitals for research and educational purposes in the UK (cf. Richardson 1987; Tierney 1998; Sappol 2002). A typical illustration of anatomical rule, the *Act* was also, as Tierney (1998) has argued, the first modern system to govern the circulation of the human body. Indeed, by subordinating for the first time the circulation of the human body and its governance to the needs of medical education and research, it marked what Foucault described as the passage from a traditional mode of power where the sovereign holds the prerogative of life and death to a new type of power which he called 'bio-power,' defined as the administration of life so as to optimise and multiply it (cf. Foucault 1978:135-159; Tierney 1998; Dean 1999:98-102; Rose 2006:52-54).

Focusing mainly on the *Act* itself, the chapter analyses the way in which modern anatomical rule has problematised and organised the circulation of the human body. This, I argue, is very different from the way bioethical governance thinks and governs the circulation of the body today. For bioethical governance, the problem with the collection and medical use of the body is the danger it represents for human beings, a danger it seeks to tame through mechanisms like informed consent. In contrast, for anatomical rule, the problem is the insufficient supply of human corpses that hinders the development of medicine and, thereby, the happiness of the living. It attempts to solve this problem by establishing an Inspectorate of Anatomy which is responsible for retrieving, in secret, the corpses of paupers who die in workhouses and redistributing them to anatomy schools in the UK. This would be the dominant way to conceive and organise the circulation of the human body for medical research in the UK for over a century until it was progressively displaced by another logic of governance which I term 'haemato-social governance.'

Richard Titmuss' book *The Gift Relationship: From Blood to Social Policy*, which he published in 1970 when Professor of Social Administration at the London School of Economics, is certainly one of the best and most illustrious examples of haemato-social rule to this day. But, unlike the 1832 *Anatomy Act* which marked the rise of anatomical rule, Titmuss' book signalled the twilight of haemato-social governance. Indeed, the book, which compared the American market-based and British donor-based systems for the collection and distribution of human blood for transfusion, was intended as a defence of haemato-social governance which, by then, had started to be contested by both neo-liberal theorists and thinkers from the nascent field of bioethics (cf. Oakley and Ashton 1997; Starr 1998:Chapter 12; Rabinow 1999:Chapter 4;

Fontaine 2002; Waldby and Mitchell 2006:Introduction). As this chapter shows, haemato-social governance itself had began to emerge almost fifty years earlier, in the mid 1920s, together with what the literature on governmentality has termed welfarist models of rule based on 'social solidarity' and 'society' (e.g. Gordon 1991; Dean 1999; Miller and Rose 2008). Initially developed in relation to blood used in transfusions, it would, from the 1950s onwards, become the dominant way of conceiving the circulation for most human body parts, from skin, bones and kidneys used in transplantation to human tissues used in medical research.

Concentrating mainly on Titmuss' book as well as on the organisation of the collection of blood for transfusion, this chapter examines the way haemato-social governance conceived and governed the collection and medical use of the human body. I argue that the way Titmuss problematised the circulation of the body was very similar to that of Southwood Smith and Bentham. Indeed, as with the latter, the issue for Titmuss was the chronic shortages of blood for transfusion which imperilled the functioning of medicine and, thus, social progress. But, while they agreed on the definition of the problem, Titmuss' solution could not be more different. Instead of secretly collecting the bodies of the poor that had died in the workhouses, he defended a system articulated around the National Blood Transfusion Service which was responsible, first of all, for persuading people through propaganda to donate blood and, then, for collecting and redistributing it to hospitals. This would be the prevailing way to problematise and organise the circulation of the human body up to the early 1990s when it was definitively dislodged from its dominant position by bioethical governance.

Before concluding, the chapter offers a short, complementary and necessarily superficial account of how these two logics of government that dominated in the UK were exported to Singapore after the island's integration into the British Empire in 1819. Focusing first on anatomical rule, the chapter argues that, while the practice of dissection, strategies of secrecy and the category of the poor were taken up in Singapore, modern anatomical logic never really imposed itself in the island. In contrast, the chapter shows how haemato-social logic was readily taken up in Singapore and became the dominant way to understand, problematise and organise the circulation of the human body on the island until the arrival of bioethical governance in the late 1990s. But, as the chapter also shows, haemato-social rule was not an exact replica of the logic in place in the UK. Indeed, instead of using haemato-social governance to build a welfare state articulated around notions of social solidarity and progress, Singapore's leadership used it to develop and modernise the newly independent Republic.

Modern Anatomical Rule

The adoption of the *Anatomy Act* by the British Parliament in 1832 marked the rise to dominance of modern anatomical rule in the United Kingdom. Building on proposals put forward by Thomas Southwood Smith, a Unitarian minister trained in medicine and a key figure in the British sanitary movement, and, later, by philosopher Jeremy Bentham, the *Act* sought to address the inadequate provision of human corpses for dissection used in medical education and research in the United Kingdom. To that end, it established an 'Inspectorate of Anatomy' which would be responsible for secretly collecting the corpses of paupers who had died in workhouses and redistributing them equitably among the country's hospitals and anatomy schools (Richardson 1987; Tierney 1998; Sappol 2002; Crimmins 2002b; MacDonald 2005). As already alluded to, by subordinating the movement of corpses to the needs of medicine, the *Act* was the first modern system to govern the circulation of the human body, marking the passage from a traditional mode of power to what Foucault termed 'bio-power' (Foucault 1978:135-159; Tierney 1998; Dean 1999:98-102; Rose 2006:52-54). In any case, the system set in place by the *Act* was to last over a century in the United Kingdom. One would have to wait until the 1920s to start witnessing its progressive erosion by the emergence of haemato-social governance (cf. Richardson 1987:258-260; Cooter 2000b:475).

An important trigger to the adoption of the *Act* was a transformation in the practice of dissection that occurred during the eighteenth century. The dissection of human bodies was nothing new in late eighteenth and early nineteenth century Great Britain. Ever since its emergence in Italian city-states in the twelfth century, dissection had been conceived across most of Europe as a key mode of knowing about the human body most notably for medicine (Park 1995; Siraisi 1995; Porter 1999:176-186). Such an understanding of the practice of dissection was still very much the norm in eighteenth and nineteenth centuries Great Britain, as illustrated by the following quote from Robert Knox, an important Edinburgh anatomist of that period:

> '[Dissection is] a means towards an end. It is pursued by the physician and surgeon for the detection of disease and the performance of operations; by both to discover the functions of the organs; and by the philosopher with the hope of detecting the laws of organic life, the origin of living beings, and the transcendental laws regulating the living world in time and space' (cited in MacDonald 2005:99).

It was the same conception of dissection that also informed Jeremy Bentham's desire to have his body dissected after his death, a rather unusual wish for that period and one which he first formulated at the age of twenty-one, in 1769:

> 'It is my Will and special request to my Executor that if I should chance to die of any such disease as that in the judgement of my said Executor the art of Surgery or science of Physic should be likely to be any wise advanced by observations to be made on the opening of my body, that he my said Executor do cause my said body as soon after my decease as may be delivered unto George Fordyce now of Henrietta Street Covent Garden Dr. of Physic ... so to be dealt with' (cited in Crimmins 2002b:9-10).

But, while dissection was nothing new in eighteenth and nineteenth centuries Great Britain, it was undergoing important transformations, most of which originated in Paris, which was the world's leading centre for medicine at the time (Gelfand 1972; Porter 1999:306-315). One of these changes was the development of pathological anatomy in late eighteenth century France described by Foucault (1973) in *The Birth of the Clinic.* As Foucault showed, pathological anatomy was to radically restructure medical perception, with the likes of Xavier Bichat arguing that the description and classification of diseases had to change and be based on a real and objective foundation: their progression in the different tissues of the human body which should be studied by 'open[ing] up a few corpses' (Bichat cited in Sappol 2002:77). This restructuring of medical perception was also to change the role of dissection from a method to map the structure of the body with its systems and organs to a method to track the development of disease in bodily tissues (Tierney 1998:Paragraph 11). But, while pathological anatomy was to progressively transform the way physicians would use dissection in Great Britain, it was the emergence of a new model for the practice of dissection – the 'Paris manner of dissection' (Gelfand 1972) – which would critically impact on the way the circulation of the body was problematised in the early nineteenth century, as Tierney (1998) has argued.

This new model for the practice of dissection was developed in the French capital from the 1800s onwards and introduced in London by William Hunter in 1746 (cf. Gelfand 1972; Tierney 1998). Until then, dissections were, throughout Europe, highly ritualized and elaborate spectacles performed by renowned anatomists in front of large audiences composed not only of medical students but of representatives of the authorities, members of the educated elite, wealthy merchants and other interested spectators. These spectacles, conducted in specially built, large and very ornate 'anatomy theatres' like the Barber-Surgeons Company's Hall in London, were bestowed with multiple meanings. Besides their role in medical education and their entertainment value (some dissections were done with music throughout while others concluded with sumptuous feasts), they also marked the status and prestige of the city in which the theatre was located, conveyed lessons in human mortality for the audience and constituted a post-mortem punishment for the dissected, the majority of whom were convicts (Sawday 1995; Tierney 1998).

In contrast, the 'Paris manner of dissection,' which progressively replaced the 'dissection-as-spectacle' model during the eighteenth century, was based on privately run anatomy courses taught by young surgeons, often in their home or a rented room, to supplement their income. Typically three months long, these courses were designed for medical students, to whom they gave the opportunity to personally perform dissections on up to six corpses (Gelfand 1972; Tierney 1998). The dissemination of the Paris manner of dissection transformed the understanding of dissection within medicine: not only was dissection a technique to acquire knowledge about the body, it was now also something physicians and surgeons had to have carried out themselves during their medical education before being allowed to practice their profession. Put differently, personal experience of dissection by medical students was now seen as a necessary condition for the development of a rational medicine and safe surgery. This new understanding of the dissection is well conveyed in this quote from Southwood Smith:

> 'There can be no rational medicine and no safe surgery without a thorough knowledge of anatomy... It is by dissecting alone, that young men studying medicine and surgery can make themselves acquainted with the principles of their art ... Without [dissecting] they cannot, ... without the highest temerity, perform a single operation ... [because], unless important and difficult operations are performed ... with the utmost skill, life is inevitably lost ... [In other words,] operations must be performed, medical men must be educated, anatomy must be studied [and] dissections must go on ' (ibid. p.5, 41 & 43).

Of course, by requesting up to six corpses per medical student, the new 'Paris manner of dissection' substantially increased the demand for dead bodies in the United Kingdom. For reasons which we discuss below, this was an increase in demand that the two principal existing sources of supply of human corpses for dissection which existed in early nineteenth century Great Britain would be unable to satisfy. The first of these two sources of supply was the procedure by which the King gave the bodies of criminals executed at the gallows to physicians and surgeons for them to dissect as part of these criminals post-mortem punishment. This procedure was first established by King Henry VIII who, in 1540, had granted the newly-formed 'Barber-Surgeons Company' the annual right to the bodies of four hanged felons. The procedure was opened to further associations (like the Royal College of Physicians) by the 1752 *Murder Act* which declared dissection a statutory penalty available to judges for the avowed purpose of 'better Preventing the horrid Crime of Murder' (cited in Richardson 1987:35; cf. also: Tierney 1998:Paragraphs 32-37; Sappol 2002:100-101). As Tierney (1998:Paragraph 36) has argued, this procedure is an example of Foucault's traditional mode of power where the sovereign holds the prerogative of life and death (cf. also: Foucault 1978:135-159; Dean 1999:98-102; Rose 2006:52-54). Indeed, dissection was understood as a

punishment through which 'further Terror and peculiar Mark of Infamy might be added to the Punishment of Death' (cited in Richardson 1987:35).

The second of the two sources of supply of human bodies for dissection was the covert exhumation of recently-buried corpses, an activity which went by a variety of names like grave robbing, body snatching and resurrection (cf. Richardson 1987:Chapter 3; Tierney 1998:Paragraphs 38-40). The clandestine exhumation of dead bodies was an activity which had been practiced since as least the seventeenth century. For a long time, physicians, anatomists and medical students had exhumed and stolen the corpses they needed for education and research themselves. But, by the late eighteenth century, they had delegated this job and left the control of the market in exhumed corpses to 'professional gangs' of 'body-snatchers' or 'resurrectionists' (Richardson 1987:57); this shift might have been caused by the recognition, in 1788, of grave robbing as an offence punishable by fines and/or imprisonment under British common law (Tierney 1998:Paragraph 40). Both anatomists and resurrectionists had generally exhumed the bodies of those at the margins of society such as criminals, prostitutes and paupers. It was only with the rise in demand for corpses due to the introduction of the Paris manner of dissection from the late eighteenth century onwards that body-snatchers started to target all segments of society.

It was the incapacity of these two sources of supply to provide enough bodies to satisfy the increase in demand due to the emergence of the Paris manner of dissection which brought anatomists and physicians to increasingly agitate in favour of a solution to the problem. An influential intervention in this respect was a short article published in the *Westminster Review* in 1824 entitled: 'Use of the Dead to the Living.' Written by Thomas Southwood Smith, the article lamented the insufficient number of corpses available for medical education and research and called, in the name of 'the happiness of the living,' for the adoption of an 'Act of Parliament' that would provide an 'abundant, regular and cheap' supply of bodies to anatomical schools and hospitals (1832:31, 43 & 45). It was this article which prompted Jeremy Bentham, who held similar views to those of Southwood Smith, to address the legal situation concerning the failing provision of bodies to hospitals and anatomy schools. By 1826, Bentham had started lobbying Parliamentarians to that effect and had written a first draft of the future *Anatomy Act* which he aptly entitled the 'Body Providing Bill.' Two years later, members of Parliament favourable to his project, like the declared 'Benthamite' Henry Warburton, had secured the creation of a 'Select Committee on Anatomy' which, in a report dated 1828, recommended the adoption of a law to ensure a sufficient supply of corpses for medical education and research. After a first failure to adopt the law in 1828, a slightly

modified version of the text was finally passed in 1832 under the official title *Act for Regulating Schools of Anatomy* (or *Anatomy Act*).

The adoption of the *Act* in 1832 was very much part of the 'revolution in government' that took place in the United Kingdom during the nineteenth century and which saw government increasingly problematising and intervening in economic, political and social life (MacDonagh 1977; Richardson 1987:Chapter 5). These interventions included, besides the 1832 *Anatomy Act*: the regulation of factories and coal mines in a bid to improve the safety of workers; the adoption in 1834 of the new *Poor Law*, which sought to induce paupers to join the free labour market by making poor relief available only to those willing to accept the harsh conditions of the workhouse; Brougham's attempts to rationalise the English legal system; Robert Peel's modernisation of the police; and the comprehensive sanitary reforms to improve the vitality of the population conducted by Edwin Chadwick and for which public health reformers like Southwood Smith had long campaigned.

As MacDonagh (1977:Chapter 1) has argued, these interventions arose from a series of different factors. These included the economic and social upheavals resulting from industrialisation and technological innovations in agriculture, manufacturing and transport: demographic explosion, mass migration to cities, poverty, wage labour, pollution and dire sanitation standards. It also included a plethora of movements calling for change and reform. An important group, in that respect, was the constellation of people like Chadwick, Southwood Smith and Warburton who gravitated around Jeremy Bentham and shared many of his ideas and values. Bentham was 'a true child of the Enlightenment,' sharing its faith in reason and progress (Porter 2000:417). While Bentham applied rational thinking to a series of problems, he devoted most of his time to the reform of law and government in the United Kingdom, devising administrative schemes aimed at bringing happiness to the greatest number. Many of his schemes were to play a key role in the nineteenth century British revolution in government as they were adopted, developed and put into operation by his friends and followers. One illustration, of course, is the 1832 *Anatomy Act*; another one is the 1834 revision of the *Poor Law* which, under the direction of the his friend and secretary Edwin Chadwick, incorporated many of the propositions put forward by Bentham in his writings on the subject.

'Scanty' Supplies & the 'Happiness of the Living'

For people like Southwood Smith, Bentham or Warburton, the problem with the collection and medical use of the human body was not one of 'ethics' which necessitated the development of 'ethical guidelines' to protect human beings against the dangers of science, as bioethics would have it today. Rather, the issue, for them, was the deficient supply of corpses for dissection for medical education and research. Their will to remedy the situation and ensure an 'abundant, regular and cheap' supply of bodies to anatomical schools and hospitals was informed by a desire to promote 'the happiness of the living' (Smith 1832:31 & 43). This was based on two assumptions. First, that the practice of dissection was the basis of 'a rational medicine and safe surgery' (ibid. p.5). Second, that a rational and scientific medicine was the way to bring about progress, prosperity and happiness. The latter was an idea that had been put forward by the philosophers of the Enlightenment: rational and scientific medicine (and reason and science more generally) are, by 'enhancing man's control over nature,' the path to 'progress, prosperity and the conquest of disease' (Porter 1999:245; cf. also Canguilhem 1998).

The heart of the problem, for Southwood Smith and his allies, was that the two existing sources of human corpses – post-mortem punishment and body-snatching – were inadequate to satisfy the marked increased in the demand for bodies due to the adoption of the Paris manner of dissection in the late eighteenth century. To start with, the procedure by which the King gave the corpses of criminals to physicians and surgeons for dissection as part of a post-mortem punishment only yielded a very small number of bodies, even after the passage of the *Murder Act* in 1752 (Richardson 1987:Chapter 2; MacDonald 2005:Chapter 1). Furthermore, although there was talk of developing this source of supply by extending punitive dissection to crimes other than murder, Bentham and others were keen to avoid altogether a source of supply of corpses that was associated with public executions; indeed, they thought that such an association would be a hindrance to the development of anatomical science as it sat uneasily with the notion that anatomy was the path to progress, prosperity and happiness (Richardson 1987:Chapter 5; Tierney 1998:Paragraph 42). The clandestine exhumation of bodies, which provided most of the bodies used for dissection in the early 1800s in Great Britain, was also deemed inadequate by Southwood Smith, Bentham and others as it still fell short of anatomists' demands for bodies. Furthermore, supplies were often disrupted and the price of corpses tended to be high.

> 'By the method of exhumation, the supply after all is scanty; it is never adequate to the wants of the schools; it is of necessity precarious, and it sometimes fails altogether for several months. But it is the utmost importance that it should be abundant, regular and cheap' (Smith 1832:43).

These shortcoming were the result, for the most part, of the stark opposition to the practices of both exhumation and dissection on the part of the vast majority of the population, anatomists included (Richardson 1987:Chapter 4; Tierney 1998:Paragraph 40; Porter 1999:316-318). This opposition translated into two different types of action. First, many started investing in mechanisms – watch houses and guards; protective coffins – to prevent their dead relatives' bodies from being disinterred and stolen from cemeteries. Second, upon the discovery of a case of body snatching, spontaneous crowds would often form and assault the resurrectionists and anatomists involved, often ransacking their homes and schools. All this made the practice of grave robbing much more difficult and dangerous, leading to an increase in the price of bodies as well as to lower and irregular supplies.

Historians offer different explanations for this popular resistance to body snatching and dissection. For some (e.g. Richardson 1987; cf. also: Bynum 1991; Park 1995; Siraisi 1995), it was fuelled by the belief that there was a strong link between body and soul beyond death, an understanding found in animist ideas about the vitality of the corpse as well as in Christian notions of resurrection. Animism attributed an ambiguous spiritual power to the corpse which could be beneficial to or dangerous for the mourners. These beliefs often mixed with the early Christian very material understanding of resurrection which had survived up to the nineteenth century, whereby the dead slept in the ground until God returned to reign over an earthly Kingdom, at which point the dead would rise again with their bodies similar in structure and matter to those laid down in the grave (Bynum 1991). These beliefs encouraged people to care for and respect the dead bodies of their relatives, a care and respect which often translated into a strict adherence to the different stages of funeral rites (the washing, watching, viewing and burying of the corpse) and which body snatching and dissection obviously jeopardised.

For other historians (e.g. Laqueur 1983; Sappol 2002), popular opposition to resurrection and dissection were related to ideas about social exclusion and respectability in a nascent culture of consumption. The latter was replacing the natural order and fixed hierarchy of the pre-modern world. In this culture, where 'money made the men' (Laqueur 1983:114) and where status was acquired, fluctuating and fragile, 'death became the occasion for a final accounting, a stocktaking of worldly success' (ibid.). In a world were there was a profound anxiety about earthly standing, funerals were the last and final moment to assert oneself, success and capital. The more lavish the display, the better. The undertaker rose as servant of this new order. He was the proponent of a new aesthetic of death: 'beautiful death' (Sappol 2002:29). He offered an increasing number of 'death goods.' New architectural spaces appeared – mausoleums,

monuments, pastoral death parks. Allegories about the future of the soul were replaced by narratives about the history of the deceased and his or her worldly success. 'The funeral became a consumption good whose cost was clearly evident and could be matched with exquisite precision to the class and degree of "respectability," to use the nineteenth-century term, of the deceased' (Laqueur 1983:114). Within such a system, being disinterred and dissected, a fate understood to be reserved to those at the very margins, was considered as 'the final stamp of failure' (ibid. p.120) and a mark of social exclusion.

This popular opposition to exhumation and dissection was well known to Southwood Smith, Bentham and their allies (Richardson 1987; Tierney 1998; MacDonald 2005). But, compared with the promotion of the happiness of the living, people's reverence for the dead did not weigh much, they argued.

> 'Veneration for the dead is connected with the noblest and sweetest sympathies of our nature; but the promotion of the happiness of the living is a duty from which we can never be exonerated' (Smith 1832:30-31).

The promotion of the happiness the living was not Southwood Smith's only argument in favour of by-passing popular opposition to dissection and ensuring a adequate supply of corpses for dissection. He also argued, for example, that an insufficient supply of corpses would bring the 'ruin of the Medical Schools' (ibid. p.40) and make Great Britain 'become entirely dependent on France' for its anatomical knowledge (ibid. p.49). But the promotion of the happiness of the living was by far his chief argument. It was an argument that encompassed two separate assumptions. First, the idea that there can be 'no rational medicine and safe surgery' (ibid. p.5) without dissection, an idea which, as discussed above, had gained hold with the introduction of the 'Paris manner of dissection.' Second, the idea that a 'rational medicine and safe surgery,' by securing people's 'life and health,' played a key role in promoting the 'happiness of the living' (ibid. p.3, 5 & 31).

This second assumption was an idea which had first been put forward by the philosophers of the Enlightenment whose thought had powerfully influenced all of eighteenth century Europe and America (Canguilhem 1998; Porter 2000; Porter 2001). For the *philosophes*, mankind had a 'capacity for Progress' which, if well harnessed, would bring about 'a better future:' the elimination of 'injustices' and 'inefficiencies;' the establishment of 'milder government,' 'expert administration' and 'fairer laws;' the realisation of 'religious tolerance,' 'intellectual freedom' and 'heightened self-awareness;' and the creation of 'greater prosperity' and 'happiness' for all

(Porter 2001:5, 16 & 17). To illustrate both this perfectibility and better future, the proponents of the Enlightenment often wrote progressive histories of mankind tracing the emergence of 'Man' from 'savagery' to 'civilisation' (cf. ibid. p.16-18). An example of such texts was the 1794 *Esquisse d'un tableau historique des progrès de l'esprit humain* [*Sketch for a Historical Picture of The Progress of the Human Mind*] in which its author, the Marquis of Condorcet, a leading figure of the Enlightenment, charted the past, present and future stages of progress of the human mind. The way to bring about such progress, the *philosophes* argued, was to apply to humans and their environment the scientific reason and methodologies, most notably systematic doubt, observation and experimentation, which natural scientists had pioneered so successfully in the fields of astronomy and physics (Brockliss 1995:80; Porter 2001:15). 'Reason and science, they held, would make people more humane and happy' (Porter 2001:7).

A 'rational and scientific medicine' had an important role to play in this vision of reform and progress for mankind (Brockliss 1995; Porter 1999:Chapter 10; Porter 2000:Chapter 6; Porter 2001:60-61). For the proponents of the Enlightenment, physicians could, through the use of scientific reason and methods, understand and remedy the causes of diseases and, thus, participate in the creation of greater prosperity and happiness for everyone by securing good health and long lives. Such an understanding was not only held by *philosophes*, but was also embraced by doctors who sought to improve or otherwise legitimate their profession. A good illustration of this way of thinking can, once more, be found in Condorcet's 1794 *Esquisse*, in which he argued that humankind would, through the progress of science and medicine, soon overcome diseases and even death itself:

> 'The improvement of medical practice, which will become more important with the progress of reason and of the social order, will mean the end of infectious and hereditary diseases and illnesses brought on by climate, food, or working conditions. It is reasonable to hope that all other diseases may likewise disappear as their distant causes are discovered' (cited in Porter 1999:245-246).

There is little doubt that Bentham, Southwood Smith and their allies shared these ideas put forward by the proponents of the Enlightenment. Jeremy Bentham, for example, was one of 'the most systematically radical of the late Enlightenment reformers' (Porter 2000:415), relentlessly applying the 'hands of reasons' so as 'to rear the fabric of felicity' (Bentham cited in ibid. p.416). Concerned principally with the reform of both law and government, he spent most of his life devising administrative schemes (like poor relief systems and model prisons) which would satisfy what was in his opinion the only scientific measure of right and wrong: the 'Principle of Utility' or the happiness for the greatest number. Medicine, and more particularly anatomy, also held his attention. As both his wish to have his body dissected after his death

and his text *Auto-Icon; Or, Farther Uses of the Dead to the Living* attest, he saw the dissection of bodies as essential in furthering the development of medicine and, thus, the health and happiness of the living (cf. Richardson 1987; Crimmins 2002; Crimmins 2002b). His efforts to reform the supply of corpses for dissection certainly participated in the same spirit: by guaranteeing a sufficient supply of bodies for dissection, one promoted the development of a rational and scientific medicine which, in turn, would improve the health and happiness of all (Tierney 1998:Paragraphs 41 & 45).

Southwood Smith developed similar views in the 1824 article in which he argued, in the name of 'the happiness of the living,' in favour of the adoption of an 'Act of Parliament' that would guarantee an 'abundant, regular and cheap' supply of bodies (Smith 1832:31, 41 & 43). After having argued that dissection was necessary to the existence of a 'rational medicine and safe surgery' (ibid. p.5), he went on to explain that both were key in ensuring the happiness of the living. This was so, he clarified, because there could be no happiness if there is not, first of all, life and health. Put differently, a life free from pain and disease was a necessary precondition to any feeling of happiness.

> 'Everyone knows that, as far as his own individual good is concerned, protracted life and a frame of body sound and strong, free from the thousand pains which flesh is heir to are unspeakably more important than all other objects, because life and health must be secured before any possible result of any possible circumstances can be of consequence to him' (Smith 1832:3).

Of Inspection, Secrecy & the Poor – Bentham's 'Body Providing Bill'

Having defined the problem with the collection and dissection of corpses as a deficiency in the number of corpses supplied to anatomists which, by hampering the progress of medicine, jeopardized the health and happiness of the living, Southwood Smith and his allies sought to remedy it by adopting a 'plan' to provide anatomy schools with an 'abundant, regular and cheap' supply of corpses for dissection (Smith 1832:43 & 47). At the heart of the plan was the 'Inspectorate of Anatomy,' United Kingdom's first centrally financed and administered inspectorate (Richardson 1987:108), which was responsible for collecting corpses for dissection and redistributing them to anatomy schools and hospitals across the country. The corpses which the Inspectorate was instructed to collect and redistribute were those of paupers who had died in workhouses within the United Kingdom. This system to organise the circulation of the human body is of course in stark contrast with the way bioethical governance seeks to regulate the medical use of human tissue today. Instead of monitoring and protecting the 'capacity to reflect and decide' of all 'human beings' through mechanisms like informed

consent, the *Anatomy Act* targeted 'the bodies' of 'the poor' through a combination of techniques of inspection, strategies of secrecy and workhouses.

The concepts of an inspectorate and techniques of inspection were not novel in Bentham's thought. He had developed and described them in some of his previous writings, most notably his 1791 *Panopticon; or, the Inspection House* (Bentham 1791; cf. also Foucault 1975) and his 1796 *Essays on the Subject of the Poor Laws* (cf. Quinn 2001). They were characterised by ceaseless observation by inspectors, surveillance at every point, permanent registration and reporting so as to render the object of governance visible and, thus, subject to intervention. This comes out clearly in Bentham's discussion of the 'Inspection Principle' informing his 'Panopticon' or 'Inspection House:'

> 'Persons are meant to be kept under inspection ... The more constantly the persons to be inspected are under the eyes of the persons who should inspect them, the more perfectly the purpose of the establishment have been attained. Ideal perfection, if that were the object, would require that each person should actually be in that predicament, during every instant of time' (Bentham 1791:Letter I).

What was particular to the Inspectorate of Anatomy was that its objects of governance were human corpses rather than 'persons' in 'prisons, work-houses, manufactories, mad-houses, hospitals or schools' as in the case of the Panopticon (ibid.). The Inspectorate was responsible, first of all, for having a precise knowledge of the quantity, location and movement of corpses across Great Britain. It had to be able, at any given time, to account for the numbers and whereabouts of the human bodies destined for dissection. As Richardson (1987:Chapter 10) shows, the first Inspector of Anatomy, Dr James Sommerville, attempted to achieve this by devising a range of instruments including: a system of certificates, warrants and receipts to register every stage in the corpse's journey between death and burial; inspectors to oversee the functioning of the system; the writing of reports to document problems; and a system of registration for the hospitals, workhouses and anatomy schools participating in the scheme. Furthermore, the Inspectorate was also accountable for the fair redistribution of bodies between the different schools and hospitals. Unsurprisingly, this was fraught with difficulty and different schools and hospitals often levelled accusations of favouritism against the inspectors. To avoid this, various solutions were devised, including distributing corpses amongst schools in proportion to their number of students. To Sommerville's great dismay, this system soon collapsed after inspectors discovered that some schools were reporting higher intakes of students than there were in reality so as to receive more corpses (cf. ibid.).

The difficulty for Southwood Smith, Bentham and their allies, given the strong opposition to dissection among the population, was how to acquire corpses in the first place. As Richardson (1987:Chapter 7; cf. also Crimmins 2002b) has showed, different alternatives were discussed by those in power. Some, like Warburton, proposed financial inducements to encourage the donation of corpses. Others discussed the possibility of educating people to abandon their prejudice against dissection and bring them to voluntarily donate their bodies to medicine. Schemes were examined which involved changing people's minds by having illustrious men setting the example by publicly giving their bodies away for dissection. Bentham, for example, certainly saw the public dissection of his corpse by his friend Southwood Smith as well as the subsequent display of his body in a glass cabinet accessible to all as a way to challenge people's objections against dissection, as he made clear in his posthumous text *Auto Icon; or, the Further Uses of the Dead to the Living* (cf. Crimmins 2002). But, instead of adopting one of these alternatives, Southwood Smith and others decided to target and collect in secrecy the corpses of the poor who had died in workhouses and prisons (cf. Foucault 1973; Laqueur 1983; Richardson 1987; Sappol 2002; MacDonald 2005).

> 'No one can object to such a disposal of the bodies of those who die in prisons; no one can reasonably object to such a disposal of the bodies of those who die in poor-houses' (Smith 1832:47).
>
> '[It is] the bodies of those who during life have been maintained at the public charge [that] should ... be given up to the Anatomist" (The Select Committee on Anatomy's 1828 Report cited in Richardson 1987:121).

'The poor' was an important category in early nineteenth century Great Britain (cf. MacDonagh 1977:Chapter 6; Laqueur 1983; Porter 2000:Chapter 16; Quinn 2001:Introduction). The economic and social upheavals brought about by industrialisation and innovations in agricultural practice had increased the levels of poverty across the country. This increase had, from the 1790s onwards, put the system for the relief of the poor in place since the early seventeenth century under severe strain, prompting a protracted debate about what was to be done about poverty which was often linked to the perceived danger of overpopulation associated with thinkers like Malthus. The debate was finally settled in 1834, two years after the adoption of the *Anatomy Act*, with the passage of the *Poor Law Amendment Act*. The latter was the brain child of Edwin Chadwick, Jeremy Bentham's literary secretary and a friend of both the philosopher and Southwood Smith. Influenced by Bentham's writings, the 1834 *Poor Law* sought to induce paupers to join the free labour market by making poor relief only available to those willing to accept the difficult conditions of the workhouses – hard work; meagre rations of food; and overcrowded dormitories.

The reason for targeting the bodies of the poor who had died while in the workhouse was, for Southwood Smith, Bentham and others, that these were people who had failed, often by lack of moral discipline or industry, to join the free labour market and had, thus, lived their lives at society's expense. It was therefore only fair, they argued, that these paupers would pay back the part of the public support they had received during their lives by giving their bodies which would help produce a knowledge vital to all (Foucault 1973; Laqueur 1983). Southwood Smith made that point very clearly in his 1824 article:

> 'Those who die in poor-houses ... are pensioners upon the public bounty: they owe the public a debt: they have been supported by the public during life; if, therefore, after death they can be made useful to the public, it is a prejudice, not a reason, – it is an act of injustice, not the observance of a duty, which would prevent them from becoming so ... Some concession and co-operation on the part of the public, for this great public object [the development of a rational and safe medicine], is indispensable, without which nothing can be done: but if any concession be made, it can be made with respect to this class of persons better than any other, because it can be made with less violation of public feeling' (Smith 1832:47).

The retrieval of the bodies of those who died in poor-houses was, furthermore, to be done in the greatest secrecy so as to avoid scandal, public hostility and disorder. As Richardson (1987:Chapter 10; cf. also Cooter 2000b) has showed, James Sommerville was gripped by a permanent fear of public exposure. He constantly recommended the 'greatest discretion' to poorhouses participating in the trade, suggesting, for example, that they target the dead without friends and family, and encouraging them to remove corpses 'by undertakers in Coffins as if for the purpose of interment' (cited in Richardson 1987:244). It is interesting to note here that, at a moment when liberal thought was at its height, there was no willingness on the part of these thinkers to target the agency of the poor by informing them and seeking their consent about giving their body for dissection (cf. Valverde 2007, especially p.171 & 173). It is true that the 1832 *Anatomy Act* did have a clause according to which the body of a person could not undergo dissection after death if 'such Person shall have expressed his Desire, either in Writing ... or verbally ... that his Body after Death might not undergo such Examination' (cited in Richardson 1987:205). But, as Richardson (1987:Chapter 10) has argued, this clause was not meant to be applied; rather, it was just lip service paid to the liberal notion of freedom.

To recapitulate, this section showed that, from the adoption of Southwood Smith and Bentham's 1832 *Anatomy Act* until the late 1920s, a logic of rule referred to as modern anatomical governance was the dominant way of governing the circulation of the human body for medical purposes in the UK. For this style of government, which was principally concerned with the collection and use of human corpses for dissection, the problem was the inadequate number of bodies supplied to anatomical schools and hospitals in the UK. As

showed in the chapter, this was a problem because an insufficient supply of corpses was deemed to hinder the development of medicine and, thereby, as the philosophers of the Enlightenment had argued, the prosperity and happiness of the living. As the chapter also showed, the solution, for modern anatomical rule, was to create an Inspectorate of Anatomy which, using both strategies of secrecy and Bentham's techniques of inspection, would collect the corpses of the poor who had died in workhouses and redistribute them to anatomists and doctors around the country.

Haemato-Social Rule

Richard Titmuss' *The Gift Relationship: From Blood to Social Policy*, which he published in 1970 while he was professor of social administration at the London School of Economics, is probably the most famous plea in favour of haemato-social rule to this day (cf. Oakley and Ashton 1997; Starr 1998:Chapter 12; Rabinow 1999:Chapter 4; Fontaine 2002; Waldby and Mitchell 2006:10-21). In his book, Titmuss compared the ways of collecting, storing and redistributing blood for transfusion in both the United Kingdom and the United States. On the basis of this comparison, he sought to demonstrate how the British donor-based system articulated around 'gifts' from 'voluntary community donors' generated more and better blood supplies than the American market-based system in which blood was bought from 'the poor, the unskilled, the unemployed, Negroes and other low income groups' (Titmuss 1997 [1970]:140 & 172). But, while his book is, perhaps, the most famous discussion of haemato-social rule, it was certainly not its first instantiation. Indeed, this new governmental logic had started to gradually emerge and displace modern anatomical rule from the 1920s onwards.

One site which played an important role in the initial development of haemato-social governance was the collection, storage and transfusion of human blood (cf. Starr 1998; Rabinow 1999:Chapter 4; Waldby and Mitchell 2006:Introduction). While experimental transfusions had taken place as long ago as the seventeenth century, it was only from the early 1920s that, thanks to developments in immunology and, in particular, the identification of blood types by Karl Landsteiner, it became possible to safely transfuse blood from one patient to another. In order to supply the blood for these transfusions, panels of pre-screened volunteers who could be called to give their blood when necessary were constituted, of which Dr Percy L. Oliver's 1925 Greater London Red Cross Transfusion Service was the first one (Starr 1998:Chapter 4). At the eve of World War Two, further developments in techniques of blood storage such as the making of anti-coagulants had made it possible to collect and store

blood for later transfusions. One of the first scheme to do so was set up in 1939 by Janet Vaughan, a pathologist at the British Postgraduate Medical School in London. Using a theatre impresario to recruit volunteers among the population, she and her colleagues collected and stored blood at four depots in the outskirts of London (ibid., chapters 5 & 6). Six years later, a national system to collect, store and redistribute blood for transfusion was established on the basis of the schemes which had been developed during the war (cf. Webster 1988:319-321; Martlew 1997:45; Starr 1998:158). Organised around the National Blood Transfusion Service's (NBTS) fourteen transfusion centres in England and Wales which collected the blood donated by volunteers and redistributed it to hospitals across the country, this was the system that Titmuss would discuss some twenty-four years later in *The Gift Relationship.*

While blood for transfusion has become the typical illustration of haemato-social rule, this governmental logic has not been limited to the collection and use of blood. On the contrary, it also came to inform the governance of the collection and use of other parts of the human body (in both therapy and research) as well as, more generally, of the use of human volunteers in scientific research. From the 1930s onwards, corpses for dissection were increasingly supplied through voluntary bequests rather than through the secret retrieval of paupers' corpses in workhouses (cf. Richardson 1987:258-260; Cooter 2000b:475). From the late 1940s, developments in surgical methods had allowed for the mass transplantation of corneas, resulting in the adoption of the 1952 *Corneal Grafting Act* and the creation of regional eye banks operated by the National Health Service in keeping with haemato-social logic. In the 1950s, further advances in medicine saw the adoption of the 1961 *Human Tissue Act* which marked the extension of haemato-social governance to the circulation of skin, bones, arteries and any other human tissue used in either therapy or research. Finally, from the 1960s onwards, haemato-social governance was applied to the collection and medical use of whole organs like kidneys and hearts (that could now be transplanted thanks to advances in immunology), resulting in the adoption of the *Human Organs Transplant Act* in 1989 (cf. Hogle 1999; Cohen 2001; M. Lock 2002). The importance of haemato-social rule beyond blood was fully acknowledged by Titmuss who argued, in *The Gift Relationship*, that the transfusion of blood 'was but one illustration of a number of social policy areas in which gift transactions take place and which might have been developed at length' (1997 [1970]:282). Other such areas included the transplantation of corneas as well as, more generally, the use of human volunteers in scientific research:

> 'We could, for example, have taken for study the giving role of the patient as "teaching material," and as research material for experimentation and the testing of new drugs and other diagnostic and

> therapeutic measures ... Or, to take another example, we might have explored the gift transactions of Regional Eye Banks under the National Health Service' (Titmuss 1997 [1970]:280 & 283).

Haemato-social logic, which by the 1940s had become the dominant way of governing the collection and medical use of human body parts, is very much a particular manifestation of what the literature on governmentality has termed 'social liberal rule' and which was prominent in the UK between the 1910s and the 1970s (Gordon 1991; Dean 1999; Rose 1999a; Miller and Rose 2008; cf. also Clarke 1996). Based on the writings of thinkers like L.T. Hobhouse, John M. Keynes and William Beveridge, as well as on such knowledges, technologies and institutions as sociology, social insurance and the National Health Service, social liberal rule was a way to conceive and govern economic, political and personal life articulated around notions like 'welfare,' 'social solidarity' and 'society,' which sought to eradicate poverty and want (cf. Collini 1979; Donzelot 1980; Rabinow 1989; Defert 1991; Donzelot 1991; Ewald 1991; Rose 1996b; Clarke 1996). William Beveridge's report, *Social Insurance and Allied Services,* presented to the British Parliament in 1942 and rapidly a bestseller with over 600,000 copies sold, offers probably the best insight in this particular mentality of rule. The report was described by Beveridge as 'one part only of a comprehensive policy of social progress' to 'be achieved by co-operation between the State and the individual' and aimed at the abolition of the 'five giants on the road of reconstruction,' namely 'Want, Disease, Ignorance, Squalor and Idleness' (1966 [1942]:6 & 9). It was soon to became Britain's blueprint for post-war welfare policy with the government putting in place the main elements of Beveridge's 'Plan for Social Security' which included, most notably, a unified system of social insurance as well as 'a National Health Service' which was responsible for providing 'all citizens' with 'medical treatment covering all requirements' (ibid. p.9-11; cf. also Clarke 1996).

Titmuss' career as well as his best-loved book *The Gift Relationship* are illustrative of how haemato-social governance was very much a particular manifestation of social liberal rule (cf. Oakley and Ashton 1997; Rabinow 1999:Chapter 4; Fontaine 2002; Waldby and Mitchell 2006:Introduction). Titmuss incarnated the social liberal mentality, constantly attempting to alleviate poverty and create a society characterised by solidarity and equality. These concerns constantly informed his work from his early research on the relation between poverty and the failing birth rate conducted for the *Eugenics Education Society* to his establishment of social medicine as a discipline in the UK in the 1940s and, thereafter, his defence and development of social policy as both professor of social administration at the London School of Economics and policy advisor to the Labour party. *The Gift Relationship* is informed by very similar set of concerns. Indeed, by showing that a system built around gifts of blood and a central, state-run agency such as the NSTB (which, by 1948, had been integrated within the NHS) provided

more and better quality blood than a system based on market principles, Titmuss claimed to demonstrate the vital role played by social solidarity and altruism in building a society which could secure everyone's needs.

By the 1970s, haemato-social governance, as well as social liberal rule more generally, started to be increasingly questioned and progressively displaced. A very important source of criticism of any manifestation of social liberal govern-mentality was neo-liberal scholars like Friedrich Hayek. These scholars, whose theories were to inspire a series of British neo-liberal think-tanks as well as Margaret Thatcher's Conservative Party, advocated the reconfiguration of government around the notion of the market, technologies like audit and budgetary discipline, forms of expertise like accountancy as well as a figure of the citizen as an entrepreneur and consumer shaping his or her life through acts of choice (cf. Cockett 1994; Power 1994; Clarke 1996; Rose 1996b; Fontaine 2002; Foucault 2004b). One of these think-tanks, the London-based Institute of Economic Affairs (IEA), was to question haemato-social rule in particular, arguing in favour of organising the circulation of blood for transfusion on the basis of market principles rather than around the idea of gifts and a central, state-run authority like the NSTB (cf. Oakley and Ashton 1997; Fontaine 2002). Founded in 1955 by an independent entrepreneur named Anthony Fisher, the IEA pursued the expansion of market analysis in the practice of government, which included, most notably, campaigning against the NHS system in the relation to the government of health in general and against the collection and redistribution of blood for transfusion through the NSTB in particular. In relation to the latter, two IEA publications were especially important, both of which sought to apply market rationalities and techniques such as the price mechanism to the circulation of blood: Michael Cooper and Anthony Culyer's (1968) *The Price of Blood: an Economic Study of the Charitable and Commercial Principle* and Armen Alchian's (1973) *The Economics of Charity: Essay on the Competitive Economics and Ethics of Giving and Selling, with Application to Blood.*

Another source of criticism addressed to haemato-social logic in particular came, as discussed in more details in chapter 4, from the nascent discipline of bioethics. An important moment, in that respect, was the outcry about medical experimentation on humans which took place in the early 1960s and which marked the gradual disappearance, in the British media, of the figure of the public-spirited citizen volunteering to take part in experiments (cf. Bolton 2008). A key text in these 1960s debates about experimentation was Maurice Pappworth's (1969 [1967]) *Human Guinea Pigs: Experimentation on Man*, which argued that the problem with haemato-social rule was not its non-recognition of market principles but the way it mistakenly assumed that

patients had an obligation, for the good of society, to offer themselves as research materials to doctors.

> 'Any classification "for the good of society" is to be viewed with distaste, even alarm. Undoubtedly, all sound work has this as its ultimate aim, but such high-flown expressions are not necessary, and have been used within living memory as cover for outrageous ends' (Pappworth 1969 [1967]:44).

Titmuss' discussion of haemato-social rule in *The Gift Relationship* was very much conceived as a reply to such criticisms. His plea in favour of the British donor-based system for the collection and use of blood as opposed to the American market-based one was, first and foremost, a rejoinder to criticisms put forward by the IEA. Indeed, as Fontaine (2002; cf. also Oakley and Ashton 1997) has showed, *The Gift Relationship* was part of a much longer debate between Titmuss and the IEA which had started in the early 1960s and which would only stop with Titmuss' death of cancer in 1973. But *The Gift Relationship* also addressed, most notably in its chapters 8 and 16, some of the criticisms put forward by the literature on human experimentation like Pappworth's *Human Guinea Pigs*, which it listed in its bibliography. In any case, Titmuss' defence of haemato-social rule had mixed results. In relation to both blood for transfusion and organs for transplantations, haemato-social has remained the dominant logic up to this day, withstanding both the AIDS crisis in the 1980s and the endless propositions to organise the circulation of these body parts according to market-based rationalities (cf. Berridge 1997; Martlew 1997; Joralemon 2000; Joralemon 2001). In relation to other areas, most notably the collection and use of human tissues for medical research, Titmuss' intervention could not prevent the displacement of haemato-social logic by new forms of rule like bioethical governance. But, even in these areas, not all the principles, devices, forms of expertise and subjectivities that make up haemato-social rule have disappeared. Indeed, some of its components like the notion of 'the gift' have survived and, having been detached from their original matrix, have been recast within the new formulas of rule that are now governing these areas (cf. Tutton 2004).

Of Shortages and Social Progress

The intensity of the debate about the compared benefits and drawbacks of welfarist and market-based policies mask the fact that, for both Titmuss and the IEA, the problem with the collection and medical use of blood or other parts of the human body was, at root, 'a problem of generating the required supplies' for medical therapy and research (Cooper and Culyer 1968:5). Indeed, both were committed to finding 'possible solutions ... to the problem' (ibid.). This desire to generate a sufficient supply was, in Titmuss' case at least, informed by a will to

ensure 'the advancement of medical science' and, thereby, 'the good of all patients' (Titmuss 1997 [1970]:281). In other words, aside from the state-versus-market debate which was more about how to generate the required supplies, the way Titmuss and his colleagues problematised the collection and medical use of the human body was very similar to the way Southwood Smith, Bentham and others had conceived the collection of corpses for dissection in the early nineteenth century: as a problem of ensuring an 'abundant, regular and cheap' supplies of corpses to guarantee a 'rational medicine' and, thus, 'the happiness of the living' (Smith 1832:31 & 43).

The 'required supplies' were not just human blood which, thanks to Landsteiner's identification of blood types and the development of anticoagulants and other storage techniques, could be routinely collected, stored and transfused for therapeutic purposes from the 1940s onwards (cf. Starr 1998; Rabinow 1999:Chapter 4; Waldby and Mitchell 2006:Introduction). They also encompassed an ever-increasing variety of body parts which, thanks to advances in medicine like the life-saving technologies of the intensive care units, tissue typing procedures and cyclosporine, could be collected, sometimes stored and transplanted for therapeutic purposes as well. These other body parts included, from the immediate post-war period onwards, corneas, skin, bones and arteries as well as, from the late 1960s onwards, whole organs such as kidneys and hearts (cf. Hogle 1999; Porter 1999; Le Fanu 2000; Cohen 2001; M. Lock 2002). Furthermore, the 'required supplies' did not only encompass body parts for therapeutic purposes; on the contrary, they also included whole corpses and 'any part of the body ... for the purposes of medical education or research' (Parliamentary Debates (Hansard) 1961:1232).

Unlike the situation in the early nineteenth century when Southwood Smith, Bentham and others had faced a stark popular opposition to the collection and use of corpses for dissection, by this time there was very little resistance to their collection and use for therapy or research. On the contrary, people were, for the most part, eager to give parts of their bodies. This eagerness was a particular manifestation of the public's general enthusiasm towards modern medicine between the 1920s and the 1970s (Porter 1999:Chapters 20 & 21; Le Fanu 2000). The parliamentary debates on the 1961 *Human Tissue Act*, which legalised the collection and medical use of any part of the human body in the United Kingdom, are an excellent illustration of this mood. Indeed, MPs welcomed an Act which, they argued, stood for 'the benefit of the living' and 'the improvement of treatment, education and research' (Parliamentary Debates (Hansard) 1961:1234-1235), as the following passage conveys well:

'I also welcome the Bill [Human Tissue Act] ... I think that the title is a little unfortunate ... I would like to suggest [instead] something like the "Human Aid to Medical Science Bill." ... When I made my will in 1957 I definitely willed my eyes under the [1952 Corneal Grafting] Act to an eye bank, and when this Bill becomes an Act I shall add a codicil to my will so that my body may become useful after death ... I welcome the idea that one might carry on some use for one's body after one is dead, and particularly welcome the Bill for that. I think it will be helpful to medical students ... The Bill can aid the advance of medical education ... I think that we shall learn by the Bill a great deal which will be of help curing various diseases about which we know very little at present ... [as] various parts of the body can [not only] be used for curing people who are ill but that they can [also] be used for research work' (Parliamentary Debates (Hansard) 1961:1238-1239)

In other words, the problem for Titmuss and others was not popular resistance in giving one's body to science; rather the problem was that supplies never appeared to be sufficient as demand relentlessly increased, seemingly without limit. Not only did medicine request an ever-increasing variety of body parts, the demand for each of these varieties constantly augmented as their transfusion or transplantation became routine and their uses in medicine multiplied. This is well conveyed in the following passage from the parliamentary debate on the 1961 *Human Tissue Act* in which the then Ministry of Health Enoch Powell recognised, in response to a question about the 'serious shortage of corneas for grafts,' that:

'[With regard to] the supply of corneas, ... I must say that I cannot foresee the happy time when it will be necessary to cry, "Hold, [we have] enough [corneas]." On the contrary, the present situation cannot be regarded as fully satisfactory ... The solution to this matter lies in wider public understanding of what is involved ... and in close [working] relationships between the corneal grafting centres and the hospitals to which persons ... made dispositions of their eyes' (Parliamentary Debates (Hansard) 1961:1253).

Similarly, Titmuss argued in *The Gift Relationship* that the increasing roles that blood played in modern medicine was constantly increasing the demand for the substance and, thus, creating shortages across the Western world:

'The demand for blood and blood derivatives is increasing all over the world. In high income countries, in particular, the rate of growth in demand has been rising so rapidly that shortages have begun to appear in a number of countries' (Titmuss 1997 [1970]:79).

'It is clear that the need for blood donations will continue to mount at a rapid rate. In the foreseeable future, there appears to be no predictable limit to demand in countries like the United States and Britain, more especially if account is taken of unmet needs for surgical and medical treatment and the great potentialities of demand in many areas of preventive medicine ... Two conclusions follow. One is that the most effective and efficient use should be made of existing supplies. The other is the need for more donors; in other words, for programmes to increase the proportion of the adult population who donates' (Titmuss 1997 [1970]:87).

Titmuss and others' desire to generate more supplies so as to meet the demand in body parts was informed by a will to bring about what Beveridge had termed 'social progress' (1966 [1942]:6), a notion which was similar to the Enlightenment idea of progress that had informed

Southwood Smith and others in the way it related improvements in medicine to increases in human happiness. Social progress, for Beveridge and other social liberal reformers, was not only about the elimination of want, squalor and ignorance but also about the eradication of disease (Beveridge 1966 [1942]:6; Clarke 1996:302; Porter 1999:652). The path to combat disease and thus bring about social progress was the development of modern medicine (cf. Porter 1999:Chapter 20). While in the nineteenth century, modern medicine meant, for people like Bentham and Southwood Smith, a 'rational medicine and a safe surgery' based on dissection, for Beveridge and the like it meant, for the most part, what became know as 'scientific medicine' or 'clinical science.'

Terms such as 'scientific medicine' and 'clinical science' refers to a style of reasoning that was prevalent in twentieth-century Western medicine, a style that seeks to incorporate knowledge and practices from the basic sciences (molecular biology, chemistry, physics) and puts a strong emphasis on experimentation in both the laboratory and the ward (cf. Platt 1967; Booth 1993; Porter 1999:Chapters 17 & 18; Le Fanu 2000:196-205). In the United Kingdom, scientific medicine became increasingly prevalent from the early twentieth century onwards with the introduction of a new medical curriculum, the creation of chairs in medicine, the setting up of laboratories in hospitals, the establishment of medical research centres and the foundation of funding bodies like the Medical Research Council (MRC). The British Postgraduate Medical School, opened at London's Hammersmith Hospital in 1935, very much embodied this new style of reasoning in modern medicine (cf. Booth 1993; Porter 1999:532-534 & 643; Le Fanu 2000:196-205). The system for the collection, storage and redistribution of blood for transfusion articulated around the NSBT that Titmuss defends in *The Gift Relationship* was a product of this British scientific medicine. Indeed, it was while enrolled as a pathologist at the Postgraduate Medical School and financed with a grant from the MRC that Janet Vaughan developed the UK's first scheme for the mass collection and storage of blood for transfusion in 1939 (cf. Starr 1998:Chapters 5 & 6).

These beliefs in modern scientific medicine and progress were not only held by social liberal reformists such as Beveridge, but were pervasive in both Europe and the United States of America from the 1920s to the 1970s, reaching their peak in the post-WWII period (cf. Porter 1999:Chapter 20 & 21; Le Fanu 2000). The pervasiveness of these beliefs had been buttressed by a long series of success stories that gave credence to the idea that death and disease could be conquered: the eradication of tuberculosis and poliomyelitis; the improvements in immunology that enabled transfusions and transplantations; the creation of new drugs from cortisone and penicillin to chlorpromazine; and the development of new medical devices from

the life-saving technologies of the intensive care unit to electrocardiograms and operating microscopes. Vannevar Bush, who was to play a significant role in the strengthening and re-organisation of scientific research in the United States of America during and after WWII, provides a good illustration of these beliefs in modern scientific medicine and progress. In his blueprint for the reform of the way science was to be managed and financed in the post-war period, the 1945 report *Science: the Endless Frontier*, he argued, using the example of penicillin, that scientific medicine was essential to the health and prosperity of the nation.

> 'Scientific progress is essential. Progress in the War against Disease [in particular] depends upon a flow of new scientific knowledge ... Without scientific progress, no amount of achievement in other directions can ensure our health, prosperity, and security as a nation in the modern world' (Bush 1945:5)

There is little doubt that those involved in developing and defending haemato-social rule also shared these beliefs in modern scientific medicine and social progress. For example, Janet Vaughan, an active member of the Physicians' Republican Committee that supported the republicans in the Spanish Civil War, thought, as did most social liberal reformists, that 'medicine [was a way] to ameliorate poverty and social injustice' (Starr 1998:85). Similarly, Titmuss also saw his life-long fight for the abolition of poverty and the creation of a better society as having a strong 'medical' or 'biological' dimension. For him, 'capitalism [was] a biological failure' (cited in Oakley 1991:171) which he sought to correct through a mixture of social and medical interventions including: his research for the Eugenics Education Society on the effects of poverty on fertility; his establishment, together with John Ryle, of British 'social medicine' which sought to alleviate the social injustices that caused ill health (Porter 1999:643-644); and his development and defence of the NHS (including the NSTB) which he saw as a way to create a society characterised by social solidarity and equality (cf. Oakley and Ashton 1997; Fontaine 2002). Thus, for Titmuss, to give one's blood or, more generally, to give oneself as 'research material for experimentation and the testing of new drugs and other diagnostic and therapeutic measures' was to participate, through the advancement of medical science, in the creation of a society that ensured and improved the wellbeing of all (Titmuss 1997 [1970]:280-281).

> '[Patients'] willingness to be "taught on" and to give of themselves ... is taken for granted in the name of research, the advancement of medical science, society's need for doctors, the better training and more rapid progression of doctors ... and ultimately for the good of all patients irrespective of race, religion, colour and territory ... The benefits of teaching, experimentation and research ... mostly accrue in the long ... and further the well-being of some future collectivity of patients' (Titmuss 1997 [1970]:281).

For Titmuss, Vaughan and others, the best solution to the problem of how to generate a supply of blood (or other body parts) that was sufficient to guarantee the functioning and advancement of medicine and, thereby, the well-being of all patients, was to collect the body parts of 'community donors' by using both the technique of 'the gift' as well as 'propaganda.' It was a solution to the organisation of the supply of blood (and other body parts) that was very much in keeping with the social liberal logics of rule that were dominant at the time and which advocated the governance of political, economical and personal life around the concepts of 'social solidarity' and 'society.' As such, it stood in stark contrast with the solution put forward by the economists of the IEA, who advocated a scheme based on a 'market in blood' and 'paid donors,' as well as with the solution proposed by Bentham, Southwood Smith and their contemporaries, who had suggested a system articulated around techniques of inspection, the poor and strategies of secrecy. Titmuss, Vaughan and their contemporaries' approach to the collection and medical use of the human body was also very different to that of bioethical governance. Indeed, the latter problematised the circulation of the body as an ethical issue (as opposed to a question of shortage) and sought to protect human beings' capacity to reflect and decide through the mechanism of informed consent (rather than creating sufficient supplies through propaganda and gifts).

At the heart of the solution put forward by Titmuss and Vaughan was the concept of 'the gift,' which Titmuss derived from the French anthropological and sociological literature (cf. Titmuss 1997 [1970]:Chapter 8). The gift, for Titmuss, was an act whereby a member of a community or society gives his or her blood (or other body parts) to the community or society and, in return, can expect the community or society to provide him or her with blood (or other body parts) when he or she needs it. The donor, who Titmuss called the 'voluntary community donor,' gives without any 'tangible, immediate rewards' and without any fear of 'penalties' for not giving; his or her gift is, in other words, 'characterised by complete, disinterested, spontaneous altruism' although there is 'some expectation and assurance that a return gift may be needed be needed and received [from the community or society] at some future time (as with Mauss' examples of gift-exchange in other societies)' (ibid. p.140). The gift, furthermore, is 'impersonal:' 'the recipient is in almost all cases not personally known to the donor [and] there can, therefore, be no personal expressions of gratitude or of other sentiments' (ibid. p.127). This meant that the gift is not given to a 'fellow-member of the community' or society in particular, but to the community as a whole understood as 'unnamed strangers without distinction of age, sex, medical condition, income, class, religion or ethnic group' (ibid. p.140).

In return, the 'caring community' (ibid. p.280) will provide the donor – because he or she is member of that same community – with blood or other body parts when he or she needs them.

> 'People are expected to contribute – to give – to serve the interests of other people. There is in all these transactions an unspoken assumption of some form of gift-reciprocity; that those who give as members of a society to strangers will themselves (or their families) eventually benefit as members of that society ... There is ... a vague and general presumption of a return gift at some future date' (ibid. p.283).

The gift, as understood by Titmuss, is what can be termed a technique of social solidarity (cf. Donzelot 1991). Developed in the writings of Emile Durkheim (e.g. 2007 [1893]) and Léon Bourgeois (e.g. 1912 [1896]) and characteristic of social liberal governance, techniques of social solidarity are articulated around the notion of an integrative and cohesive relationship between the individual members of society and society as a whole, with the former expected to contribute to the latter and the latter expected, in return, to guarantee the former's welfare and security (Donzelot 1991; cf. also: Rabinow 1989; Gordon 1991; Dean 1999; Miller and Rose 2008). There can be little doubt that Titmuss' thinking was influenced by such notions. Indeed, not only did he directly refer to this French intellectual tradition by using most notably the work of Marcel Mauss in *The Gift Relationship*, he was also conversant, as a professor of social administration at the London School of Economics, with related ideas about both solidarity and the social developed in the UK by thinkers like L.T. Hobhouse, J.M. Keynes and W. Beveridge. It is thus unsurprising that Titmuss described the gift in particular and social policy in general as:

> '[a series of] processes, institutions and structures which encourage ... the intensity or extensiveness of anonymous helpfulness in society ... [as] institutions that create integration and discourage alienation ... [as institutions that] enable the greatest possible number of individuals to act reciprocally, giving and receiving services for the well-being of the whole community' (1997 [1970]:279-280);
>
> 'integrative systems [whose] processes, transactions and institutions ... promote an individual's sense of identity, participation and community' (ibid. p.290).

For Titmuss, both the NBTS and the NHS were the way to operationalise the notion of community to which community donors gave their blood and which provided all members of the community with the necessary blood when needed. They were the ones to which members of the community gave blood and which ensured that it was then redistributed among all members of the community which needed it 'without distinction of age, sex, medical condition, income, class, religion or ethnic group' (ibid. p.140). Indeed, not only did single donors lack the means to do so in a community of nearly sixty million members, they would

also sometimes be prevented from doing so by their own prejudices: 'givers and recipients might, if they were known to each other, refuse to participate in the process on religious, ethnic, political or other grounds' (ibid. p.127). It was the role of both the NBTS and the NHS to create this community of altruistic givers and nameless, sexless and classless recipients:

> 'The National Blood Transfusion Service ... [and the National] Health Service ... have allowed and encouraged sentiments of altruism, reciprocity and social duty to express themselves' (ibid. p.292);
>
> 'Fellowship relationships [are] institutionally based in Britain in the National Health Service and the National Blood Transfusion Service' (ibid. p.311).

This use of centralised, state-run institutions to represent and operationalise the community or society is characteristic of techniques of social solidarity. Keynes (1926:40-41), for example, called for the creation of such 'forms of Government' which he described as 'semi-autonomous State-bodies whose criterion of action ... [is] the public good' and which Hobhouse (1922:144) had described a few years earlier as 'the community's very imperfect organs.' Similarly, Beveridge (1966 [1942]:6 & 11) conceived his social security system as a 'co-operation between the State and the individual' whereby 'the State should offer security for service and contribution' and which would be operationalised through a new 'Ministry of Social Security.'

Aside from establishing institutions to operationalise the community, it was also necessary to create the 'community donors' who would give their blood in an act of 'complete, disinterested, spontaneous altruism' to the community. In other words, community donors did not exist as such; one needed mechanisms which would help shape people's will in order to bring them to donate their blood. These mechanisms included, in particular, national publicity programmes conducted on television, in newspapers and in schools. It also included what Joralemon (2000:224) termed a 'new science of donation' which determined and analysed the psychosocial and socio-economic factors influencing donation in order to better intervene upon them. This point was made, for example, by Titmuss (1997 [1970]:59 & 306), who acknowledged that one had 'to actualise the social and moral potentialities of ... citizens' and, more specifically, one needed to 'encourage' and 'foster altruism and regard for the needs of others' through 'instruments of public policy.' The same point was made by the Minister of Health Enoch Powell while discussing the shortage of corneas for transplant in the House of Commons in 1960; for him, one needed 'propaganda' to bring citizens to understand the 'benefits of donation.'

'The solution to [the shortage of corneas for transplant] lies in wider public understanding of what is involved ... Propaganda is undoubtedly of importance in this matter, and the House may be interested to know that the Royal National Institute for the Blind is planning a publicity drive ... to bring to the attention of the public the opportunities and the benefits which donation, of eyes in particular, can give' (Parliamentary Debates (Hansard) 1961:1253).

It is interesting to note here that, unlike anatomical rule which did not acknowledge or attempt to intervene upon the agency of the poor, haemato-social governance does recognise, through its use of the technique of the gift, that individuals have a certain agency. This was an agency which had to be intervened upon and shaped through propaganda so as to have people give their bodies altruistically to the community. It was not 'the human capacity to reflect and decide' which sits at the heart of bioethical governance and which the latter seeks to enable and account for, as discussed in chapters 6 and 7. This difference is well illustrated by the limited significance that Titmuss attaches to one of the key mechanisms of bioethics, the procedure of informed consent, in *The Gift Relationship*. Titmuss was clearly aware of the notion of informed consent, which had first come to the fore during the bitter 1960s debate on human experimentation to which he refers twice in his book (cf. 1997 [1970]:136-139 & 284-288). But, for him, consent only made sense in relation to what he called the 'captive voluntary donors' (ibid. p.136), a type of donor whom he saw as lying outside the normal functioning of haemato-social governance and whom he described as:

'Donors in positions of restraint and subordinate authority who are called upon, required or expected to donate ... [such as people] in prison or similar institutions ... [or] primitive people in Africa' (ibid. p.136-137 & 284).

In contrast, informed consent made no sense in relation to the pillar of haemato-social governance: the 'voluntary community donor' (ibid. p.140). Indeed, Titmuss could not conceive that there was anything wrong with the sense of obligation to give for the good of all which, he assumed, drove these ideal donors. There was, in particular, 'no situation of power, domination, constraint or compulsion, no sense of shame or guilt, [and] no gratitude imperative' (ibid.) in these areas of gift relationships. There was, thus, for Titmuss, no necessity for informed consent where haemato-social governance was at work, such as with blood donation or 'the giving role of the patient as "teaching material," and as research material for experimentation' (ibid. p.280) as then practiced in the British National Health Service:

'patients ... are ... expected to behave as givers on the unspoken assumption that they may benefit; sometimes their consent is sought; sometimes they are simply informed; often nothing is said. Their willingness to be "taught on" and to give of themselves, physically and psychologically, is presumed. It is taken for granted in the name of research, the advancement of medical science, society's need for doctors, the better training and more rapid progression of doctors professionally and financially and, ultimately, for the good of all patients irrespective of race, religion, colour or territory' (ibid. p.281).

To sum up, this section has showed that, from the 1920s to the late 1980s, a logic of rule, which it terms haemato-social governance and which is well illustrated by Richard Titmuss' *The Gift Relationship*, dominated the way of governing the circulation of the body for medical purposes in the UK. Concerned with the collection and use of most parts of the body for either transplantation or research, the way this mentality of rule problematised the circulation of the body was very similar to the way anatomical governance did so. Indeed, as with the latter, the issue was the chronic shortages of blood and other body parts which imperilled the functioning of medicine and, thus, hindered social progress. But, while the two styles of government had a similar understanding of the problem, they did not develop the same solution. Shaped by the welfarist models of rule that dominated from the 1920s onwards, haemato-social governance was articulated around the notion of the gift whereby voluntary donors generated through propaganda gave parts of their bodies to the community operationalised by central, state-run authorities which redistributed them to hospitals across the country.

Singapore

Singapore was integrated into the British Empire in 1819, thirteen years before the adoption of the 1832 *Anatomy Act*, when an expeditionary force of the British East India Company established a permanent settlement on the island to secure the control of important trading routes to the Far East. The purpose-built warehouses, wharfs, government buildings, squares, churches and residential areas soon became an important entrepôt and port within Great Britain's mercantile empire, attracting traders and labourers from Europe, China, India and South-East Asia (cf. Turnbull 1989; Chew and Lee 1991; Perry, Kong et al. 1997). As with many colonial societies, life in Singapore was shaped by knowledges, languages, forms and institutions brought from the metropole that combined, sometimes uneasily, with local practices and cultures from other parts of the Empire. The way the circulation of the human body was understood, discussed and organised was not exempt from these different influences.

This section offers a short and necessarily superficial account of how the two logics of government that dominated in the UK during most of the 19th and 20th centuries were exported to Singapore after the island's integration to the British Empire. It shows, first of all, that anatomical governance never really imposed itself in Singapore. Indeed, although elements of modern anatomical rule like the practice of dissection, strategies of secrecy and the category

of the poor were adopted in Singapore, the collection of corpses for dissection was never problematised and regulated in the British colony. Secondly, the section argues that, in contrast, a modified version of haemato-social logic was readily taken up in Singapore. It shows that while the concepts, expertise and practices that make up haemato-social rule were brought to the South-East Asian colony by the British in the 1940-50s, they were re-aligned to serve Singapore's will to modernise, develop its economy and build the newly independent nation after breaking away from the British Empire in 1959. This transformed version of haemato-social logic would be the dominant way to problematise and organise the circulation of the human body until the arrival of bioethical governance in the late 1990s.

The Absence of Modern Anatomical Governance

Western medical practices were brought to Singapore by British physicians and surgeons who had come with the administrators, soldiers and merchants who established themselves in the colony from 1819 onwards (cf. Lee 1978; Tan 1991; Cheah 2003). One important site for the introduction of these practices were hospitals. The British built four of them, including a hospital for paupers and a lunatic asylum, during the nineteenth century. While these were long regarded as 'death houses rather than institutions for ... the alleviation of sickness and suffering' (Tan 1991:342), progress was made from the late nineteenth century onwards. At the turn of the century, for example, the colony's two major establishments, the General Hospital and the Tan Tock Seng Hospital, were improved and transformed into teaching institutions, with departments of Clinical Surgery, Medicine and Pathology. Another important site for the introduction of Western medical practices was the colony's first and only medical school, the King Edward VII College of Medicine. Opened in 1905, it offered a *Licentiate of Medicine and Surgery* that allowed its holders to practice medicine within any of the British colonies. There is little doubt that dissection was one of the numerous medical practices which was introduced by British surgeons at both the hospitals and the medical school. Indeed, as MacDonald (2005) has argued, colonial hospitals were understood to be advantageous places in which to practice dissection. First, many of those people that died there did so far from their families who could otherwise remove them from the surgeons' hands for burial. Second, colonies presented the surgeons with the opportunity to dissect racially different bodies that were of great interest to Europe's comparative anatomists. Singapore's immigration-based and racially diverse population matched both criteria. Furthermore, it is clear that students at Singapore's medical school were expected to practice dissections as part of their curriculum.

The demand for corpses for dissection was probably satisfied by surgeons who discreetly collected the bodies of those who died in one of Singapore's hospitals and which were not claimed for burial by family or friends (cf. Muir 1964; Government of Singapore 1965:875-877). It is likely that, as in the United Kingdom, the corpses that were collected were those of people at the margins, like paupers and convicts. It is also probable that, similarly to what happened in other colonies, the corpses of immigrants were especially targeted as they were deemed to have no family or friends (cf. Sappol 2002; MacDonald 2005). What was perhaps specific to the way corpses were collected in Singapore was the role played by the racial classifications that had been introduced by the British. As with other colonial societies, race played an important role in colonial Singapore and categories like 'Chinese,' 'Malay' or 'Indian' (together with the stereotypes attached to each of them) were used by the British to govern the island, allowing them, for example, to allocate specific neighbourhoods to specific races or to limit the access to certain professions to certain races (cf. Perry, Kong et al. 1997; Purushotam 1998; Lian and Rajah 2002; Lian 2006). The same categories also informed, to some extent, the collection of corpses for dissection. So, for example, 'Malays' were deemed to find dissection abhorrent and were, whenever possible, spared the practice. In contrast, it was thought that, in accordance with Buddhist traditions, Chinese parents would often refuse to claim the bodies of their dead children for burial, making them an easy target for dissection (cf. Muir 1964; Government of Singapore 1972:1344-1345). Interestingly, this mode of supply seems to have satisfied the, probably low, demand for corpses as the circulation of corpses never really became an issue in Singapore in the way it did in the United Kingdom in the 1820s. This meant, in particular, that the colonial authorities never set up an institution on the lines of the British Inspectorate of Anatomy with the mandate to organise the circulation of corpses for dissection on the island.

Haemato-Social Governance & Modernisation

In contrast to modern anatomical rule, which never imposed itself in Singapore, haemato-social governance was readily adopted on the South-East Asian island after it had been imported by the British in the 1940-50s. It rapidly became the dominant mode of conceptualising and organising the circulation of the human body for medical purposes in Singapore and remained so until the emergence of bioethical governance in the late 1990s. But, while in the United Kingdom haemato-social rule was articulated around notions of the welfare state, social progress and solidarity, in Singapore it was, following the country's political independence in 1959, re-configured around notions of modernisation, economic development and the building of the new nation.

Many of the problems, institutions, strategies and forms of citizenship that are characteristic of haemato-social governance were introduced in Singapore in the late 1940s when the British set up a system for the collection, storage and redistribution of human blood for transfusion modelled on the scheme in place in the UK (Colony of Singapore Medical Services 1948:92-97). This system, the running of which was taken over by the Ministry of Health of the new Republic of Singapore after the island gained its political independence in 1959, combined many elements that are typical of haemato-social rule. First, it was built around a centralised, state-run institution modelled on the British National Blood Transfusion Service (NBTS) and responsible for the collection and redistribution of blood for transfusion: the Singaporean Blood Transfusion Service (SBTS) (Colony of Singapore Medical Services 1953:179-184; Ministry of Health 1959:188-191). Second, it was based on citizens coming forward to give their blood voluntarily and without being paid by the SBTS (Ministry of Health 1959:188). Third, it relied on strategies of 'Propaganda and Publicity' like advertising in the press and on the radio, the distribution of leaflets and the screening of information movies to transform Singaporeans into citizens who voluntarily gave their blood to the SBTS (ibid. p.190). Fourth, it was a system that sought to solve the problem of chronic shortage of blood for transfusion due to the rising therapeutic usages of blood in medicine (Ministry of Health 1959:188; Ministry of Health 1965:229). Interestingly, most of these elements that were characteristic of haemato-social rule and made up Singapore's system for collecting and redistributing human blood for transfusion were also, from the 1970s onwards, employed to organise the circulation of corneas, kidneys and other human tissues for transplantation (Government of Singapore 1972:1339-1346; Teo 1991; Kaur 1998)

In the United Kingdom, these problems, institutions, strategies and forms of citizenship characteristic of haemato-social governance participated in the construction of the welfare state, the development of social solidarity and the realisation of social progress. In Singapore, after the country gained its political independence in 1959, these same elements were re-aligned to serve the consolidation, development and modernisation of the Republic instead. As scholars have shown and as discussed in great detail in chapter 5, the construction of the Republic of Singapore by Lee Kuan Yew and his People's Action Party (PAP) from 1959 onwards has been characterised by a implacable will to modernise and develop the country economically (Margolin 1989; Chua 1995; Huff 1995; Perry, Kong et al. 1997; George 2000; Rodan 2006). Modernising, for Lee and his allies, meant above all improving the population's material conditions. To do so, they adopted an export-based model of industrialisation whereby Singapore would seek to attract large foreign multinational companies to open

factories on the island where they would manufacture products for worldwide export. As elsewhere in Asia, at the heart of this process of modernisation and industrialisation was 'the developmental state:' a strong central government that planned and directed the country's development (Margolin 1989; Castells 1992; Thompson 1996; Perry, Kong et al. 1997; Rodan 2006). In Singapore, the developmental state was articulated around: the PAP (which has been in power since 1959); the Cabinet (which Lee Kuan Yew headed until 1990); the various ministries and state administrations; a series of specialised governmental agencies like the Economic Development Board or the Housing and Development Board regularly advised by selected international experts; the National Trade Union Confederation (Singapore's official and only trade union); and a multiplicity of parapolitical and intermediary structures such as Community Centres, Citizens' Consultation Committees and Neighbourhood Watch Groups.

The government used a series of strategies to attract multinational companies to open factories in Singapore and thus modernise and develop the country. These strategies included the provision of financial and technical advice to the companies settling in Singapore as well as the creation of a first-class industrial infrastructure comprising: public utilities like electricity, gas and water; a transport and telecommunication system with an airport, roads, post offices and a phone network; and key-in-hand industrial estates (e.g. Ministry of Finance 1961; cf. also: Margolin 1989; Perry, Kong et al. 1997). They also included a series of measures to develop the population understood as a human resource that was key to the modernisation and industrialisation of the country. These measures comprised: the provision of health care so as to have a healthy and productive population; the construction of social housing and organisation of social amenities and activities for the workers and their families to create strong communities; the development of education to have a qualified and disciplined workforce; nation-building programmes to build a 'common outlook and spirit of common loyalty' that included the creation of a national language, a national flag and anthem, a national museum and library and a set of national values (Economic Planning Unit 1964:33; cf. also: Margolin 1989; Chew 1991; Chua 1995; Hill and Lian 1995; Perry, Kong et al. 1997; Lee 2005).

For the Republic of Singapore's governing elite, the SBTS in particular and haemato-social governance more generally had to be understood as part of this particular project of developing and modernising the South-East Asian island rather than as a mechanism to build the welfare state as in the UK. First of all, the SBTS and haemato-social governance were not about the realisation of social progress as Beveridge, Titmuss and Vaughan would have it but about ensuring that the population, understood as a key resource in the development and modernisation of Singapore was kept in a healthy and productive state. This understanding

comes out clearly in the following extract of the Republic's first development plan which describes the rationale behind maintaining good health care system, that included of course the SBTS run by the Ministry of Health, throughout the island:

> 'Health. The need for maintaining a high standard of health services is not purely based on a humane and civilized recognition of the value of human life. Nor is it purely a desire to alleviate human suffering. It is also based on economic considerations. A very considerable part of the community's resources has already been invested in its population ... In order to reap the benefits of these investments it is necessary that facilities are provided to protect the population from the avoidable hazards of living. Death or incapacitation of persons capable of adding to the national income ... would be a waste of the capital invested. Consequently it is of some importance ... to continue investments for maintaining the health of the population' (Ministry of Finance 1961:7).

Furthermore, the act of giving blood, for the Singaporean leadership, was not a mechanism of social solidarity whereby the donor gave altruistically for the good of all patients irrespective of race, religion, colour or territory as for Titmuss and his allies; instead, it was a mechanism to make the newly independent Republic of Singapore stronger and to participate in the maintaining and improvement of Singapore's standards of living. This comes across quite clearly in a speech given by Lee Kuan Yew himself at an Annual Medal Presentation for Blood Donors in April 1966:

> 'The trouble with us is that for decades we have only looked after ourselves in a very small way. We never looked after ourselves in a big way. It was only our own family ... we cared for. But that is not good enough ... If we want to survive in Southeast Asia today, we will have to look after ourselves in a big way ... It has to be not only my family but my fellow citizens, my country ... We must slowly change our attitudes... We must daily consolidate our society. All the racial groups must unite and make this a strong country ... There are few countries in Southeast Asia with our standard of life. And we must be prepared to organise and keep and improve on this. And it can be done slowly as each and everybody understands that he must contribute; that he must not only take but give. It is as in the case of the blood donor. We should not only receive blood. We should give as much as we take out of this society' (Lee 1966).

The key difference between the two countries' understanding of this mentality of rule was that Singapore's leadership reconfigured and articulated haemato-social governance around the development and modernisation of the newly-independent country, instead of around the construction of the welfare state as in the United Kingdom. There were of course, besides that key difference, a series of smaller variations. One of these is worth highlighting: the importance accorded to race in the way Singapore organised the collection of blood for transfusion. The emphasis on race is, for example, visible in the SBTS' periodical analyses of the 'number of donations received by racial groups' (Ministry of Health 1965:230) as well as its campaigns to increase the number of donations of those groups which, according to the analyses, do not give enough, like 'the Chinese' during the 1960s (ibid. p.230-231). This importance of race is a direct consequence of the key role that 'multiracialism' has played in

the government of Singapore since 1959. Multiracialism is a notion that was developed by Lee Kuan Yew and his allies in the late 1950s in order to help them build and govern the new Singaporean nation-state (cf. Benjamin 1976; Clammer 1982; Chua 1995; Hill and Lian 1995; Purushotam 1998; Lian and Rajah 2002; Lian 2006). Assuming that the population that lived in the city-state was composed of four different racial groups – 'Chinese,' 'Malay,' 'Indian' and 'Other' – which each its own culture, language and religion, Lee and his allies argued that the construction of a strong and stable nation-state required the existence of peaceful and harmonious relationships between these four racial groups. As the collection of blood illustrates, this notably meant that one had to ensure that the four groups contributed in equal measure to the efforts to develop Singapore and, in return, benefited evenly from the prosperity thus engendered.

Conclusion

The bulk of this chapter explored the concepts, institutions and subjectivities that allowed people to think and govern the circulation of the human body for medical purposes in the United Kingdom *before* the emergence of bioethical logic in the 1990s. More specifically, it analysed the logics which have dominated the way of governing the medical use of the body from the early nineteenth century to the late twentieth century. On the basis of this analysis, it argued that two different logics of rule had been prevalent during that period. The first one, modern anatomical rule, became the dominant mode of governing the circulation of the human body after the adoption of Southwood Smith and Bentham's 1832 *Anatomy Act* and remained so until the late 1920s. For this style of government, which was principally concerned with the collection and use of human corpses for dissection, the problem was the inadequate number of bodies supplied to anatomical schools and hospitals in the UK. As the chapter showed, this was a problem because an insufficient supply of corpses was deemed to hinder the development of medicine and, thereby, as the philosophers of the Enlightenment had argued, the prosperity and happiness of the living. As the chapter also showed, the solution, for modern anatomical rule, was to create an Inspectorate of Anatomy which, using both strategies of secrecy and Bentham's techniques of inspection, would collect the corpses of the poor who had died in workhouses and redistribute them to anatomists and doctors around the country.

The second style of government to dominate the ways in which the circulation of the body was problematised and organised in the UK was, the chapter argued, haemato-social rule, which

Richard Titmuss famously defended in *The Gift Relationship*. Before being finally displaced by bioethical governance in the early 1990s, this logic of rule was concerned not only with the circulation of blood for transfusion but also with the circulation of body parts for transplantation and human tissues for medical research. As demonstrated in the chapter, the way haemato-social governance problematised the circulation of the body was very similar to the way modern anatomical rule did so. Indeed, as with the latter, the issue was the chronic shortages of blood and other body parts which imperilled the functioning of medicine and, thus, hindered social progress. But, as argued in the chapter, while the two styles of government had a similar understanding of the problem, they did not develop the same solution. Shaped by the welfarist models of rule that dominated from the 1920s onwards, haemato-social governance was articulated around the notion of the gift whereby voluntary donors generated through propaganda gave parts of their bodies to the community operationalised by central, state-run authorities which redistributed them to hospitals across the country.

Because the most influential logics governing the circulation of the body were developed in the UK (rather than in Singapore) and because of the paucity of historical scholarship on this issue in Singapore, the chapter focused primarily on the United Kingdom. Nevertheless, it also offered a short and necessarily superficial account of how both anatomical and haemato-social governance were exported to Singapore after the island was integrated to the British Empire in 1819. On the basis of this brief description, it was argued that, while modern anatomical rule never really imposed itself in Singapore, haemato-social rule was readily taken up in the Southeast Asian island after WWII. Indeed, this style of governance became the dominant way of understanding, problematising and organising the circulation of the human body on the island until the arrival of bioethical governance in the late 1990s. But, as was also argued, Singapore's version of haemato-social logic was not an exact replica of the one found in the United Kingdom. Indeed, instead of using haemato-social governance to construct a welfare state articulated around ideas of social progress and solidarity, Singapore's governing elite used it to develop and modernise the newly independent Republic.

By describing how the circulation of the human body was problematised and administered in both the UK and Singapore before the 1990s, these different analyses provide us with, first of all, an understanding of the context in which bioethics would emerge from the 1960s onwards. They give us a comprehension of and allow us to situate some of the discourses, like the welfarist and neo-liberal philosophies of government in the UK or the modernisation and nation-building theories in Singapore, which bioethics would later attempt to combine with or,

on the contrary, seek to challenge and displace as it became prevalent in both countries. An understanding of such discourses will be valuable when discussing the emergence of bioethical governance in the following two chapters. Furthermore, these analyses of ways of problematising and governing the circulation of the human body that dominated before the emergence of bioethics offer an interesting contrast to the manner in which bioethical governance has attempted to conceive and administer the collection and medical use of the human tissue. Two differences in particular are striking and worth reiterating here.

The first one is the difference in the way of problematising the circulation of the human body for medicine. This difference is especially visible in the case of the United Kingdom where, for both anatomical and haemato-social rule, the problem with the collection and medical use of the human body was the deficient supply of human bodies. For Southwood Smith and Bentham, the issue was the insufficient number of corpses for dissection due to the strong popular resistance to anatomy, while, for Titmuss, the problem was the chronic shortage of blood due to its ever increasing use in medicine. For all three of them, this deficiency in supply was an issue because it was an obstacle to the advancement of medicine and, thus, to the realisation of progress, prosperity and human happiness. This way of problematising the circulation of the human body was in stark contrast to the way in which bioethical governance conceived the movement of the body. For bioethical rule, as we will discuss in chapter 4, the issue with the collection and medical use of the human body was one of ethics, not of supply. For bioethics, the problem was the danger that scientific and medical research represented for human beings when it used their bodies, not the danger that the lack of bodies represented for science. This first difference in how the movement of the body is problematised is not as marked in the case of Singapore. Indeed, while the issue as understood by the SBTS (insufficient supply of blood) is different to the problem as understood by, say, Singapore's Bioethics Advisory Committee (the ethical dimension of human tissue research), both participate in the city-state's will to constantly modernise and develop itself, as we will discuss in chapter 5.

The second difference, visible in the case of both Singapore and the UK, relates to the way the circulation of the human body for medicine is organised. For bioethical governance, as we will discuss in detail in chapters 6 and 7, human agency plays a critical role. Indeed, for bioethics, the key mechanism to protect human beings against the dangers of science and medicine is the procedure of informed consent. This procedure assumes that every human being has a capacity to reflect and decide about what happens to his or her body and seeks to bring this capacity into being and shield it against unwanted interferences. This importance accorded to human

agency in the way bioethics governs the circulation of the human body is in stark contrast to the minor role it plays in both anatomical rule and haemato-social rule. This is particularly evident in the case of anatomical governance which, by stealing the corpses of paupers in the greatest secrecy, shows very little willingness to recognise and target the agency of the poor. The difference is also apparent, although more subtly, in the case of haemato-social governance. The latter does recognise, through its notions of the gift and voluntary donors, that individuals have a certain agency. But, it was a very much passive agency which had to be intervened upon and shaped through propaganda rather than the more active agency recognised by bioethics where individuals are required to reflect and decide for themselves.

Chapter 4

'A Problem of Ethics' – the Dangers of Modern Medicine and the Will to Protect Human Beings

The previous chapter was an analysis of the mentalities of rule that dominated the ways to conceptualise and organise the circulation of the human body for medical research before bioethical governance become prevalent from the 1990s onwards. In contrast, the present chapter turns its attention to ethics governance and the different principles, forms of expertise, devices and subjectivities that compose this governmental logic. More specifically, this chapter examines some of the conceptual, material and political conditions that make the ways of thinking and acting characteristic of ethics governance possible today. This chapter focuses on the case of the United Kingdom; the next chapter will ask the same question in relation to Singapore.

Before examining the conditions of possibility of ethics governance, the present chapter shows how influential this new mentality of rule has become in the United Kingdom and examines some of its key concepts, forms of expertise, procedures, institutions and types of subjectivities. It is notably argued that, instead of viewing the circulation of the body as an 'issue of supply' as haemato-social logic would have it, bioethical governance conceptualised it as a 'problem of ethics' because of the potential dangers that the collection and medical use of human tissue were perceived to entail. The key question was not how to increase the supply of body parts but how to protect human beings from these dangers. Such an issue, it is further argued, was thought to be the remit of a particular type of institution: the bioethics committee. Instead of using devices like the gift or propaganda as the National Blood Transfusion Service would do to increase the supply of blood, these bioethics committees advocated a series of ethical technologies such as 'codes of ethics' or 'research ethics committees' to protect human beings from the risks of human tissue research.

Having showed the predominance of ethics governance in the United Kingdom today and examined some of its main characteristics, the chapter analyses some of the conceptual, material and political conditions that make it possible for human tissue research to be described, today, as 'a problem of ethics' necessitating codes of ethics and other ethical

technologies. It argues that this new way to problematise and govern the medical use of human tissue is the product of a will to respect human beings and protect them from modern medicine understood as potentially dangerous for humankind; a will that, as the chapter further shows, became increasingly prevalent in the United Kingdom with the development of bioethics from the 1960s onwards. After providing an overview of the emergence and rise to pre-eminence of British bioethics between 1960 and 1990, the chapter details some of the key aspects that characterised this will to respect and protect human beings. It argues that one of these defining aspects was the belief that modern science and medicine was dangerous for humankind. Other crucial characteristics of the will to protect human beings, the chapter further argues, were the central role played by expert committees on bioethics, moral guidelines and a series of ethical technologies. The chapter then shows how this particular will to protect human beings was instrumental in identifying the use of human tissue in medical research as a 'problem of ethics' that necessitated the setting up of an 'ethical framework' from the 1990s onwards.

Bioethical Governance in the United Kingdom Today

During the 1990s, a new way to think and administer the collection and medical use of the human body progressively displaced the old haemato-social governance. As already explained, it is this new way of conceiving and administering the circulation of the human body, with all its rationalities, forms of expertise, problems, institutions, principles and procedures, that I term bioethical or ethics governance. This section examines the growing influence of this new logic of rule in the UK and explores its main characteristics by contrasting it to haemato-social governance.

A clear sign of the growing influence of this new logic of rule in the UK is the increasing number of texts relating to bioethical governance that have been published there during the last fifteen years or so. To start with, there has been a rising number of textbooks and scholarly articles authored by lawyers, philosophers or doctors that discuss the ethics of human tissue research. There are many examples, including: the chapter entitled 'The Human Body and its Parts' in *Medicine, Patients and the Law*, a textbook from Margaret Brazier (2007:Chapter 19), a medical lawyer and founder of the Centre for Social Ethics and Policy at the University of Manchester; the chapter on 'The Human Body' in *Medical Ethics*, a book authored by Alastair V. Campbell (2001:Chapter 4), a philosopher and one-time editor of the *Journal of Medical Ethics* (2001:Chapter 4); and *Medical and Scientific Uses of Human Tissue*, an article

published in the *Journal of Medical Ethics* by Onora O'Neill (1996), a philosopher and founding member of the Nuffield Council on Bioethics. There has also been a growing number of reports published by independent organisations, governmental bodies or relevant European institutions that examine the ethics of using some parts of the human body in medical research and that suggest possible ethical frameworks. Illustrations are multiple and comprise: *Donated Ovarian Tissue in Embryo Research*, a report from the Human Fertilisation and Embryology Authority (1994); *Human Tissue: Ethical and Legal Issues*, a report from the Nuffield Council on Bioethics (1995), the UK's leading institution in the fields of bioethics; *Ethical Issues of Human Tissue Banking* a report from the European Group on Ethics (1998), an advisory body to the European Commission; *Human Bodies, Human Choices*, a report from the Department of Health (2002); and *Stem Cell Research*, a report from the House of Lords (2002).

Besides reports, textbooks and scholarly articles, there has, furthermore, been a multiplication of documents which set out ethical guidelines for the medical use of human tissue or provide guidance on how to implement such guidelines. These documents have been published by a range of actors, including government, regulatory agencies, funding bodies, professional organisations, research institutions, charities and relevant European institutions. This is but a short selection of such documents: the Council of Europe's *European Convention on Human Rights and Biomedicine* (1997); the Medical Research Council's (2001a) *Human Tissue and Biological Samples for Use in Research: Operational and Ethical Guidelines*; the Royal College of Pathologists' (2001) *Transitional Guidelines for Handling 'Surplus' and Archival Material for Human Biological Samples*; the General Medical Council's (2002) *Good Practice in Research*; the Department of Health's (2003) *The Use of Human Organs and Tissue*; the Consumers for Ethics in Research's (2003b) *Genetic Research – Giving Samples for Large Studies*; the British Parliament's (2004) *Human Tissue Act*; the European Parliament's (2004) *Directive 2004/23/EC on Human Tissues and Cells*; the Human Tissue Authority's (2006b) *Code of Practice on the Removal, Storage and Disposal of Human Organs and Tissue*; the UK Stem Cell Bank's (2006) *Code of Practice for the Use of Human Stem Cell Lines*; the Human Fertilisation and Embryology Authority's (2007) *Code of Practice*; and the Royal College of Physicians' (2007) *Guidelines on the Practice of Ethics Committees in Medical Research with Human Participation.*

For the authors of these different texts, the collection and medical use of human tissue was not a 'problem of supply' as haemato-social logic would have it, but a 'problem of ethics' (Nuffield Council on Bioethics 1995:ii). This way of framing the problem can be found in most of the texts listed above. For example, in its report on *Donated Ovarian Tissue in Embryo Research*, the Human Fertilisation and Embryology Authority (HFEA) described its task as assessing the

'clinical, scientific, ethical and social implications of using ovarian tissue' (1994). Similarly, in its 1995 report quoted above, the Nuffield Council on Bioethics explained that its brief was to 'deal with the ethical and associated legal questions raised by the medical and scientific uses of human tissue' (1995:ii). The European Group on Ethics used a very similar wording in its 1998 *Opinion on the Ethical Aspects of Human Tissue Banking*, arguing that its role was to assess the 'main ethical issues' arising from 'the collection and use of [human] tissues' for 'diagnostic,' 'therapeutic,' or 'research purposes' (1998:3). Likewise, in its 2002 *Report on Stem Cell Research*, the House of Lords understood its task to be a close examination of the 'scientific and ethical issues arising from stem cell research' (2002:Paragraph 6.1).

By positing the problem as one of ethics rather than one of supply, the authors of these texts had a very different conception of the task at hand than the one held by proponents of haemato-social governance. For Titmuss, Vaughan and others, the 'problem of supply' was about how to generate the necessary amounts of body parts to ensure the functioning and progress of medical science and, thereby, the health and happiness of all. In stark contrast, for the authors of the texts listed above, the 'problem of ethics' was about how to protect human beings from the potential dangers that could arise from the scientific and medical use of human body parts. The dangers imagined by these authors were varied. One risk which they often mentioned was that the scientific and medical use of foetal and reproductive tissues could lead scientists to put undue pressures on women to abort and give their eggs respectively (e.g.: Human Fertilisation and Embryology Authority 1994; Nuffield Council on Bioethics 1995:Chapter 2; European Group on Ethics 2000; Human Fertilisation and Embryology Authority 2006). Another set of risks which they regularly brought up were the dangers arising from the 'commercialisation of the human body' and, most notably, the danger that vulnerable people could be tempted to give their body parts for financial rewards (e.g.: Nuffield Council on Bioethics 1995:Chapter 2; European Group on Ethics 1998; House of Lords 2002). For these authors, it was essential that human beings be protected from such dangers; this, according to them, was demanded by the fundamental principle of 'respect for human beings and their lives' (e.g.: Human Fertilisation and Embryology Authority 1994; Nuffield Council on Bioethics 1995:Chapter 6; European Group on Ethics 1998:4-5; Medical Research Council 2001a:3-6; Human Fertilisation and Embryology Authority 2007:Paragraph 1.2).

These texts do not only posit the problem in a different way than would proponents of haemato-social governance; they also recommend different experts and methods to address it. In terms of expertise, the 'problem of supply' had been posited, examined and resolved by specialists in social policy such as Richard Titmuss, then a professor of social administration at

the London School of Economics, or socially-minded doctors such as Janet Vaughan. This is in strong contrast with bioethical logic where the 'problem of ethics' is supposed to be identified, assessed and solved by specialists in philosophy, law and medicine generally working together in *ad hoc* committees. Margaret Brazier, Alastair Campbell and Onora O'Neill, all mentioned above, are characteristic examples of this new breed of specialists; and the Nuffield Council on Bioethics is typical of such *ad hoc* committees that bring together physicians, philosophers and lawyers to 'identify, [examine and report on] ethical questions raised by recent advances in biological and medical research' (Nuffield Council on Bioethics 1995:i).

In terms of methods, Titmuss, Vaughan and others had resorted to the technique of the gift, mechanisms of propaganda and the concept of the real community donor to solve the 'problem of supply.' In contrast, the authors of the above mentioned texts sought to solve the ethical issues that arose from the collection and medical use of human tissue by using ethical principles and technologies articulated around the figure of the human being. The principles laid out in the guidelines listed above determine what type of human tissue can be used, what sort of research it can be used for as well as how it should be collected, stored and disposed of. Examples of these rules include: the prohibition of the use of tissues collected from embryos that are fourteen days or older (cf. Human Fertilisation and Embryology Act 1990; Kennedy and Grubb 2000:1888-1904; Jackson 2006:Chapter 13; Brazier 2007:Chapters 14, 18 & 19; Human Fertilisation and Embryology Authority 2007); the obligation to obtain a donor's informed consent before collecting his or her body parts and using them for research (cf. Medical Research Council 2001a:15-16; Human Tissue Authority 2006a; Human Fertilisation and Embryology Authority 2007:Section S.8); and the obligation to dispose of human tissue after research with 'delicacy and sensitivity' (cf. Human Tissue Authority 2006b; Human Fertilisation and Embryology Authority 2007:Paragraph G.9.10). The texts listed above also lay out a series of institutional forms, procedures and other ethical technologies that aim to operationalise the ethical principles. One example is the Human Tissue Authority, a regulatory agency which ensures through a complex system of licensing, compulsory record-keeping and inspections that anyone collecting, using and storing human tissue for medical research abides by the principles discussed above (Human Tissue Act 2004; Human Tissue Authority 2006b).

The Dangers of Modern Medicine, the Will to Protect Humans & the 'New' Medical Ethics

This section and the next examine the complex and slow process during which the different rationalities, institutional forms and practices that make up ethics governance were assembled and discuss some of the conceptual, material and political conditions that made it possible for the medical use of human tissue to be described as 'a problem of ethics.' They argue that this new way to problematise and govern the medical use of human tissue is the product of a will to respect human beings and protect them from the dangers of modern medicine which grew out of modern medical ethics and which became increasingly influential in the United Kingdom after the 1960s.

The present section opens with an account of bioethics and its development in the United Kingdom from the early 1960s onwards. This account notably shows how, by the early 1990s, bioethics had become a well-established and influential discourse in the United Kingdom, having been adopted not only by professional medical associations and funding agencies but also by government, the pharmaceutical industry and the wider public. The section then takes a closer look at the will to respect and protect human beings. As this section argues, the will to respect and protect human beings is a style of thinking which grew out of and became influential together with modern medical ethics and which is composed of five key elements: (1) the belief that modern medicine in general and medical research in particular were or could be dangerous for humankind; (2) the desire to respect human beings; (3) expert committees on bioethics that identify and assess ethical issues; (4) moral codes with principles like that of informed consent; (5) and ethical technologies that guide, assist and monitor the operationalisation of these principles. The section examines the different elements in turn.

Before discussing the development of British bioethics and the will to respect human beings, however, I need to explain why I have chosen the emergence of bioethics in the 1960s over the redaction of the *Nuremberg Code* in the 1940s as the starting point of my story. Some social scientists (e.g.: Corrigan 2003:771-772; Jasanoff 2005:174; Holden and Demeritt 2008:81) do see the 1947 *Code* as the origin of both bioethics and today's ethical regulatory systems for biomedical research. So do most bio-ethicists (e.g.: Campbell, Gillett et al. 1992:81; Kennedy and Grubb 2000:1667-1678). One important reason for doing so is that many of the principles that were laid out in the *Code* such as that of informed consent can be found in today's ethical frameworks for biomedical research where they play a key role.

Despite these similarities, historians have shown that it is problematic to see modern research ethics as a direct continuation of the *Nuremberg Code* (cf. Rothman 1987; Katz 1992; Jonsen 1998; Cooter 2000a; Edelson 2002; Hazelgrove 2002; S. Lock 2002; Weindling 2006:Chapter 17). First of all, to do so would ignore the fact that the *Code* remained largely ignored by Western medical scientists and was never deemed to be applicable to medical research in the West until the 1960s. It was only then that the *Code* was put forward by bio-ethicists who, interpreting the atrocities committed by the Nazi doctors as a symbol of the dangers of modern medicine, actively used the *Code* as a model for their own moral guidelines. Before the 1960s, there seemed to be no *raison d'être* for the *Nuremberg Code* or indeed any other ethical regulation for normal medical research. In the United Kingdom, the post-war period was one of fervent enthusiasm for a modern medicine based on science and research – often referred to as 'scientific medicine' or 'clinical science' – which would bring health and happiness to mankind (Booth 1993; Porter 1999:Chapters 17 & 18; Le Fanu 2000). Continuing a trend started in the first part of the twentieth century, this post-war enthusiasm for modern medicine had led to the creation of new research centres and the multiplication of funding opportunities (Booth 1993; Porter 1999:Chapters 21; Le Fanu 2000). In tune with this enthusiasm for scientific medicine and in the name of 'scientific freedom,' medical researchers were left to decide which experiments were desirable; it was thought that, because of their 'good character,' 'integrity' and expertise they could be 'trusted' to take the right decisions (Hazelgrove 2002; Weindling 2006:Chapter 17).

Another reason why it would be problematic to understand modern research ethics as a direct continuation of the *Nuremberg Code* is that it would conceal the fact that modern research ethics and the *Code* participated in two very different projects. Written by the Allies at the end of World War Two, the *Code* was understood as an instrument to judge and condemn the atrocities committed by German researchers under the Nazi regime, not as a series of rules to govern research in the free world. It was a 'code for barbarians' (Katz 1992:228), not a code for ordinary physician-scientists in the West. In other words, for those that devised the *Code*, the problem was not medical research itself. For them,[2] the gruesome abuses committed by German researchers were not interpreted as a sign that all medical research was inherently dangerous, regardless of who conducted it (as bio-ethicists did in the 1960s). For those who

[2] There were, of course, some people who took part in the trials that thought otherwise. One example is Alexander Mitscherlich, a psychiatrist who headed a delegation of German medical observers at the trial and published parts of the trial evidence in *Das Diktat der Menschenverachtung [The Order to Despise Humanity]*, later published in English as *Doctors of Infamy: the Story of the Nazi Medical Crimes* (New York, Henry Shuman: 1949; cf. Weindling 2006:Chapter 11). Ostracised by the German medical establishment for his stance against German medicine at the Nuremberg trial, Mitscherlich was brought to Frankfurt, at the faculty of social sciences, by Horkheimer and Adorno. There, he continued his critical work on medicine, developing notably the field of psychosomatics, and was promoted to a chair in psychology in 1966 (Weindling 2006:332-336).

devised the *Code,* the problem was Nazism and, more generally, 'totalitarian rule' and the way it had brought about 'the destructive perversion of medicine' and caused doctors to commit atrocities (Alexander 1949:xxxiv; L. Alexander quoted in Weindling 2001:61). In contrast, for modern research ethics the problem was, as is argued below, modern medicine and medical research themselves which were believed to be potentially dangerous for humankind and against which human beings had to be protected.

The 'New' Medical Ethics

Medical ethics has existed for over two hundred years in countries like the United Kingdom and the United States of America. Until the 1960s, it was primarily understood as an instrument for building a strong medical profession in the hands of professional organisations of physicians like the British or American Medical Associations (cf. Little 1932:287-295; Berlant 1975; Waddington 1975; Baker 1993; Cooter 1995; Cooter 2000a; Amstrong 2007). This understanding of medical ethics, which today is often referred to as 'traditional' medical ethics, is articulated around professional codes of conduct which are implemented by disciplinary bodies internal to the profession and which cover different aspects of a physician's professional activity, including: setting up a practice; determining fees; disclosing information about patients; writing medical certificates; referring patients to colleagues; advertising; or holding public office.

From the 1960s onwards, in the USA, the UK and other European countries, this traditional understanding of medical ethics was progressively displaced by what would soon become know as 'bioethics' or 'modern medical ethics' (cf. Culliton and Waterfall 1978; Rothman 1987; Toulmin 1988; Weisz 1990a; Rothman 1991; Reich 1994; Reich 1995; Viafora and Dell'Oro 1996; Jonsen 1998; Pellegrino 1999; Stevens 2000; Cooter 2000a; Cooter 2004; Amstrong 2007). Although traditional medical ethics and bioethics do have some similarities, they also present significant differences. The most important of these differences, from my perspective, is that bioethics is not concerned with strengthening the profession (the concern of traditional medical ethics) but with protecting patients and other people against the dangers which, it believes, are inherent to modern medicine (Amstrong 2007). There were many different aspects of modern medicine, from genetics to life prolongation techniques, that bioethics deemed to be problematic. Among these, medical research, especially when involving human beings, embryos or foetuses, was thought to be particularly problematic, not least because of research's experimental and often non-therapeutic nature (cf. Campbell 1975 [1972]:Chapter 6; Jonsen 1998:Part II). Another important difference between traditional medical ethics and

bioethics is that while the former was a matter solely for physicians, the latter was a 'meeting ground' for experts interested in the problems raised by modern medicine who came from 'a number of disciplines' ranging from philosophy and theology to law, social science and medicine (O'Neill 2002:1). And, while traditional medical ethics was mostly considered within professional organisations, bioethics was discussed in academic research centres and specialised scholarly journals, in government expert commissions and charities as well as at conferences organised by international organisations.

The understanding that bioethics was something different from traditional medical ethics which concerned itself with the dangers that modern medicine held for humankind and which involved experts from a range of different disciplines is not just one made possible by *aposteriori* historical analysis. It was also one that was held and voiced from early on by both the medical establishment and the 'new' experts on bio-ethicists. In a series of articles on the *New Horizons in Medical Ethics* published in the *British Medical Journal* in 1973 for example, the editor of the journal had argued that 'the so-called traditional [medical] ethics' were 'not ethics in a true sense' but only 'professional rules' (British Medical Journal 1973c:346). Instead, 'ethics in a true sense' were about 'the wider realms of what might be called the collective ethics of medicine – realms where the interests of medicine, the patient and society mingle and sometimes seem to conflict' (British Medical Journal 1973f:680). Likewise, in an article published four years later in the same journal, Alastair V. Campbell, the author of one the first textbook in bioethics in the UK, *Moral Dilemmas in Medicine* (1975 [1972]), argued that:

> 'Medical ethics might be said to have recently "come of age" – or at least to be passing through the phase of adolescence, in which a new identity is being sought ... Until recently, the term has mainly been understood as a name for an implicit code of good conduct among the members of the medical profession ... All this is now changing. There is a new mood for self-criticism in the medical profession ... the rapid social changes of our times and the increasing complexity of medical techniques have led the profession to look outside its own ranks for guidance about moral behaviour ... [turning, in particular, to] philosophy, theology and the social sciences ... The discussion [that this enables] is bound to take on some exciting features. In his celebrated attack on the "medicalisation of life" Ivan Illich has suggested that [modern medicine] causes more damage to health than it brings benefit to mankind ... The focus of his attack seems to me entirely correct. It is now essential that we ask some basic question about the task and place of medical care within society as a whole' (Campbell 1977:818).

In the United Kingdom, the development of modern medical ethics started in the early 1960s. There were two defining moments in the early development of British Bioethics, one being the creation of the London Medical Group (LMG) in 1963 (cf. Whong-Barr 2003). Stemming from the British ecumenical movement, the LMG was an independent student body that sought to enable medical students to engage with medical humanities and the wider society by

organising twice-weekly symposia held in teaching hospitals throughout London (London Medical Group 1970; Whong-Barr 2003). Free and open to the public, the talks featured speakers from both medicine and other disciplines like law, theology and the social sciences and covered topics as varied as end of life issues, truth telling, genetics, bisexuality, poverty, cannabis use, marriage guidance and nuclear weapons. The scheme was extraordinarily successful, with an average attendance of a hundred persons per session, and was soon extended to another seventeen locations outside London. In 1975, the LMG was re-organised as the Institute of Medical Ethics, an independent association for the promotion of the study of medical ethics, which continued to run the symposia and started to publish the *Journal of Medical Ethics* with A.V. Campbell as editor. Through its various activities, the LMG/IME would influence a whole generation of physicians, many of whom would go on to hold important positions within the British medical establishment, like Douglas Black, one-time president of the Royal College of Physicians and Chief Medical Officer (CMO), or Liam Donaldson, the UK's current CMO.

The second defining moment was the numerous publications on human experimentation of British doctor Maurice H. Pappworth, most notably his 1967 book *Human Guinea Pigs: Experimentation on Man* (e.g.: Pappworth 1962; Pappworth 1967; Pappworth 1969 [1967]; Pappworth 1971; cf. also: Edelson 2002; Hazelgrove 2002; S. Lock 2002; Elliott 2008). Pappworth's publications were part of a wider literature that contributed to the turning of human experimentation into a key issue for bioethics during the 1960-70s and that also included the writings of Harvard Professor Henri Beecher (1959; 1966) as well as the World Medical Association's (1964) *Declaration of Helsinki.* This literature aimed, through a rigorous documentation of the harm inflicted on patients and volunteers taking part in medical experiments, to force the introduction of strict ethical frameworks to curb the numerous abuses which were then taking place in the West. Pappworth's and others' publications set in motion a heated public debate on human experimentation in the UK that lasted well into the 1970s (cf. British Medical Journal 1962a; British Medical Journal 1962b; British Medical Journal 1963a; British Medical Journal 1964; British Medical Journal 1967a; British Medical Journal 1967c; British Broadcasting Corporation 1970; British Medical Journal 1973g; British Medical Journal 1974a; British Medical Journal 1977; Pappworth 1990). The public outcry generated by Pappworth's publications forced the rather reluctant medical establishment to address the issue, with the Medical Research Council (1963) issuing a *Statement on Responsibility in Investigations on Human Subjects* and the Royal College of Physicians suggesting that research ethics committees should be introduced to supervise medical research (1967; 1973; cf. also: Hazelgrove 2002).

The influence of bioethics in the United Kingdom increased markedly during the 1980s, with an increasing number of actors – professional medical organisations; the government; funding agencies; the pharmaceutical industry – adopting its rationalities and practices. The signs of bioethics' increasing importance were numerous. One such indication was the establishment of academic training and research centres in bioethics like the Centre of Medical Law and Ethics opened by G.R. Dunstan, Ian Kennedy and others at King's College, London, in 1983 or the Centre for Social Ethics and Policy opened by John Harris and Margaret Brazier at the University of Manchester in 1987. Another sign was the introduction of bioethics teaching in British medical schools in the late 1980s (Whong-Barr 2003). A further mark of bioethics' increasing influence was the growing number of publications on the topic, from articles to monographs and edited collections. Examples included Ian Kennedy's (1981) *The Unmasking of Medicine*, John Harris' (1985) *The Value of Life*, Carolyn Faulder's (1985) *Whose Body Is It Anyway?*, Raanan Gillon's (1986 [1985]) *Philosophical Medical Ethics* and Margaret Brazier's (1987) *Medicine, Patients and the Law.* Yet another proof of bioethics' consolidation was the creation of independent charities that sought to increase the public's awareness of modern medical ethics such as Consumers for Ethics in Research established in 1989.

There were further and, perhaps, even more telling signs of bioethics' growing importance. One was the growing numbers of expert committees in bioethics which were established by government, professional organisations or funding agencies and which were mandated to assess and report on specific ethical issues ranging from IVF treatment to clinical trials on healthy volunteers. Examples of such committees included, among others: the Committee of Inquiry into Human Fertilisation and Embryology created by the Department of Health and Social Security in 1982 and chaired by Mary Warnock; the Royal College of Physicians' Committee on Ethical Issues in Medicine established in 1986 under the impulsion of Douglas Black; and the Nuffield Council on Bioethics created by the Nuffield Foundation together with the Medical Research Council and the Wellcome Trust in 1991. Another important indication of bioethics' growing influence was the mounting number of ethical frameworks set up to regulate medical practice. Such frameworks included, among many others, the regulatory and monitoring system for embryo research established by the 1990 *Human Fertilisation and Embryology Act* as well as extensive guidelines relating to the organisation and running of research ethics committees issued by both the Royal College of Physicians and the Department of Health and Social Security (e.g.: Royal College of Physicians 1984; Royal College of Physicians 1990a; Department of Health and Social Security 1991; cf. also: Royal College of Physicians 1996; Royal College of Physicians 2007).

It is this new medical ethics, which had become ever more influential since its emergence in the 1960s, that was the matrix within which the will to protect human beings against the perceived dangers of modern science took shape. Below, this section explores the five elements that made up this style of thinking which grew to pre-eminence together with bioethics from the 1960s onwards. To discuss and illustrate these five different components of this thought style, the section will use texts published by bio-ethicists from the emergence of bioethics in the early 1960s until bioethics had become a well-established and influential discourse in the UK in the early 1990s. Having been published over a period of thirty years, these texts do, of course, offer some different views. But, beyond these differences, they are all manifestations of this style of thinking which I have termed the will to protect human beings.

Among the different elements that made up the will to protect human beings was the belief that modern medicine in general and medical research in particular were dangerous for humankind. As already alluded to, such a belief was characteristic of bioethics. For the new medical ethics, modern medicine was not, or not necessarily, a force for good. It was not necessarily, as had been commonly believed until the 1970s (Porter 1999:Chapter 21; Le Fanu 2000), a vector of health, progress and prosperity. Quite the contrary. Modern scientific medicine, for bioethics, had a strong potential to be detrimental to humankind. It represented a danger for people's health and happiness. This was a problem that needed to be analysed, discussed and resolved. This point of view could be found in many texts written by proponents of the new British medical ethics. Ian Kennedy, for example, made such an argument in his 1980 Reith Lectures entitled *The Unmasking of Medicine*. Clearly influenced by Ivan Illich's (1977 [1976]) *Limits to Medicine*, he explained that modern or scientific medicine had become deleterious to the health and happiness of the population:

> 'My view can be stated briefly. Modern medicine has taken the wrong path. An inappropriate form of medicine has been created, in large part by doctors and medical scientists ... I will go further. The nature of modern medicine makes it positively deleterious to the health and well-being of the population ... [We] have hitched our wagon to the wrong star, scientific medicine ... [We need to] consider how the emphasis should be shifted' (Kennedy 1981:26 & 50).

Eight years later, a comparable argument was made by Mary Warnock in an article calling for the creation of a 'National Ethics Committee:'

> After the last war there was a cliché to the effect that man's scientific knowledge had outstripped his moral sense. At that time it was uttered in the context of the physical sciences. The bomb had, rightly, frightened us all. Now that same cliché is more and more to be heard in the context of the biological sciences. We must take it seriously (Warnock 1988:1627).

The idea that modern or scientific medicine was not a vector of progress but a danger to humankind was not specific to British bio-ethics. On the contrary, it informed a series of discourses which flourished between the 1950s and 1970s and which influenced British bioethics. One of these discourse was the post-atomic narrative to which Warnock alludes and which held that, in the light of the destruction and death generated by the products of nuclear science in both Hiroshima and Nagasaki, it was necessary to urgently establish regulatory frameworks that would ensure more responsible research (Stevens 2000:Chapter 1). Another of these discourses was Christian ethics which had led to the creation of the LMG in 1963 and to which many bio-ethicists explicitly referred (e.g.: Pappworth 1969 [1967]; Campbell 1975 [1972]). This tradition held that 'science' could not be 'the highest value' to which 'all other orders of value should be subordinated' as this would necessarily lead to the injury of others, as Pius XII (1952) explained in *The Moral Limits of Medical Research and Treatment.* Yet another of these discourses was the 'medicalisation' narrative best exemplified by Illich's (1977 [1976]) *Limits to Medicine.* For Illich, modern medicine had, because of its useless and dangerous treatments, its bureaucratic organisation and its ideology that made us too sensitive to pain, 'become a major threat to [human] health' (ibid. p.1). Illich's and other similar narratives did not only have a great influence on large sections of the British population (cf. Porter 1999:686-709) but also on many bio-ethicists (e.g.: Campbell 1977; Kennedy 1981).

For bio-ethicists, the aspects of modern medicine that were potentially dangerous and thus problematic were multiple. They included, among others: the field of genetics, transplantation medicine, life-support and resuscitation technologies, and particular psychiatric treatments such as ECT (e.g.: Woodruff 1964; British Medical journal 1975; Campbell 1975 [1972]:Chapter 6; Harris 1985; British Medical Journal 1990; cf. also: Jonsen 1998:Part II; Whong-Barr 2003:74). More importantly for us, they also included medical research, whose potential dangers were further compounded by its increasing role in modern medicine and its growing volume (Platt 1963:Chapter 8; Beecher 1966; Platt 1967; Pappworth 1969 [1967]:Preface; cf. also: Rothman 1987; Booth 1993; Hazelgrove 2002). Three types of research in particular were deemed dangerous and thus problematic by bio-ethicists. The first was 'human experimentation' which had become one of bioethics' key issues since it was first brought up by Pappworth and others in the 1960s (e.g.: Pappworth 1962; Platt 1963:Chapter 8; British Medical Journal 1963a; Pappworth 1969 [1967]; cf. also: Pappworth 1990; Edelson

2002; Hazelgrove 2002; S. Lock 2002; Elliott 2008). The second was research on human embryos which had become another critical problem during the protracted confrontations on the topic between scientists and pro-life interest groups in the 1980s (e.g.: Harris 1983; Warnock 1983; Warnock 1985 [1984]; Campbell, Gillett et al. 1992:chapter 4; cf. also: Mulkay 1997). The third was research on human foetuses which became a problem in the late 1980s (e.g.: Committee on the Research Use of Fetuses and Fetal Material 1989; Campbell, Gillett et al. 1992:Chapter 4).[3]

The dangers of medical research identified by bio-ethicists were numerous and, most of the time, potential or future. In the case of human experimentation, they argued that the danger was the possibility of inflicting physical harm and/or emotional distress on the research subject. So, for example, Julia Neuberger, a member of the Human Fertilisation and Embryology Authority and research fellow at King's Centre of Medical Law and Ethics, explained that it is important to 'protect patients from unnecessary research' given that such 'research *can* be invasive physically, posing questions about pain,' and that 'it *can* also be emotionally threatening' (1992:9; my emphasis). In the case of embryo research, one danger identified by bio-ethicists was the possibility of devious researchers using embryos to develop immoral technologies (Mulkay 1997:Chapter 4). Mary Warnock, for example, warned about 'the possibility of unscrupulous scientists meddling with the process of reproduction in order to create hybrids or to indulge theories of selective breeding or eugenic selection' (1985 [1984]:62; cf. also: Mulkay 1997:21). Some of the dangers identified in the case of research on foetuses were of a similar type. So, for example, the Committee on the Research Use of Fetuses and Fetal Material argued that, 'when transplantation of [large sections of] brain tissue is involved,' one could not exclude, 'in the light of current knowledge,' a risk of 'personality transfer' (1989:7). In consequence, the Committee 'recommended a cautious approach' whereby 'only isolated neurones or [small] fragments of tissue [are] used for transplantation' (ibid.). Another sort of danger identified in relation to foetus research was that women could feel forced to become pregnant and abort in order to make foetuses available for research:

> 'It has been argued ... that someone could become pregnant in order to make a fetus available for medical use ... [This] would be ethically unacceptable ... To limit the degree to which [such] morally dubious wishes can be implemented ... we recommend ... the separation of the decisions relation to abortion and the subsequent use of fetal tissue' (Committee on the Research Use of Fetuses and Fetal Material 1989:9).

[3] The British spelling 'foetus' is used throughout the thesis apart when the text quoted uses the American spelling 'fetus,' in which case the original spelling is conserved.

For some bio-ethicists, one of the main causes of these potential dangers of medical research was researchers' scientific 'mentality' itself (Kennedy 1981:29); a mentality characterised by reason, implacable logic, objectivity, technique and experimentation (e.g.: Pappworth 1969 [1967]:24-25; Kennedy 1981:27-30; Faulder 1985:62). For them, this spirit carried with it many negative traits: a lack of sensitivity, impersonality and an obsession with the pursuit of truth. Pappworth, for example, described medical researchers as 'cold-blooded,' 'damned egoists who seek their own satisfaction' in the pursuit of scientific knowledge (1962:72-73); they were driven by a 'zeal to extend the frontiers of medical knowledge' and tended to 'depersonalise' and 'disregard' their research subjects (1969 [1967]:11 & 24). Similarly, Nicholson argued that medical researchers had 'dedicated [themselves] to the increase of knowledge' and 'to the duty of pursuing the truth even at considerable cost' to themselves or others (1986:64). It was this scientific mentality which, many bio-ethicists argued, made medical research dangerous. Pappworth, for example, lamented that modern 'medicine is rapidly becoming dehumanized because of its emphasis on laboratory procedures and the domination of most medical schools by research workers' (1971:668). Similarly, Kennedy argued that the predominance of 'science and reason' within modern medicine has had the 'unhappy consequence' that 'medicine is [now] perceived and pursued in ways which do not best serve the needs of society' (1981:26). Even Mary Warnock, who refused to condone the public's increasing 'hostility to science,' argued that 'man's scientific knowledge,' most notably 'in the context of the biological sciences,' had started to 'outstrip his moral sense' and was now threatening to go beyond what was 'widely seen to be secure and sensible' for humanity (1985 [1984]:1626-1627).

Interestingly, bio-ethicists, who had rediscovered the long ignored *Nuremberg Code* and other accounts of Nazi medical experimentation in the 1960s, often expressed the idea that modern medicine and research was dangerous by associating it with the atrocities committed by German doctors during World War Two. Sometimes, they explicitly equated British researchers to Nazi experimenters. Pappworth, for example, argued that while 'analogy with the infamous Nazis doctors may sound gross exaggeration,' it is 'unfortunately justified' (1969 [1967]:269; c.f. also: Pappworth 1962:73-74; Hodgson 1963). Indeed, for him, British researchers and Nazi doctors shared the same 'zeal' for knowledge and the same willingness to 'ignore the suffering they cause' (1969 [1967]:11 & 226-227). But, more often, bio-ethicists simply referred to the Nazi atrocities when discussing medical research in the United Kingdom. The effect of this textual juxtaposition could not, of course, fail to imply a certain level of analogy between the Nazi atrocities and British medical research, thus making it clear that modern medicine carried within itself a potential to be dangerous for humankind (e.g.: Campbell 1975 [1972]:173; Harris 1985:36-37; Dunstan 1986:v; Nicholson 1986:73; Brazier

1987:4-5; Kennedy and Grubb 1989:1667-1678; Campbell, Gillett et al. 1992:81; Neulberger 1992:9). This rhetorical use of the German atrocities and the frequent references to texts like the *Nuremberg Code* (1947) or Mitscherlich's *Doctors of Infamy* (1949) participated in a very different spirit than the one which had informed the 1946-47 Nuremberg Medical Trial. As alluded to previously, for those that ran the trial and drafted the *Code,* the problem was not medical research itself but Nazism and, more generally, 'totalitarian rule' which had perverted medicine. For bio-ethicists, in contrast, the problem was modern medicine itself. Medicine was not dangerous because it was perverted by an outside force but because it was *inherently* dangerous.

The Will to Protect Human Beings

If the belief that modern medicine represented a danger for human beings identified the problem for bio-ethicists, the will to protect human beings embodied the desire and the drive to solve it. Like the belief in the dangers of modern science, the will to shield human beings from these dangers grew out of the matrix of modern medical ethics. It is therefore unsurprising that many texts written by proponents of the new medical ethics express this desire to protect human beings which they sometimes refer to as 'respect for persons' (e.g. Campbell 1975 [1972]:Chapter 5; Faulder 1985:Part I; Harris 1985:Chapter 10-11; Gillon 1985a). Pappworth, for example, explained that 'every human being' should 'be treated with a certain decency' or 'considerateness' (1969 [1967]:43 & 47). Likewise, John Harris exhorted people to 'respect persons' by showing 'concern for their welfare' and 'respect for their wishes' (1985:193). Warnock made a comparable point when she argued that 'we must aim' at an increased 'sensitivity' in our 'treatment of human beings' (1983:248).

Very often one will find in bioethical texts the will to respect and protect fellow human beings expressed as a Kantian interdiction on the treatment of other human beings as a 'mean to an end,' 'things' or 'objects.' Faulder offers a good illustration when she claims that 'we [should] regard [human beings] as persons rather than objects or things' (1985:23). Similarly, Ian Kennedy stated that:

> 'Many would see [it as] a fundamental principle [that] we may not use humans as means to an end, but must respect them as ends in themselves' (Kennedy 1984:6).

Another, maybe more colourful illustration is offered by Pappworth who, citing Mitscherlich's *Doctors of Infamy*, argued that it would be wrong to 'put human beings on the level of a molecule or a frog or a guinea pig' (1969 [1967]:227). Indeed, this would 'not [be] much different' from

the way Nazi doctors had conceived of human beings 'as a case or a number tattooed on the arm;' they were simply 'two aspects of the faceless approach of an age without mercy;' they were two manifestations of 'the modern age [and its] transmogrification of subject into object, of man into thing' (ibid.).

For bio-ethicists, the will to respect and protect human beings was a project to re-moralise medicine, to make medical research ethical again. Indeed, for them, the desire to shield human beings embodied one of the most important moral or ethical values: human beings and their lives. Harris, for example, argued that the wish to respect persons has its basis in the fact 'that we value human life supremely' (1985:7). Likewise, Gillon explained that our desire to protect human beings stems from the 'absolute moral value' that they possess 'in contrast to inanimate objects and "beasts"' (1985c:1332). As a key moral value, the will to protect human beings played, according to bio-ethicists, a crucial role in limiting and guiding modern medicine and medical research. As Warnock explained, moral values offered the necessary 'barriers that are not to be crossed' and the 'limits beyond which [researchers] are not to be allowed to go' (quoted in Faulder 1985:59). It was, furthermore, because the will to protect persons was a project to re-moralise medicine that bio-ethicists conceptualised the dangers of modern medicine not just as 'problems' but as 'ethical' or 'moral' problems. Campbell, for example, used the terms 'moral dilemmas' and 'ethical issues' to refer to the multiple dangers of modern medicine (1975 [1972], especially chapter 6). Similarly, Warnock used the expression 'ethical problems' to designate the potential dangers 'arising in both medical practice and research' (1988:1626).

Interestingly, bio-ethicists argued about the characteristics that an entity had to possess in order to be categorised as human and, thereby, qualify for the respect and protection that all human beings are entitled to. For thinkers like Harris and Gillon, those that deserved protection were human beings capable of reasoning, valuing and willing, which they termed 'persons' (cf. Harris 1983; Harris 1985; Gillon 1985a; Gillon 1985g). So, for Harris (1985:18), only a 'being capable of valuing its own existence' or 'person' is deemed worthy of protection. While, for Gillon (1985a:1735) 'rational willing agency' is 'the moral criterion for distinguishing entities [to which we] owed moral obligations' from those to which we don't. Such a criterion excludes from any sort of protection not only human embryos and foetuses but also adults with mental deficiencies and young children which all lack such a capacity to reason, value and will (cf. Harris 1985:Chapter 6; Walsh 1995). For other thinkers such as Mary Warnock or Ian Kennedy, the criterion that makes one a human being and worthy of protection is biological: 'membership of the species *homo sapiens* confers a unique moral importance' (Gillon

1985g:1646; cf. Warnock 1983; Kennedy 1984; Warnock 1985 [1984]). As Warnock explained, '*homo sapiens*' is 'a biological term and simply distinguishes humans from other animals' (1983:241). This criterion extended the respect and protection due to all human beings to *human* embryos and foetuses as well as to children and adults that lack, temporarily or permanently, the capacity to reason (cf. Warnock 1983; Kennedy 1984; Warnock 1985 [1984]; Committee on the Research Use of Fetuses and Fetal Material 1989; Walsh 1995). The following extracts from Warnock's writings offer a fine illustration of such a position:

> 'However far removed from full humanity [an embryo or] a foetus may be, we would do well to remember that it is a *human* [embryo or] foetus' (Warnock 1983:242);
>
> '[Human] society feels ... that its members, especially the most helpless, such as children and the very old, must be protected against the possible exploitation by enthusiastic scientists; and embryos [and foetuses] are brought into the category of those deserving protection ... the embryo [and the foetus are] entitled to some added measure of respect beyond that accorded to other animal subjects ... the embryo [and the foetus] of the human species ought to have a special status ... and should be afforded some protection' (Warnock 1985 [1984]:xiv, 62 & 63).

Another good example of such a position is the report of the Committee on the Research Use of Fetuses, whose membership notably included Ian Kennedy, published in 1989:

> 'Central to our understanding is the acceptance of a special status for the living human fetus at every stage of its development which we wish to characterise as a profound respect based upon its potential development into a fully-formed human being. The living fetus is not to be treated instrumentally as a mere object available for investigation or use' (Committee on the Research Use of Fetuses and Fetal Material 1989:4).

With the adoption of most of Warnock's suggestions in the 1990 *Human Fertilisation and Embryology Act* and the adoption of the Committee on the Research Use of Fetuses' recommendation as official guidelines throughout the NHS, the biological criterion became predominant. But, Harris and Gillon's criterion did not disappear outright. It became, instead, a factor to differentiate between human beings with personhood and those without. As such, it was one among other similar criteria to distinguish between the different types of human beings that existed. Indeed, the category of human being was, according to bio-ethicists, far from being unitary, being divided into a series of different sub-categories. These sub-categories included, among others: 'human embryos;' 'human foetuses;' 'children;' 'the mentally incapacitated;' 'women;' 'pregnant women;' 'the elderly;' 'prisoners;' 'patients;' 'healthy volunteers;' and 'junior colleagues and students' (cf. Pappworth 1969 [1967]:Part 1; Royal College of Physicians 1984:9-15; Harris 1985:Chapter 11; Royal College of Physicians 1986:6-8; Royal College of Physicians 1990a:Chapters 12-14; Department of Health 1991:Chapter 4).

Each of these sub-categories was provided with a particular level and type of respect and protection against the dangers and detriments of modern medicine and research.

The level and type of protection for each of these categories varied according to three different criteria: the level of biological development; the magnitude of vulnerability or helplessness; and what I call in chapter 6 'the capacity to reflect and decide.' 'Embryos' and 'foetuses,' for example, were given a level of protection in accordance with both their incomplete level of biological development and their extreme vulnerability (cf. Warnock 1983; Kennedy 1984; Warnock 1985 [1984]; Committee on the Research Use of Fetuses and Fetal Material 1989; Royal College of Physicians 1990a:Chapter 14). As Warnock argued, being 'so far from full development, so nearly just collections of cells,' embryos and foetuses do 'not require full human treatment' (1983:241). They can, in particular and 'unlike a full human being,' 'be used as a means to an end that [is] good for other human beings' (Warnock 1985 [1984]:xv). But, their 'limited form of humanness' (Kennedy 1984:6) and their 'helplessness' akin to that of 'children and the very old' (Warnock 1985 [1984]:xiv) make them nevertheless eligible for 'profound respect' and adequate protection (Committee on the Research Use of Fetuses and Fetal Material 1989:4). 'Children' and 'the mentally incapacitated' offer a different example where the level and type of protection provided depends on both the vulnerability and the capacity to reflect and decide of these particular categories of human beings (cf. Pappworth 1969 [1967]:47-61 & 72-89; British Medical Journal 1978; Harris 1985:214-218; Nicholson 1986; Royal College of Physicians 1990a:Chapters 13; Medical Research Council 1991a; Medical Research Council 1991b; Campbell, Gillett et al. 1992:Chapter 5). 'Children,' for example, were deemed to deserve 'special considerations' for two reasons (Pappworth 1969 [1967]:47; cf. also Dunstan 1986:v). Firstly, because they were 'particularly vulnerable and helpless' (ibid). Secondly, because they were considered to be too 'young and immature' (Harris 1985:215) to have a fully developed capacity to reflect and decide.

Ethical Expertise – the Bioethics Committee

From the early 1980s, the desire to protect human beings from the dangers of medical research became indissociable from a particular form of ethical expertise: the committee of experts on bioethical issues. There are many examples of such committees. One of the earliest was probably the Committee of Inquiry into Human Fertilisation and Embryology lead by Mary Warnock and set up by the Department of Health and Social Security in 1982. Others soon followed, established and funded by a variety of organisations, ranging from government departments and funding agencies to professional associations and independent charities. They

included: the Working Group on the Ethics of Clinical Research Investigations on Children, created by the Institute of Medical Ethics in 1983; the Working Parties on Research on Healthy Volunteers and on Research Involving Patients established by the Royal College of Physicians in 1984 and 1987 respectively; the Working Parties on Research on Children and Research on the Mentally Incapacitated, both set up by the Medical Research Council in 1988; and the Committee on the Research Use of Fetuses and Fetal Material established by the Department of Health and Social Services also set up in 1988. While all these committees were temporary structures, some more permanent ones were also set up. One illustration is the Royal College of Physicians' Committee on Ethical Issues in Medicine created in 1985 under the impulsion of a former member of the London Medical Group and the then president of the RCP, Sir Douglas Black (Saunders 2008). Another typical illustration is the Nuffield Council on Bioethics, established by pre-eminent bio-ethicists like Margaret Brazier, Ian Kennedy, Onora O'Neill, Anne McLaren and Margaret Turner-Warwick together with the Nuffield Foundation, the Medical Research Council and the Wellcome Trust in 1991 (Nuffield Council on Bioethics 2000a).

What makes these different committees manifestations of one and the same form of ethical expertise is that, beyond all their differences in terms of the ways they are established and funded, these committees all share two characteristic features: (1) their members come from a range of disciplinary backgrounds; and (2) their mandate to identify, examine and report on an ethical issue. The first of these two characteristics is a reflection of the interdisciplinary nature of bioethics, which is the matrix from which bioethics committees developed. As already alluded to, modern medical ethics was 'not a discipline' but a 'meeting ground for a number of disciplines' that were concerned with ethical questions raised by medical science (O'Neill 2002:1). These different disciplines included medicine of course but also philosophy, theology, law and the social sciences. This multiplicity of perspectives and interdisciplinary expertise had characterised bioethics since its emergence in the 1960s. The very successful symposia of the LMG, for example, brought together participants with a training in a range of disciplines from medicine to humanities. Similarly, Pappworth, himself a doctor by training, used the work of lawyers, sociologists and theologians to argue his case for the regulation of human experimentation (e.g.: 1962; 1969 [1967]). Kennedy made the same point in his 1980 Reith Lectures when he argued that 'room must be found for other disciplines, particularly the humanities,' in order to avoid the 'intellectual strait-jacket' character of modern medicine (1981:27).

This multiplicity of perspectives and interdisciplinary expertise was carried over when bioethics committees started to be set up from the early 1980s onwards. Indeed, this was explicitly demanded by many bio-ethicists. Warnock, for example, explained, in an article where she pleaded for the creation of a 'National Ethics Committee,' that such a body would have to be 'carefully selected to consist of people – some but not all would have a medical or biomedical background – who could understand the issues both of fact and value' (1988:1626). She also argued that its 'chairman would [have to] be a "lay" person, perhaps a lawyer or a member of one of the numerous university departments of medical ethics' (ibid.). As a result, committees of experts in bioethics in the United Kingdom all had a proportion of non-medical members. The 1983 Working Group on the Ethics of Clinical Research Investigations on Children, for example, had nineteen members of which seven were doctors (e.g. Philip Graham), four were professors of moral philosophy or theologians (e.g. G.R. Dunstan), two were medical lawyers (I. Kennedy; Gerald Dworkin), one was a professor of sociology (David Hall) and two were trained in both medicine and philosophy (R. Gillon; R. Nicholson). Likewise, the Polkinghorne Committee was composed of one professor of medicine (Raymond Hoffenberg), one theologian (J. Polkinghorne), one medical lawyer (I. Kennedy) and one professor of sociology (Sally MacIntyre). The Nuffield Council on Bioethics offered a similar picture with its fourteen members drawn from the medical sciences (e.g.: A. McLaren; M. Turner-Warwick), law (e.g.: M. Brazier; I. Kennedy) and philosophy (e.g. O. O'Neill).

Interestingly, even though Warnock (1988:1626) had asserted that 'there was no such thing as an ethical expert,' most of those that sat in these committees were part, in one way or another, of the emerging world of British bioethics. So, for example, many of the committee members were members of associations like the Institute of Medical Ethics or research centres like King's Centre for Medical Ethics and Law. The chairman of the 1983 Working Group, G.R. Dunstan, was a founder of King's Centre for Medical Ethics and also sat in the MRC's Working Party on Research on Children. Another member of the 1983 Working Group, Ian Kennedy, was also a founder of King's Centre for Medical Ethics and would, later on, also be a member of both the Polkinghorne Committee and the Nuffield Council on Bioethics. Likewise, Raanan Gillon, another member of the 1983 Working Group, was editor of the *Journal of Medical Ethics* and a member of the Royal College of Physician's 1984 Working Party on Research on Healthy Volunteers. Similarly, Anne McLaren, a member of the Warnock committee became a founding and very active member of the Nuffield Council and, later on, of the European Group on Ethics.

The second characteristic feature of any bioethics committee is its particular mandate or terms of reference, which consists of assessing a particular moral problem and recommending the adoption of ethical frameworks to solve the issue. The mandate of G.R. Dunstan's Working Group on the Ethics of Clinical Research Investigations on Children, for example, was:

> 'To analyse the complex moral question raised by clinical research involving children in particular; to review the moral basis of existing guidelines for the conduct of clinical research on children; ... to identify broadly acceptable moral criteria ... for the conduct of such research; [and] to produce a study document, containing ethical guidelines for the conduct of clinical research involving children' (Nicholson 1986:17).

In the case of more permanent committees, mandates also generally included the responsibility to anticipate and identify new potential issues. Thus, the mandate of the Nuffield Council on Bioethics included the obligation to 'identify and define ethical questions raised by recent advances in biological and medical research in order to respond to, and to anticipate, public concern' (Nuffield Council on Bioethics 2000a:5). Importantly for us, by establishing these committees as the authorities responsible for identifying, examining and reporting on particular ethical issues that arise from modern medicine, these terms of reference make these committees a crucial element of the will to protect human beings.

'Ethical Codes'

For bio-ethicists, the way to re-moralise modern medicine and protect human beings from the dangers of medical research was to establish an ethical or moral framework to govern the conduct of doctors and biomedical researchers. As Warnock explained, 'only within an ethical framework widely seen to be secure and sensible can we continue ... to push back the frontiers of science' (1988:1627). Such a framework or structure had to be understood, according to bio-ethicists, as composed of: (1) ethical codes, i.e. a series of moral principles to regulate medical research; and, (2) ethical technologies, i.e. institutional forms, procedures and other devices aimed at operationalising and realising these principles. Pappworth was one of the first to suggest the introduction of such a moral framework for medical research in the United Kingdom. In *Human Guinea Pigs*, he argued that one needed to introduce a 'totally different system' for medical research composed of both an 'ethical code' and an arrangement of 'research committees' responsible 'for the implementation of the provisions' of the code (Pappworth 1969 [1967]:225, 252, 259 & 268). This demand was repeated many times in the years that followed the publication of Pappworth's book. The following extracts from writings by Mary Warnock offer a good illustration:

> 'What is needed [are] principles and an institution of legal restraints and surveillance which will enable research to proceed ... but constantly watched' (Warnock 1983:249);
>
> 'We believe that [medical research] requires active regulation and monitoring ... Doctors and scientists [should] work within the moral and legal framework determined by society' (Warnock 1985 [1984]:75).

The first component of such ethical frameworks were 'moral rules that purport to govern the conduct of medical practice' (Gillon 1985b:1195) and variously designated as 'bills of rights,' 'codes,' 'declarations,' 'guidelines,' 'oaths,' or 'principles.' There are many examples of such rules of ethical conduct in the British bioethical literature. One early illustration are Pappworth's 'ethical principles' which he listed and explained in *Human Guinea Pigs* (1969 [1967]:225-241) and subsequently integrated in his 'Modern Hippocratic Oath' (1971). Many other texts listed similar ethical principals, including: the Medical Research Council's (1963; 1992) statements on *Responsibility in Investigations on Human Subjects*; the Royal College of Physicians' (1984; 1990a) successive *Guidelines on the Practice of Ethics Committees in Medical Research*; the Association of the British Pharmaceutical Industry's (1988) *Guidelines for Medical Experiments in Non-Patient Human Volunteers*; the *Human Fertilisation and Embryology Act* (1990); the Department of Health's (1991) *Local Research Ethics Committees*; and the Human Fertilisation and Embryology Authority's (1991) *Code of Practice.* Another source for such ethical rules was the numerous reports published by expert committees on bioethical issues (e.g.: Committee of Inquiry into Human Fertilisation and Embryology 1984; Nicholson 1986; Royal College of Physicians 1986; Committee on the Research Use of Fetuses and Fetal Material 1989; Royal College of Physicians 1990b; Medical Research Council 1991a; Medical Research Council 1991b).

While many biomedical researchers resisted the idea of an ethical code to govern the conduct of medical research (Mulkay 1997:Chapter 2; Hazelgrove 2002; Weindling 2006:Chapter 17), there was no such doubt about the necessity for such moral rules for bio-ethicists. As Hugh Clegg argued in relation to human experimentation in one of his editorials in the *British Medical Journal*, 'guidance in the form of a code of ethics' has not only 'become desirable but imperative' (British Medical Journal 1963a:2). Full scientific freedom was simply unacceptable for bio-ethicists. 'The majority view is that research needs to be regulated,' asserted Warnock (1985:188); 'a scientist who argued that he must be free to carry out whatever research he liked, by whatever methods, would not get much public support, if this involved the use of human beings' (Warnock 1985 [1984]:xiv). Bio-ethicists also rejected the belief, held by many in the British medical establishment until the 1970s, that the researcher's good character or integrity would be sufficient to protect human beings (cf. Hazelgrove 2002). As Gillon (1985e:1497)

argued, reference to physicians' 'good conscience, integrity and good character [is] not enough' to ensure the protection of human beings from the dangers of modern medicine.

The ethical rules suggested by bio-ethicists for the practice of medical research using any category of human being are of three types: (1) rules relative to the research itself and, in particular, to its risks and its scientific value; (2) rules relative to the researchers; and (3) rules relative to the relation between researchers and research subjects. While the rules are generally similar for all categories of human beings and all types of research, there is of course some variation depending on the human being who is investigated and the nature of the experiment. This variation is most marked with the first type of rules: those relative to the research itself. These rules address both the risks and the scientific value of the research. In relation to risks, they state that there can be no research that carries more than 'minimal risk' for the human beings under investigation (Royal College of Physicians 1990a:21; cf. also: Nicholson 1986:Chapter 10; Medical Research Council 1991a; Medical Research Council 1991b). There are of course many variations. Some variations allow for increased levels of risk. This encompasses, among others, experiments on human embryos of less than fourteen days for a strictly limited series of purposes (Human Fertilisation and Embryology Authority 1991:Paragraphs 9.2-9.4; cf. also Human Fertilisation and Embryology Act 1990) and experiments on fully consenting adults (Royal College of Physicians 1990b:11). Other variations allow for lower levels of or no risk. This notably includes: human embryos 14 days or older, on which no experiment can be conducted (Human Fertilisation and Embryology Act 1990); and children, on which only research that is of direct benefit and that cannot be done on others can be conducted (Nicholson 1986:Chapter 10; Department of Health and Social Security 1991:16; Medical Research Council 1991a:20).

In relation to the scientific value of research, the first type of rule states that all experiments must be 'of potential scientific value' and 'feasible' (Medical Research Council 1992:7; cf. also: Nicholson 1986:Chapter 10; Department of Health and Social Security 1991:11; Human Fertilisation and Embryology Authority 1991:Paragraphs 9.6-9.7). The rationale of this rule is that 'badly planned, poorly designed research that causes inconveniences to subjects and may carry risk, without producing useful or valid results is unethical' (Royal College of Physicians 1990a:3). It means, among others things, that: the research must be 'directed towards a justifiable advancement in biomedical knowledge;' there must be 'a reasonable chance of answering the question under examination;' there has been 'adequate preliminary literature research;' and 'pre-clinical laboratory studies' (cf. Royal College of Physicians 1986; Royal College of Physicians 1990a; Royal College of Physicians 1990b).

The second type of rule relates to researchers themselves. They state that 'all research should be conducted or supervised where necessary by a qualified medical person with the training and experience appropriate to the particular study' (Royal College of Physicians 1986:9; Department of Health and Social Security 1991:11). The rationale here is that qualified and seasoned researchers represent a more secure option for research subjects and are thus preferable for the conduct of experiments on human beings. Interestingly, the request for professional qualifications extends to the premises and materials used for the research project. For example, the Royal College of Physicians requires that 'the premises where research takes place should be appropriate to the type of study and to the risk involved' (1986:13). In particular, it requested that, 'where there is a serious risk of adverse reactions, there should be facilities and appropriately trained staff for full resuscitation. For some types of study, further medical help and intensive care facilities should be available within a few minutes' (ibid.).

The third and last type of rule relates to the relationship between the researcher and the research subject. Generally subsumed under the notion of informed consent, these rules state that research 'subjects should know that they are involved in research' and that they 'should give [their] consent to all but the most trivial procedures, such as measurement of height and weight' (Royal College of Physicians 1990a:20; cf. also: Medical Research Council 1992:8). For bio-ethicists, as discussed further in chapter 6, informed consent is a critical part of the obligation to respect human beings understood as persons with a capacity to think and decide for themselves; for them, to inform a person about the reasons, procedure and effects of an experiment and to obtain his or her consent is a way to respect that person and his or her ability to reason and choose. As examined in more detail in chapter 7, particular rules and procedures exist for those human beings that do not have, either temporarily or permanently, such a capacity to think and decide for themselves, like human embryos and foetuses, children or the mentally incapacitated. With children unable to chose participation in research, for example, the 'consent of a parent or other legal guardian' will be sought instead (Royal College of Physicians 1990a:27; cf. also: Nicholson 1986; Medical Research Council 1991a).

Ethical Technologies

For bio-ethicists, drafting and promulgating ethical codes to govern the conduct of medical research was only the first step towards the re-moralisation of modern medicine and the protection of human beings. It was a necessary first step to make medical research ethical again, but not sufficient in itself. To operationalise and realise the rules of conduct contained

in the codes and the aims they embodied, one also needed a series of institutional forms, procedures and other devices which I term 'ethical technologies.' Bio-ethicists did recognise the need for this further, second step and sought to create mechanisms to ensure that the ethical codes they had drafted were being implemented. Pappworth, for example, argued that 'no code will curb the unscrupulous' on its own; one also needed a 'machinery' like 'research committees' to ensure that human beings were effectively protected (Pappworth 1969 [1967]:242 & 252). Similarly, Mary Warnock explained that principles alone were not sufficient to guarantee that research was conducted morally; the principles had to be secured through mechanisms such as 'statutory bodies' that would be responsible for 'the licensing and monitoring of research' (1985:79). 'Until such bodies [are] set up,' she warned, 'none of our [principles] can have any practical impact' (ibid.).

Three major types of ethical technology were devised by bio-ethicists. The first type was guidance mechanisms: detailed directives and other practical guidance addressed to doctors and medical researchers to help them transform the codes of ethics into everyday practice. An interesting example are the Medical Research Council's 'tool kits' that purport to 'provide guidance to help scientists implement [the different] ethical requirements' and that comprise 'colour-coded route maps,' 'useful practical guidance' and 'sample scenarios' (2007a). Another good example is the British Medical Association's guide to assessing someone's capacity to consent which claims to offer practical 'help' to 'conduct [such] an assessment,' including 'appendices covering [a series of] case studies' (2004:6-7 & 136). The second major type of ethical technology was assistance mechanisms: devices that enabled doctors and medical researchers to realise particular requirements contained in the ethical codes. An excellent example is the 'patient information sheet:' a leaflet given to potential research participants that describes the purposes, procedures, risks and benefits of the medical experiment in which they are asked to take part (e.g. Nicholson 1986:218-223; Royal College of Physicians 1990a:21). For bio-ethicists, the information sheet is a device that assists the researcher to fulfil the informed consent requirements by conveying the necessary information that potential participants need to decide whether they want to take part in the research. As Nicholson explained, 'the use of written information helps [its] communication' (1986:218 & 221).

The third and last major type of ethical technology developed by bio-ethicists was monitoring mechanisms: devices which purport to ensure that medical researchers are effectively fulfilling the requirements set out in the different ethical codes. A typical example are research ethics committees: a 'mechanism for examining ... [and] deciding whether [research] conforms to the [ethical] standards laid down and enforcing compliance' (Committee on the Research Use of

Fetuses and Fetal Material 1989:16; cf. also: Pappworth 1969 [1967]:251-256; Royal College of Physicians 1990a; Department of Health and Social Security 1991; Neuberger 1992). Suggested by Maurice Pappworth in the late 1960s, research ethics committees have been introduced from the 1970s onwards, although it was only from the mid-1980s onwards that they have became standardised and rendered compulsory. The principle is that no research can be carried out before a research proposal is submitted for ethical approval and is approved by a committee (Royal College of Physicians 1990a:6 & 31; Department of Health and Social Security 1991:Chapter 1; Human Fertilisation and Embryology Authority 1991:Chapter 9). There are very clear rules about: the form and content of the research proposal; the criteria for approving or rejecting a proposal; the composition of the committee (which has to contain both medical and lay members); and the committee's working methods and decision processes (cf. Royal College of Physicians 1990a; Department of Health and Social Security 1991).

Another example of a monitoring mechanism introduced by bio-ethicists is the Human Fertilisation and Embryology Authority (HFEA), first suggested by Warnock's Committee of Inquiry into Human Fertilisation and Embryology in 1984. Established by the Medical Research Council in 1985 and made statutory in 1990, the HFEA is responsible, together with research ethics committees, for ensuring through a system of licensing, inspection and record-keeping that every research project using human embryos fulfils the necessary ethical requirements. The principle is that no research on embryos can be carried out before a 'research licence' has been applied for and has been granted by the HFEA (cf. Committee of Inquiry into Human Fertilisation and Embryology 1984:Chapter 13; Warnock 1985; Human Fertilisation and Embryology Act 1990; Human Fertilisation and Embryology Authority 1991:Chapter 9). As with research ethics committees, there are strict rules about the form and content of the research proposal; the criteria for approving or rejecting a licence; as well as the composition and functioning of the HFEA. In contrast to the research ethics committees, the HFEA also has the power to carry out inspections in research centres to whom it has granted licences and can threaten them with criminal prosecution.

The 'Scientific and Medical Use of Human Tissue' as a 'Problem of Ethics'

The present section argues that the existence of this style of thinking which grew out of bioethics from the 1960s and which I have termed the will to protect human beings is a necessary condition to the identification of the collection and medical use of human tissue as a 'problem of ethics.' Put differently, the section argues that it is the beliefs, values, forms of

expertise, institutions, principles and ethical technologies that compose this thought style that made it possible for the use of human tissue in medical research to be considered an ethical issue that had to be examined and regulated. The section starts by mapping out how human tissue became progressively understood to be an ethical issue from the 1990s onwards. It then describes how the different elements that make up the will to respect human beings were key in rendering this possible.

'Human Tissue' as an 'Ethical Issue'

In the early 1960s, the collection of human tissues for scientific or medical purposes was not understood as an 'ethical issue.' Instead, following the then dominant haemato-social logic, it was deemed to be an issue of supply. The problem was not how to protect human beings from potential dangers arising from the medical use of human tissue. The problem was how to ensure that scientists received a sufficient amount of human tissues to carry out their research and advance medical knowledge. The assumption was that medical progress would bring about health and happiness to everyone. The short parliamentary debates that led to the adoption of the United Kingdom's first *Human Tissue Act* in 1961 provide a good illustration of this then predominant way of thinking about the medical use of human tissue. Although the expression 'human tissue' was not explicitly defined, the MPs' interventions during the debates make it clear that it referred to any tissue that could be transplanted or used in medical research, from 'blood,' 'corneas, arteries and bones,' to 'kidneys' and 'living cells' (Parliamentary Debates (Hansard) 1961:1231 & 1245). The *Act*'s main concern was to remove any legal obstacles to the collection of such tissues and their use in medical education, therapy or research so as to ensure the advancement of medicine and the happiness of the living. As the Government's spokesperson argued in her presentation of the Bill to Parliament:

> 'The Bill is mainly concerned with the removal of doubt [about the legality of removing body parts] ... Without the Bill such removal would be in danger of being held to be unlawful ... [which would] act as a deterrent to progress ... The Bill therefore authorises the removal of any part of a body for therapeutic, [educational and research] purposes. It is important that ... the progress of research ... be encouraged ... The House [is] being asked ... to interfere for the benefit of the living' (Parliamentary Debates (Hansard) 1961:1231-1235).

All the parliamentarians present in the House shared the views of the Government's spokesperson, even the representative of the opposition who explicitly welcomed the *Act* (cf. Parliamentary Debates (Hansard) 1961:1235-1236). No one mentioned the potential dangers that research with human tissue entailed and no one argued that it could constitute an ethical problem that required the creation of particular ethical safeguards (Parliamentary Debates

(Hansard) 1961:819-851; Parliamentary Debates (Hansard) 1961:1231-1258; cf. Parliamentary Debates (Hansard) 1961:1454). On the contrary, most interveners expressed enthusiasm for the 'wonders of modern science' (Parliamentary Debates (Hansard) 1961:841) and their 'benefit for humanity' (Parliamentary Debates (Hansard) 1961:1240).

Thirty or forty years later, the way of thinking about the medical use of human tissue has radically changed. As described at the start of this chapter, the scientific use of human tissue is now considered to be an ethical issue and the key question is how to protect human beings from the dangers that such uses of human tissue entails. This identification of the medical use of human tissue as a problem of ethics took place progressively. One of the early milestones in this process was the recognition that 'foetal tissue' had become an ethical issue in the early 1970s. In 1970, a claim that 'aborted live foetuses had been sold for medical experiments,' which was made by an anti-abortion MP to discredit the 1967 *Abortion Act*, led to the creation of an Advisory Group to look into the 'ethical, medical, social and legal implications of using foetuses for research' (British Medical Journal 1970:433; Advisory Group on the Use of Fetuses and Fetal Material for Research 1972:1; cf. also: British Medical Journal 1972a). Although mostly concerned with whole foetuses, the Group did address the medical use of 'fetal tissue,' defined as 'a part or organ of the fetus,' concluding that that it was 'permissible' (1972:2 & 12). Seventeen years later, after having been judged to be too liberal by the Warnock Committee and not in synch with its own recommendations (Warnock 1985 [1984]:64), the medical use of 'foetal tissue' was re-examined and the conclusions of the Advisory Group's report were revised by the Polkinghorne Committee on the Research Use of Fetuses and Fetal Material (1989:1-4). This Committee recommended that research on foetal tissue (which included the creation of cell lines from a foetal cell; cf. ibid. p.18-19) could only be done within a strict ethical framework, which notably included the obligation to obtain the mother's 'positive explicit consent' and the necessity to have local ethics research committees 'examine all proposals for work with foetal tissue' (ibid. p.13 & 16).

Another noteworthy episode in the process that saw the medical use of human tissue become a problem of ethics was the recognition, in the early 1990s, that the use of 'ovarian tissue from foetuses and cadavers' in medical research entailed 'clinical, scientific, ethical and social implications' (Human Fertilisation and Embryology Authority 1994). Fears expressed in the media that scientists would 'create babies from the dead' led to the Human Fertilisation and Embryology's Ethics and Law Advisory Group to examine the situation and recommend some way forward in 1994 (cf. Mulkay 1997:139-149). In its report on *Donated Ovarian Tissue for Embryo Research*, the HFEA authorised the use of foetal and cadaveric ovarian tissue in medical

research but subjected it to the process of ethical control set up in the 1990 *Human Fertilisation and Embryology Act* and which notably included a peer-review process to ensure that the research was of scientific value (cf. Human Fertilisation and Embryology Authority 1994).

While the problematisation of both foetal and ovarian tissue were important milestones, the decisive episode in the moral problematisation of human biological materials was the recognition, in the early 1990s, that 'the medical and scientific use' of any type of 'human tissue' raised a series of 'ethical and legal questions' (Nuffield Council on Bioethics 1995:ii). This recognition took place in most Western advanced liberal democracies and led to the publication of a series of reports, from the American Office for Technology Assessment's (1987) *New Developments in Biotechnology: Ownership of Human Tissues and Cells* to the European Group on Ethics' (1998) *Opinion* on the *Ethical Issues of Human Tissue Banking.* In the United Kingdom, the Nuffield Council on Bioethics was the first to identify the scientific and medical use of the human body as an ethical issue and conduct a thorough examination of this issue in its 1995 *Human Tissue: Ethical and Legal Issues.* A constant reference point in these developments was a court case which saw John Moore claim part of the proceeds made by researchers from the University of California when they sold to Swiss pharmaceutical company Sandoz the patent on a cell line which they had created from lymphocytes removed from Moore's cancerous spleen (Nuffield Council on Bioethics 1995:Chapter 2; O'Neill 1996:5; cf. also: Rabinow 1996:Chapter 7; Waldby and Mitchell 2006:88-109). This court case triggered fears that the way medical research had been re-articulated during the 1970-1980s around market considerations, patenting systems, university-industry partnerships and scientist-entrepreneurs would lead to 'the commercialisation of the human body' – an expression that referred to the possibility of 'own[ing] the body or its parts' and 'to mak[ing] money out of the transfer of "rights" in the body or its parts' (Nuffield Council on Bioethics 1995:7 & 12; cf. also: Wilkinson 2005; Seale, Cavers et al. 2006). In its conclusions, the Nuffield Council recommended that all medical research using human tissue – understood as 'organs and parts of organs, cells and tissue, sub-cellular structures and cell products, blood, gametes (sperm and ova) [as well as] embryos and fetal tissue' (ibid. p.19) – should be done within a strict ethical framework that included the obligation to obtain the consent of potential tissue donors and the obligation to receive the clearance of a research ethics committee.

The understanding that the medical and scientific use of any human tissue was a problem of ethics was reinforced in the late 1990s during a series of different developments. The first of these developments was the public outcry generated by the realisation that many hospitals across the UK had, over the last forty years or so, collected, stored and used human tissues and

organs for medical research without ever consulting the persons from whom the body parts had been taken or their families. The first and most publicised cases were at the Bristol Royal Infirmary and the Liverpool Royal Children's Hospital (at Alder Hey), but there were several other cases around the country like at Manchester Children's University Hospital or the Royal Hospital for Sick Children in Glasgow. The public outcry led to the constitution of special commissions of inquiry (e.g.: the Bristol Royal Infirmary Inquiry, the Royal Liverpool Children's Inquiry, the Retained Organs Commission and the Independent Review Group on Retention of Organs at Post-Mortem), the publication of reports and ethical guidelines (e.g.: Chief Medical Officer 2001; Royal College of Pathologists 2001; Medical Research Council 2001a; Department of Health and Welsh Assembly Government 2002) and, in 2004, the adoption of an entirely revised *Human Tissue Act* which set up an ethical framework for the medical use of human tissue and a regulatory authority to oversee its implementation, the Human Tissue Authority.

The perception that the medical and scientific use of human tissue was a problem of ethics was further reinforced by the recognition, at the turn of the century, that there were 'scientific and ethical issues arising from stem cell research' (House of Lords 2002:Paragraph 6.1; cf. also: Nuffield Council on Bioethics 2000b). The dangers associated with the medical use of human stem cells – defined as a particular type of cells found 'in the early embryo, the foetus, the placenta, the umbilical cord, and most tissues of the body' and are a 'source of new cells for the regeneration of diseased or damaged tissue' (House of Lords 2002:Paragraphs 2.2-2.3) – were similar to those associated with other type of human tissues (immoral uses of embryonic or foetal tissues and the commercialisation of the body) and necessitated a similar ethical framework (Nuffield Council on Bioethics 2000b; House of Lords 2002). Another development which also reinforced the perception that the medical use of human tissue was an ethical issue was the recognition that research on 'human genetics' presented a series of 'social, ethical and legal issues,' most notably in relation to the creation of 'genetic databases' (House of Lords 2001; Human Genetics Commission 2007). Although primarily concerned with the use of 'genetic information,' organisations like the House of Lords or the Human Genetics Commission did also examine and suggest ethical frameworks for the collection and use of bodily fragments from which such information is derived (cf. Parry and Gere 2006).

The Will to Respect the Human Body

Central to this increasing problematisation of the medical and scientific use of human tissue was the style of thought that grew out of the new medical ethics from the 1960s onwards and

that I termed the will to protect human beings. It was the beliefs, values, forms of expertise, institutions, principles and ethical technologies that compose this style of reasoning that made it possible to identify the scientific and medical use of human tissue as a problem of ethics and set up ethical frameworks within which to conduct such research. This is demonstrated by the way that the different elements that make up the will to respect human beings inform and support the problematisation of the medical use of human tissues in the United Kingdom.

To start with, the type of expertise at the heart of the problematisation of the medical use of human tissue is very similar to the ethical expertise characteristic of the will to protect human beings. First, the particular institutional form of the 'bioethics committee' has played a central role in the transformation of the medical use of human tissue into a moral issue. The role played by the Nuffield Council on Bioethics in this progressive transformation is an excellent example, with the Council being one of the first to both report on the ethical issues arising from the increasing use of human tissue in medicine and examine the moral issues related to the use of human stem cells in biomedical research in the 1990s (Nuffield Council on Bioethics 1995; Nuffield Council on Bioethics 2000b). There are numerous other examples of bioethics committees composed of doctors, philosophers, lawyers and social scientists which have been key to the problematisation of human tissue in the UK, including: the HFEA's Ethics and Law Advisory Group, which played a key role in problematising the use of ovarian tissue in embryo research (Human Fertilisation and Embryology Authority 1994); the Retained Organs Commission, which examined how human tissue was collected in some Manchester Hospitals and recommended a set of ethical guidelines for the future (Retained Organs Commission 2002); the Medical Research Council's Working Group which drafted the MRC's (2001a) *Operational and Ethical Guidelines* on *Human Tissue for Use in Research*; and the UK Biobank Ethics and Governance Council, which establishes and oversees the implementation of the ethical framework for the bank that notably indicates how human tissue samples are to be collected, stored and used (UK Biobank 2006).

Second, many ethical experts that were active in the emergence of modern medical ethics in the United Kingdom have played a central role in the problematisation of the medical use of human tissue during the 1990s. Alastair V. Campbell and Ian Kennedy are probably the best examples. The former, who had been the initial editor of the *Journal of Medical Ethics* and had published the first medical ethics textbook in the UK, drafted the Nuffield Council on Bioethics 2000 report on *Stem Cell Therapy: the Ethical Issues* and was Vice-Chair of the Retained Organs Commission and Chairman of the UK Biobank Ethics and Governance Council. Ian Kennedy, who had authored *The Unmasking of Medicine* and founded the King's College Centre

for Medical Law and Ethics, was a member of the Polkinghorne Committee, President of the Nuffield Council on Bioethics and Chairman of the Bristol Children Infirmary Inquiry. There were many other such examples, including: Margaret Brazier (founder of the University of Manchester's Centre for Social Ethics and Policy, founding member of the Nuffield Council and Chairwoman of the Retained Organs Commission); Andrew Grubb (an early member of King's College Centre for Medical Law and Ethics and member of the MRC Working Group on Human Tissue); Onora O'Neill (a founding member of the Nuffield Council and one of the key authors of the 1995 report on human tissue); and Anne McLaren (a member of the Warnock Committee and the Nuffield Council and a key author of the 2000 report on stem cell therapy).

The influence of the will to respect human beings on the problematisation of human tissue was not only visible in terms of expertise; it was equally evident in the way those who problematised the medical use of human tissue also believed that modern medicine and research were not necessarily beneficial but could actually be dangerous for humankind and thus constituted a problem that had to be examined and solved. At the start of the fourth and most recent edition of *Medicine, Patients and the Law*, for example, Margaret Brazier typically offers a picture of medicine as both beneficial and detrimental for humankind or, in her words, both 'angel [and] demon' (2007:4). As illustrations of the latter she lists, in one breath: the fatal heart surgeries at the Bristol Royal Infirmary, the unethical collection and use of human tissue at Alder Hey, the crimes of Harold Shipman and the atrocities committed by the Nazi experimenter, Joseph Mengele, in Auschwitz (ibid. p.3-5). A similar argument was put forward by the Department of Health in its *Research Governance Framework* where it reminded researchers that while 'research is essential' to the 'promotion of [our] health and well-being,' it does, 'at the same time,' involve 'an element of risk for [our] safety and well-being' (2005:2). Likewise, echoing Mary Warnock's 1988 argument that some parts of modern science were potentially immoral, A.V. Campbell explained, in a recent paper about *Public Policy and the Future of Bioethics*, that:

> 'It has become a platitude to say that the speed of scientific and technological innovation has outstripped our shared moral visions, but it is none the less true ... Many [controversies] exist in reality or potential' (Campbell 2005:86).

As in Brazier's depiction, these dangers were also often expressed by referring to the atrocities committed by the Nazis during World War Two (e.g.: Campbell, Gillett et al. 2001:218-219; O'Neill 2002:4-5; cf. also: Brazier 2007:4-5). For example, in a review of the Nuffield Council's

report on *Human Tissue: Ethical and Legal Issues*, Pat Walsh, a lecturer at the Centre for Medical Law and Ethics at King's College London, reminded his readers that:

> 'Medical practitioners can – and have – carried out abuses of human rights within the context of ... medical research ... To take an extreme and well-worn example, the Nazi doctor carrying out genetic research on prisoners will be guilty of serious abuse and his work will be morally unacceptable' (Walsh 1995:246-247).

As with human experimentation and both embryo and foetus research, the dangers of human tissue research, stem cell research or human genetics were multiple and most often potential. Some dangers were similar to those envisaged in the 1970-80s, most notably the hazards that 'untrustworthy scientists and biotechnologists' could represent (O'Neill 2002:3; Brazier 2007:410). Others were particular to the medical use of human tissue. One example were dangers associated with the 'commercialisation of the human body' such as the creation of a 'market for procuring human tissue' which would lead 'vulnerable people' to give their bodies for 'financial rewards' (Nuffield Council on Bioethics 1995:12 & 50; cf. also: European Group on Ethics 1998; European Group on Ethics 2000; Nuffield Council on Bioethics 2000b; Medical Research Council 2001a; The House of Lords 2002:Chapter 6; European Group on Ethics 2004; Wilkinson 2005). Another example, associated with genetic research, was the risk of having researchers providing the donor with information about his or her health that he or she did not want to receive. As the MRC advised researchers:

> 'Research should only go ahead if the potential benefits outweigh any potential risks to the donors of the samples. The physical risks involved in donating samples for research will usually be minimal, but the risk that information from laboratory tests on a sample might harm the donor or their interests must not be forgotten' (Medical Research Council 2000a:3; cf. also: House of Lords 2001).

The importance of the will to respect human beings in the transformation of the medical use of human tissue into a problem of ethics was also visible in the way that those who participated in that transformation constantly referred to their desire to protect human beings. The Nuffield Council, for example, used the notion of 'respect for human lives and the human body' as its 'ethical principle' to organise the medical use of human tissues (1995:39). Likewise, the Medical Research Council (2001a:3 & 6) argued in its *Operational and Ethical Guidelines* relative to *Human Tissue and Biological Samples for Use in Research* that the 'key principle' which 'underlies the use of any human material for research should be respect for the human body.' The Department of Health made a similar argument in its *Research Governance Framework*, explaining that 'the dignity, rights, safety and wellbeing of participants must be the primary consideration in any research study' (2005:7). As during the 1970s-80s, this will to respect human beings was part of a project to re-moralise modern medicine, to make it ethical again.

Campbell made the point in his 2005 paper on *Public Policy and the Future of Bioethics*. Arguing against the 'inevitablist' position which held that one 'cannot stem the flow of scientific "progress" with arguments of morality,' he explained that the successful story of the ethical regulation of medical research in the United Kingdom proved that this was not the case and that 'it was certainly possible' in both medical research as in 'other areas of technical innovation' to 'channel, if not to halt completely, the flow of change' with ethics (Campbell 2005:87).

Finally, the influence of the will to respect human beings in the problematisation of the medical use of human tissue is also perceptible in the use of 'ethical frameworks' to resolve the moral issues involved and protect human beings. The Nuffield Council, for example, argued that in order to ensure a 'general respect for the human body' one needs an 'ethical and legal framework within which the clinical and research uses of human tissue takes place' (1995:123). For similar reasons, the UK Biobank adopted its own 'ethics and governance framework' to regulate and monitor its different activities (2006). These moral frameworks, which comprised both ethical principles and technologies, were very similar to those that regulated human experimentation and research on both embryos and foetuses. They contained comparable rules about the research itself (minimal risk; scientific value), the researchers (qualifications) and the relation between researchers and research subjects (informed consent) with necessary alterations and additions where the particular nature of research with human tissue demanded them (cf. Nuffield Council on Bioethics 1995:Chapter 13; Medical Research Council 2001a; Human Tissue Act 2004; Human Tissue Authority 2006a; Human Tissue Authority 2006b; Human Fertilisation and Embryology Authority 2007:Paragraphs S.8 & G.5; Royal College of Physicians 2007:Chapter 7). An example of such an addition are rules on how to store and dispose of human tissue that will or has been used in medical research. The Human Tissue Authority, for example, recommends that all '[human] remains be disposed of with respect' and that, 'as a minimum, stored human body parts, organs and tissue be disposed of separately from other clinical waste' (2006b:17; cf. also: Human Fertilisation and Embryology Authority 2007:Paragraph G.9.10). Another example is the requirement to inform research subjects not only about the research procedures and both the physical and psychological risks involved but also about: the risk of being provided with unwanted information about one's health; the financial or commercial aspects of the research; how long the tissue will be stored for and for what uses; and how the tissue will be disposed of (Medical Research Council 2001a; Human Tissue Authority 2006a; Human Tissue Authority 2006b; Human Fertilisation and Embryology Authority 2007:Paragraphs S.8 & G.5; Royal College of Physicians 2007:Chapter 7).

The ethical frameworks for human tissue research also contain similar procedures, institutions and other ethical technologies to the frameworks for human experimentation and both embryo and foetus research. To start with, they also include guidance mechanisms. So, for example, the Medical Research Council's *Operational and Ethical Guidelines* for human tissue research has, among its appendices, a *Checklist for Research Based on Samples of Human Material* as well as a *Summary of Issues to Address When Obtaining Consent* for the attention of researchers (2001a:30-32). The MRC also provides researchers with a *Data and Tissues Tool Kit* which includes 'rout maps,' 'research scenarios,' 'best practice documents' as well as 'Questions and Answers' leaflets (2007). The ethical frameworks for human tissue research also include assistance mechanisms such as 'patient information leaflets' (Medical Research Council 2001a:15-16; Human Tissue Authority 2006a; Human Fertilisation and Embryology Authority 2007:Paragraph G.5; Royal College of Physicians 2007:41-42). Furthermore, these frameworks also contain monitoring mechanisms. Besides research ethics committees and the HFEA, both of which monitor research with any human tissue and human reproductive tissue respectively (Nuffield Council on Bioethics 1995:Appendix 6; Medical Research Council 2001a:17; UK Biobank 2006:17; Human Fertilisation and Embryology Authority 2007:Section 1; Royal College of Physicians 2007), there is now a series of additional monitoring mechanisms. One important example is the newly created Human Tissue Authority, which through a complex system of licensing, compulsory book-keeping, inspections and directives, ensures that institutions which collect, use and store human tissue for research abide by the ethical principles discussed above (Human Tissue Authority 2006a; Human Tissue Authority 2006b). Other examples are the UK Stem Cell Bank Steering Committee and the UK Biobank Ethics and Governance Council (UK Biobank 2006; UK Stem Cell Bank 2006).

Conclusion

This chapter started by showing how influential ethics governance has become in thinking about, problematising and administering the medical use of the human body in the United Kingdom today. It did so by giving a description of the inflationary number of textbooks, scholarly articles, reports and guidelines relating to this new logic of rule that have been published in the UK in the last fifteen years. From there, the chapter examined some key concepts, forms of expertise, procedures, institutions and subjectivities that characterise the bioethical logic. It did so by contrasting bioethics governance to the mentality of rule it has displaced: haemato-social rule. It argued that instead of conceptualising the circulation of the human body as a 'problem of supply' as haemato-social logic would have it, bioethical

governance views it as a 'problem of ethics.' The chapter also examined and contrasted the different understandings of medical science, forms of expertise and methods of intervention that relate to each of these two ways to posit the problem.

This discussion provided the basis to look backwards and explore the conceptual, material and political conditions that have made it possible for ethics governance to become predominant in the United Kingdom from the 1990s onwards. Put differently, the chapter went on to analyse some of the beliefs, values, forms of expertise, institutions, principles and technologies of government that have made it possible, today, to conceptualise the medical use of human tissue as a 'problem of ethics' necessitating an 'ethical framework.' It argued that this new way to problematise and govern the medical use of human tissue is the product of a reaction to modern medicine: a will to respect human beings and protect them from modern medicine understood as potentially dangerous for humankind. The chapter also argued that this will is a particular thought style that has grown out of modern medical ethics and, together with the development of the latter, has become increasingly prevalent in the United Kingdom from the 1960s onwards.

The chapter first gave an account of bioethics and its development in the United Kingdom from the early 1960s onwards. This account notably showed how, by the early 1990s, bioethics became a well-established and influential discourse in the United Kingdom, having been adopted not only by professional medical associations and funding agencies but also by government, the pharmaceutical industry and the wider public. The chapter then offered an analysis of this will to protect human beings, arguing that it is a style of thinking made of five key elements which it described: (1) the belief that modern medicine in general and medical research in particular were dangerous for humankind; (2) the will to respect human beings itself; (3) expert committees on bioethics that identify and assess ethical issues; (4) moral principles like that of minimal risk or informed consent; (5) and ethical technologies that guide, assist and monitor the operationalisation of these principles.

The chapter then showed how this particular will to protect human beings made it possible to identify the use of human tissue in medical research as a 'problem of ethics' that necessitated the setting up of an 'ethical framework' from the 1990s onwards. To do so, it first mapped out how 'the scientific use of human tissue' progressively became an ethical issue in the United Kingdom from the problematisation of foetal tissue in the 1970s to the questioning of stem cell research and human genetics at the turn of the century. It then showed how this

progressive process was made possible by the existence of the five different elements that constitute the will to respect human beings.

Chapter 5

'A Question of Reputation' – Ethics Governance and the Will to Modernise

The last chapter was an analysis of the conceptual, material and political conditions that make it possible to conceptualise the medical use of human tissue as a 'problem of ethics' in the United Kingdom today. The present chapter provides a parallel study of the situation in Singapore. It examines the development and assemblage of the rationalities and practices that make it possible to understand, nowadays, the scientific and medical use of the human body as an ethical issue that needs to be examined and regulated.

Before exploring the conditions of possibility of ethics governance in Singapore, the present chapter shows how influential this mentality of rule has recently become in the South-East Asian Republic. It does so by describing the surprisingly large number of texts relating to the subject that have been published in Singapore in the last five to ten years. The chapter also points out the striking similarity between the Singaporean and British version of ethics governance. It notably shows how, like in the UK, the medical use of the human is described as an ethical issue because of the potential dangers that such a use is thought to entail. It also highlights the existence of similar types of institutions such as bioethics committees and look-alike ethical frameworks.

The chapter then analyses some of the conceptual, material and political conditions that make it possible for the medical use of human tissue to be viewed, today, as creating a series of 'ethical, legal and social issues' best solved through the adoption of 'ethical principles and guidelines' (Bioethics Advisory Committee 2002b:10-11). It argues that although Singapore's version of ethics governance is strikingly similar to the British one, its conditions of possibility are thoroughly different. Indeed, as the chapter shows, the will to respect human beings and protect them against the dangers of modern medicine that had been increasingly prevalent in the United Kingdom from the 1960s did not play any significant role in Singapore until the turn of the century. Moreover, as the chapter also points out, modern medical ethics was virtually unheard of in the South-East Asian Republic until well into the 1990s. Instead of being the product of a will to respect human beings like in the UK, the development of ethics

governance in Singapore was, it is argued, the result of a will to relentlessly modernise the City-State that has characterised the thinking of the Singaporean leadership ever since the country's independence in 1959.

To demonstrate this argument, the chapter first gives a description of this will ceaselessly to modernise the country when it was first articulated in the ten years that followed independence and teases out its key elements. This notably includes, among others, an economically determined notion of modernisation, a particular type of governmental agencies and an infrastructure adequate for intensive industrialisation. The chapter then shows how this will to modernise has informed and driven Singapore's attempt to turn the City-State into a world-class hub for the life sciences from 1985 onwards. It demonstrates, in particular, how biomedical research became conceptualised as an engine of economic development and the way the meaning of infrastructure was transformed to support a knowledge-based economy instead of an industrialised one. Finally, the chapter explains how ethics governance was developed as part of Singapore's 'soft infrastructure' that would ensure that Singapore's biomedical research base had a 'good reputation' across the globe and in particular among foreign multinational pharmaceutical companies and medical researchers.

Bioethical Governance in Singapore Today

From the turn of the century onwards, a new way to think and administer the collection and medical use of the human body imported from the United Kingdom and the United States of America became prevalent in Singapore. As already explained, I term this new way of conceiving and administrating the circulation of the human body, with all its rationalities, forms of expertise, problems, institutions, principles and procedures, 'bioethical governance' or 'ethics governance.' The present section examines the growing influence of this new logic of rule in the South-East Asian Republic and also highlights the striking similarity between the Singaporean and British version of ethics governance.

There are many signs of the growing influence of bioethical governance in Singapore. First, there has been, from 2000 onwards, a steep rise in the number of articles published on the topic in *The Straits Times*, Singapore's main daily newspaper and the government's official outlet. While less than thirty articles containing the words 'medical ethics' or 'bioethics' were published during the 1990s, there were over one hundred and forty in the first seven years following the millennium. Second, there are the many statements from people who explicitly

acknowledge bioethical governance's increasing importance in Singapore. For example, in an article published in *The Straits Times* in September 1999 and entitled 'Bioethics: the Conundrum of our Time,' the author explained that 'bioethics, the study of moral issues in medical research and treatment, has come to the fore here in Singapore sooner than we think' and argued that we would have 'to pay more attention to [it]' from now on (The Straits Times 1999). Similarly, Barbara Knoppers, a Canadian specialist in medical law and ethics, a member of UNESCO's International Bioethics Committee and one of the four international experts advising Singapore's Bioethics Advisory Committee, argued in an interview in 2007:

> 'For long, there was no mention of Singapore in the literature on bioethics. When I worked for UNESCO [from the mid to late 1990s], Singapore was nowhere to be seen. But now, since a few years, it is everywhere. They are doing interesting things' (Knoppers 2007).

Third, as Knoppers alludes to, there is a growing number of scholarly articles authored by lawyers, doctors, philosophers and others that discuss the ethics of human tissue research, although the number is still infinitely lower then in the UK. One example is *Law, Medicine and Society: Some Bioethical Issues in Singapore*, an article authored by T. Iyer (1998), a member of the National University of Singapore's (NUS) Law Faculty, which discusses, among different ethical issues, the medical use of foetal tissue. Another illustration is *Ethical and Legal Issues in Singapore Biomedical Research*, a paper written by Taiwo A. Oriola (2002), also from NUS' Law Faculty, that discusses various 'ethical issues' from cloning to human tissue research. Other examples include the following articles that discuss the use of human stem cells in medical research: *Ethical Issues in Stem Cell Research*, authored by the Chairman of the Singapore Medical Association's recently created Centre for Medical Ethics & Professionalism, Dr. J.J. Chin (2003); *The Ethical Position of Singapore on Embryonic Stem Cell Research*, published by two members of Singapore's newly established Bioethics Advisory Committee (Lim and Ho 2003); and both *The Singapore Approach to Human Stem Cell Research* and *Recent Developments in Ethics and Regulation of Cloning and Human Stem Cell Research in Singapore*, written by a group of doctors and lawyers from NUS (Tay and Tien 2005; Tay, Tien et al. 2005).

Fourth, there is a growing number of reports and guidelines relative to the ethical dimensions of the medical use of the human body. Among these documents, the most important are the reports of Singapore's Bioethics Advisory Committee (BAC) established in December 2000, most notably its reports on both the *Ethical, Legal and Social Issues in Human Stem Cell Research, Reproductive and Therapeutic Cloning* and *Human Tissue Research* (2002a; 2002b). Besides the BAC's reports, there are other reports or guidelines directly or indirectly relative to ethics governance from other institutions. These include, among others: the National Medical Ethics

Committee's 1997 *Ethical Guidelines on Research Involving Human Subjects* (Ministry of Health 1998:Annex IV/D); the Ministry of Health's (1999) *Guideline for Good Clinical Practice*; Singapore's National Cancer Centre's (2002) *Standard Operating Procedures for the Tissue Repository*; and the National University of Singapore's Institutional Review Board's numerous *Ethical Guidelines* on the collection, storage and medical use of human tissue (2004; 2005a; 2006).

Interestingly, the version of ethics governance put forward by the authors of the aforementioned mentioned scholarly articles, reports and guidelines is strikingly similar to the one outlined in British bioethics texts. To start with, these authors use comparable expressions to the ones employed in the United Kingdom to posit that the collection and medical use of the human body raises a series of ethical problems. In its report on *Human Tissue Research*, for example, the BAC argues that 'human tissue banking and human tissue research' both present many different 'ethical, social and legal issues' (2002b:i). Likewise, in his article on *Ethical Issues in Stem Cell Research*, J.J. Chin argues that 'human stem cell research raises a number of difficult and important ethical issues and concerns' (2003:111). Tay and Tien explain using almost the same terms that 'human stem cell research' presents 'ethical, legal and social concerns' (Tay, Tien et al. 2005:93).

Furthermore, the authors of the texts listed above assume, as do British bio-ethicists, that the medical use of human tissue entails dangers for human beings and envision similar types of dangers to the ones imagined in the UK. So, for example, one risk often mentioned in Singaporean texts in relation to the 'donation of cadaveric foetal tissue' is the danger that 'inappropriate incentives and coercions' could be 'introduced into a woman's decision to have an abortion' (Chin 2003:113; cf. also: Bioethics Advisory Committee 2002a:22-23). Another risk often mentioned are the dangers entailed in the commercialisation of the human body, most notably the risk that this may lead to immoral financial incentives to give one's body (e.g.: Oriola 2002:508; Bioethics Advisory Committee 2002a:34; Bioethics Advisory Committee 2002b:24-25 & 36; Chin 2003:113). As in the United Kingdom, the aim of authors of the texts listed in the previous paragraphs is to protect human beings, their lives and bodies against these various dangers. For example, the Bioethics Advisory Committee (2004:24) explains that the 'purpose of ethics governance' is to 'promote respect for all human beings and protect their health and rights.' Likewise, Tay and her colleagues argue that the aim of bioethics is to set up 'safeguards for people and mankind' against the dangers of human tissue research (Tay, Tien et al. 2005:102).

Another remarkable similarity between the Singaporean and the British versions of ethics governance is the type of expertise deemed necessary to identify, examine and solve the ethical issues arising from the medical use of human tissue. As in the UK, Singapore relies on bioethics committees composed of experts from medicine, law, philosophy and the social sciences to assess these ethical issues. Singapore's Bioethics Advisory Committee, which was key in identifying human tissue research as an ethical issue in the City-State, is a fine illustration. Created in 2000, the BAC is composed of doctors (e.g. its chairman, NUS Professor of Medicine Lim Pin), lawyers (e.g. NUS Professor of Law Terry Kaan), social scientists (e.g. NUS Professor of Psychology John Elliott) and philosophers (e.g. NUS Professor of Philosophy David Chan). The similarity to the type of expertise is further heightened by the presence of British bio-ethicists within the BAC: Martin Bobrow, a geneticist and member of the Nuffield Council on Bioethics, is one of the four international experts; Alastair V. Campbell, one of Britain's first bio-ethicist, was hired as Professor of Medical Ethics at NUS and became member of BAC in late 2006.

Last but not least, Singapore's version of ethics governance is also comparable to the British one in terms of how the ethical issues arising from the medical use of human tissue are addressed. Like in the United Kingdom, Singapore has adopted various ethical principles and set up a series of institutions, procedures and ethical technologies. The principles adopted by the City-State are very similar to those generally accepted in the UK, like the interdiction to use tissue from embryos that are fourteen days or older (e.g.: Bioethics Advisory Committee 2002a:30; Chin 2003:114; Tay and Tien 2005:293) or the obligation to obtain a donor's informed consent before collecting his or her body parts (e.g.: National Cancer Centre 2002:Section B.3; Bioethics Advisory Committee 2002b:34-35). Singapore has also set up a series of ethical technologies that purport to operationalise its ethical principles. These too are very similar to the ones in place in the UK and notably include institutional review boards (e.g.: Ministry of Health 1998:Annex IV/D; Bioethics Advisory Committee 2004).

The Will to Modernise – Singapore's Unremitting Desire to Progress

Although Singapore's version of ethics governance is striking similar to the British one, its conditions of possibility are thoroughly different. Indeed, instead of being the product of a will to respect human beings like in the UK, the development of ethics governance in Singapore was, I will argue, the result of a will to relentlessly modernise the City-State that has characterised the thinking of the Singaporean leadership ever since independence in 1959. The

present section gives an outline of this will to ceaselessly modernise the country when it was first articulated in the ten years that followed independence.

What I term Singapore's unrelenting will to modernise, its drive to improve and develop, is a particular style of thinking which has informed the way Singapore's leadership has thought and acted from the 1960s to the present day. This style is composed of a series of four elements which I will examine here: (1) modernisation understood primarily as 'economic development' creating improved 'material well-being;' (2) 'government as planner and mobiliser;' (3) 'infrastructure;' and (4) the notion that one has to improve or otherwise perish. To unpack these different elements constituting Singapore's drive for modernisation, it is best to examine the period when this will to modernise was first articulated, that is the 10 years or so that followed political independence from the British Empire in 1959. This was a difficult period by any account: widespread poverty; insalubrious dwellings and rampant tuberculosis; stagnating economy with high unemployment rates; demographic explosion; serious political unrest, with the rise of Lee Kuan Yew's People's Action Party and the repression of the radical left; racial tensions and riots; regional insecurities and tensions, most notably Singapore's expulsion from the newly formed Federation of Malaya in 1965; as well as the withdrawal of the British military and economical presence from the late 1960s onwards.

It is during that period that the various elements making Singapore's drive for modernisation were developed by a small group of individuals comprising members of the governing elite, senior civil servants and foreign international development experts. The group notably included: Lee Kuan Yew, the 'father' of modern Singapore, Prime Minister of the South-East Asian Republic from independence up to 1990 and Minister Mentor advising the Cabinet thereafter; Goh Keng Swee, an economist and architect of Singapore's economic modernisation, Minister of Finance up to 1970 and thereafter Minister of Defence; Hon Sui Sen, the first director of Singapore's Economic Development Board, created in 1961; and Dr. Albert Winsemius, a Dutch economist and United Nations' industrialisation specialist, who started advising Singapore in 1960 when he visited City-State as head of a UN Industrial Mission and continued to do so until the 1980s. While this small group of individuals never coherently outlined in one master document the different elements that make up Singapore's will to modernise, these elements can be found at work in many different texts written by these individuals: development plans, essays and conference papers, state institutions' charters, industrial estates projects, all of which I draw upon to sketch Singapore's unrelenting drive for modernisation.

Modernisation as Economical Development

There are, of course, very different understandings of modernity and of how to achieve it. Among the Singaporean leadership of the 1960s, modernity was something principally *material.* In a paper presented at a seminar on *Modernisation in Singapore* held at the University of Singapore in 1972, Goh expressed it thus:

> 'As far as Singapore is concerned, we see the modernisation process in terms of creating increased material well-being for our citizens. This means more jobs, bigger incomes, better career prospects, better homes: in short a better life, materially' (Goh 1977:191).

Modernisation, in other words, was primarily economical; it was to be achieved, mainly, through economic development (Margolin 1989; Huff 1995; Perry, Kong et al. 1997; Barr 2006). Goh Keng Swee, in a 1961 article entitled *Man and Economic Development* and reproduced in his 1972 *Economics of Modernisation,* had no doubt about that:

> 'Economic development ... is how to make man better off materially, how he can have more and better food to eat, better homes to live in, better education for his children, better means of transportation, more leisure, in fact, how man can achieve a fuller life' (Goh 2004 [1972]:45).

The same idea was also explicitly asserted by the Singapore's Economic Planning Unit, which argued that the Republic's first economic development plan is 'a means towards building a stable and prosperous society with better living standards and the prospect of a richer and fuller life for all' (1964:39).

In the late 1950s and early 1960s, economic development, according to the dominant theory in economics, was necessarily synonymous with 'industrialisation' (Margolin 1989; Huff 1995), an understanding that Singapore's leadership, counselled by international experts, also adhered to. As Goh Keng Swee put it: 'It was necessary to seek new sources of economic growth. The manufacturing industry was one obvious option' (1977:7). Or, in Lee Kwan Yew's more dramatic style: 'the only way to survive was to industrialise' (2006:67). At first, Singapore followed, for the most part, the import-substitution model of industrialisation proposed by leading Argentinean economist Raul Prebisch in his 1950 report for the United Nations, *The Economic Development of Latin America and its Principal Problems* (Margolin 1989:58). These concepts had been introduced in Singapore by a series of international expert visits to the Island, most notably the United Nations Industrial Mission led by Dutch economist Dr Albert Winsemius which visited the Island in 1960 and whose report constituted the bulk of Singapore's first Development Plan, the *Development Plan, 1961-1964* (Margolin 1989; Perry,

Kong et al. 1997; Khondker 2002; Lee 2006; Rodan 2006). After Singapore's expulsion from the Federation of Malaya, in 1965, and following further advice from Winsemius, the emphasis of industrialisation was shifted to a more export-based model of industrialisation (Margolin 1989; Huff 1995; Perry, Kong et al. 1997; Rodan 2006). Instead of creating national industries (which, with the separation from Malaysia, would have lacked a domestic market large enough to thrive), Singapore would now attract large foreign multinational companies to locate factories on the Island from where they would manufacture products for worldwide export.

Government as Planner and Mobiliser

For the Singapore leadership, government played a key role in the process of modernisation and industrialisation (Huff 1995; Perry, Kong et al. 1997; Rodan 2006). In the words of Goh Keng Swee, 'government has to be both the planner and mobiliser of the economic effort' (1977:191). This was understood to be in stark contrast with the former colonial power's more liberal policies: 'it is no longer possible to allow the economy to run itself in a completely laissez-faire system' (Ministry of Finance 1961:58). But, in no circumstances did the Singapore leadership envisage a government which controlled and ran on its own the entire production system. On the contrary: the role of government could only be understood in relation to those that Goh Keng Swee termed 'the entrepreneurs' (2004 [1972]:66) and defined as 'the standard bearers of economic progress and as introducers of innovation' (2004 [1972]:61). The role of government was not to replace them. Rather, the role of government was to help entrepreneurs; its role was to create the conditions in which they could thrive. In Goh's words, 'government policy ... must be directed to the support of ... business' (1977:17). This division of roles between government and entrepreneurs was also explicitly acknowledged in the Economic Planning Unit's *Review of Progress* of the 1961-64 plan:

> 'With the economy a free enterprise in the State, Government accept[s] that industrialisation [is] for private enterprise, local and foreign, and accept[s] as its responsibilities to provide the conditions necessary for the growth of private investment and to help build the infrastructure for industrialisation' (Economic Planning Unit 1964:9).

This understanding of the role of government in the modernisation and industrialisation process was not particular to Singapore; according to political scientists, who describe this understanding as characteristic of 'developmental states,' it is shared by most Asian countries attempting to modernise and industrialize (Johnson 1982; Amsden 1989; Wade 1990; Castells 1992; Thompson 1996; Perry, Kong et al. 1997). What was maybe particular to Singapore was its understanding of who should take on the role of the entrepreneurs. Indeed, given its

adoption of an export-oriented model of industrialisation, the Republic tended to identify the entrepreneurs with, primarily, foreign multinational companies (Margolin 1989:146-158). Therefore, the role of government in Singapore was *to attract* these companies by offering them the best conditions to manufacture and do business (Margolin 1989; Huff 1995; Perry, Kong et al. 1997; Rodan 2006). The government had 'to make it easy and attractive for manufacturers to set up business in Singapore' (Goh 1977:9). Lee Kwan Yew is very explicit in his recent autobiography:

> 'We had to link up with the developed world – America, Europe and Japan – and attract their manufacturers to produce in Singapore and export their products to the developed countries ... If multinational companies could give our workers employment and teach them technical and engineering skills and management know-how, we should bring in the multinational companies' (Lee 2006:75-76).

In order to achieve its role as the planner and mobiliser of the economic effort and thus attract multinational companies, the Singapore government used a particular series of strategies: (1) planning; (2) the creation of specialised agencies; (3) financial and technical assistance; (4) the development of the population; (5) the creation of infrastructure. As many of these strategies, the first one – planning – had probably been recommended by the numerous international experts who had visited Singapore after its independence; it would guarantee, they argued, that the government's effort to modernise was systematic, smooth and efficient (Margolin 1989; Huff 1995; Perry, Kong et al. 1997). The first plan was the *Development Plan, 1961-1964* published in 1961 and described by Singapore's Economic Planning Unit as 'a systematic attempt for planned economic development of the State' (1964:1). It was written by a team from the Ministry of Finance under the leadership of Goh Keng Swee and in close contact with the 1960 United Nations Industrial Mission headed by Albert Winsemius (Margolin 1989:64). The plans starts, in its first two chapters, by outlining the 'nature of the problems that face Singapore' (Ministry of Finance 1961:1) as well as examining the Republic's 'past performance' (ibid. p.20). Then, chapters 3 to 5 discuss the financing of the plan. And, in the six remaining chapters, the plan outlines various strategies to modernise Singapore which it groups under the following three headings: 'economic development,' 'social development' and 'public administration.'

One of the main strategies outlined by the Plan and suggested by Winsemius was the creation of a specialised agency, the Economic Development Board, in 1961. While all government agencies were to work towards modernizing Singapore, the EDB, staffed 'top personnel' recruited 'through the World Bank,' was to spearhead economic development and industrialisation (Ministry of Finance 1961:69). 'If Industrial Promotion is to be successful, an

adequate organisation has to be created. The organisation should be more than an industrial loan agency. It should have a core of officers who possess industrial and financial experience' (ibid. p.68). The role of the EDB was to monitor the world market so as to identify industries judged to be desirable to Singapore's long-term development. Furthermore, once such industries were identified, the EDB attempted to lure them to Singapore by offering financial incentives, technical assistance, first-rate infrastructure and a disciplined and cheap workforce. The EDB was 'to do much more than wait for potential investors seeking loans to embark on industrial projects. The organisation would be able to plan industrial projects and attract private capital into these projects' (ibid. p.68). The EDB was 'responsible for the active promotion of industrial investment, both at home and abroad' (Economic Planning Unit 1964:10).

Another important strategy outlined by the Plan was the provision, through the EDB, of financial and technical assistance to companies relocating in Singapore. This assistance consisted, first, in tax breaks offered to foreign companies relocating in Singapore. The main instrument in that respect was the 'Pioneer Certificate;' administered by the EDB, it 'enabled a firm to be exempted from Income Tax for five years from the production date' (Economic Planning Unit 1964:10). Assistance further consisted in 'loans on favourable terms' (Ministry of Finance 1961:69) and 'participation in the equity capital of new industries (Economic Planning Unit 1964:10), which were both also managed by the EDB. Thirdly, assistance offered by the EDB was also technical. Most of that was 'the undertaking of feasibility studies for prospective industrialists' (Economic Planning Unit 1964:10).

Developing the Population

The fourth type of strategy used by Singapore's government to fulfil its role as the planner and mobiliser of the economic effort aimed at improving the population understood as 'human resource.' Thus, the *Development Plan, 1961-64* outlined, under 'social development,' a series of schemes relating to health, education, social welfare, culture, housing, sewerage, community services and fire brigade (Ministry of Finance 1961:Chapters 9-10; Economic Planning Unit 1964:25-34). All these schemes had as their target the population of Singapore itself; they were all attempts to transform and develop this population to make it into one of the pillars on which modernisation would be erected. They understood population as 'human resource.' As any other resource, the population had first to be protected: new hospital wards had to be built; health care had to be improved; housing, in close proximity to the new Industrial Estates, had to be constructed; sewerage had to be devised; parks, playgrounds and swimming pools

had to be erected; basic social welfare had to be offered; and fire brigades had to be put in place (cf. Ministry of Finance 1961:Chapters 9-10; Economic Planning Unit 1964:25-34). The *Development Plan, 1961-1964* was explicit about that:

> 'Scarce resources have been invested in the form of food, clothing, education and the other social investment ... in [the] population. In order to reap the benefits of these investments it is necessary that facilities are provided that protect the population from the avoidable hazards of living ... [To do otherwise] would be a waste of the capital ... invested' (Ministry of Finance 1961:7).

Furthermore, the population had to be invested in and improved. In that respect, the 1961-1964 plan provided, in its ninth chapter, for the expansion of post-primary and technical education. It notably envisaged the creation of a Polytechnic comprising four departments: Engineering; Architecture and Buildings; Accountancy; and Nautical Department (Ministry of Finance 1961:113-116). Of course, 'the expansion of both technical secondary education and the Polytechnic [were] directly related to the overall emphasis on industrial expansion' (ibid. p.102). Indeed, 'the extension of education and the raising of educational standards [were] necessary conditions of economic growth' in two respects (Goh 1977:115). First, it gave people the technical skills necessary to work in factories. Second, it '[brought] about a rapid transformation of social attitudes to those more consistent with the needs of modernising societies' (Goh 1977:7). Among these social attitudes, Goh listed 'respect for hard work, innovation, a meritocratic system of personnel selection and advancement, continuous striving for greater efficiency, in short, achievement orientation' (1977:10). Another section in the plan aiming to change and improve the population, besides education, was 'culture' (1961:118-120) or, in the words of Goh, 'nation-building activities' (1977:64; cf. also: Chua 1995:Chapter 5; Hill and Lian 1995; Perry, Kong et al. 1997:Chapter 3). These were schemes – public campaigns, radio and TV programmes, national library and museum – 'designed to help develop in the people of the State a common outlook and a spirit of common loyalty' (Economic Planning Unit 1964:33).

Infrastructure

The last type of strategy deployed by the plan and which are central to the argument presented here are those that purport to create an infrastructure for industrialisation. In the 1960s, infrastructure was understood as primarily *physical* (cf. Ministry of Finance 1961:Chapters 7-8; Economic Planning Unit 1964:5-24). There were, first of all, all the facilities to provide 'public utilities like electricity, gas and water' (Economic Planning Unit 1964:5): power stations, gas plants, pumping stations, reservoirs and the like. Then, there was also an entire 'transport and

telecommunication' system (ibid. p.5): new bridges and roads, multi-storey car parks, deeper basins and longer wharfs in the harbour, extended runways for the airport, better air traffic control equipment, a meteorological service, connection to the round-the-world commonwealth submarine telephone cable system and the creation of supplementary post offices. And, last but not least, there were 'industrial estates' comprising 'factory sites and in some cases completed buildings, equipped with all necessary services like power, water, light and sewerage, for new industries' (ibid. p.10). The *piece de resistance* in that respect was the 3000 acres of land that made up 'Jurong Industrial Estate,' south-east Asia's largest industrial area at the time. Located in the south-west of the Island of Singapore, the land had first to be drained, levelled and partly reclaimed on mangrove swamps and prawn ponds. It was then connected to central Singapore by a new road, a railway track and a fast ferry service. Electricity, gas and water supplies were set up. A port facility was built. Sewage were constructed. Telephone links were established and ready-to-move-into factories were erected.

As with the other strategies, all this physical infrastructure has to be understood in relation to the notion of an export-oriented industrialisation. The 'provision of infrastructure' was one of the 'principal measures to encourage new industries [to relocate and invest] in Singapore' (Goh 1977:8). The setting up of infrastructure was understood as a central part of the government's role to modernise by creating a perfect environment in which foreign multinationals would want to relocate and invest. Goh is explicit about that:

> 'As regards infrastructure, we tried to make it easy and attractive for manufacturers to set up business in Singapore [by building] a large industrial estate ... in Jurong, with its own port to handle bulk cargo, equipped with rail and road transportation as well as adequate supplies of power and industrial water' (Goh 1977:8).

Similarly, Lee Kwan Yew also recognises this in his memoirs:

> 'The government played a key role in attracting foreign investments; we built the infrastructure and provided well-planned industrial estates, equity participation in industries, fiscal incentives and export promotion. Most important we established good labour relations and sound macro-economic policies, the fundamentals that enable private enterprise to operate successfully. Our largest infrastructure development was the Jurong industrial estate' (Lee 2006:79-80).

Survival

While the three elements discussed so far explain what type of modernisation was pursued and outline some of the means that were deployed in order to achieve it, they do not explain why

one should want to modernise in the first place. Indeed, the will to improve was not a given; it had to be cultivated. Singapore's leadership was well aware of this:

> 'The assumption that man wishes to improve his basic material living conditions does not always hold true. There are societies where ... human beings seek no improvement ... [One has] to arouse such societies from their lethargy ... The people of a country must desire progress' (Goh 2004 [1972]:46 & 53).

The mechanism that the Singapore's leadership used to spark such a desire among its people was what scholars have termed 'the ideology of survival' (e.g.: Chua 1995:105; Hill and Lian 1995:19-20 & 189-190; Perry, Kong et al. 1997:7). The logic underlying this mechanism was straightforward: when placed in a life threatening situation, you either improved or you perished. Following this logic, the Singapore's leadership 'cultivated a continual sense of crisis and urgency' (Perry, Kong et al. 1997:6) so as to bring about in the people a desire to work hard and progress. Of course, the desperate situation in which Singapore was in the 1960s – economical crisis, internal political unrest and neighbouring countries understood as threatening enemies – made it easier to create such a feeling of imminent danger. Nevertheless, this situation was well exploited by government in order to generate a true sense of crisis and urgency. A good example is the rhetoric displayed in Lee Kuan Yew's recent autobiography where he explains 'how difficult it was for a small country ... with no natural resources to survive in the midst of larger, newly independent nations all pursuing nationalistic policies' (2006:11). It was, he continues, 'a long, hard slog to find ways of staying independent and making a living without Malaysia as our hinterland. We had to work against seemingly insuperable odds to make it from poverty to prosperity ... The years after 1965 were hectic and filled with anxiety' (2006:12).

The correct reaction when faced with this permanent sense of insecurity, according to the Singaporean leadership, was to improve relentlessly. As Lee Kuan Yew explained:

> 'Economic and social progress are not the natural order of things ... they depend on ceaseless effort and attention' (Lee 2006:11).

This notion of a 'ceaseless effort' comes well across in the government's constant review of the progress achieved in relation to its existing plans and its will to adapt them if necessary. Thus, for example, in its review of the *Development Plan, 1961-1964*, the Economic Planning Unit wrote that the 1961-64 plan was 'only one in the series of plans required for the development of a stable self-generating economy... and [that] Government is now engaged in the preparation of the next plan' (1964:39). This will to constantly better oneself was often

translated as the will to excel, the will to be the best. In a speech entitled *Why Singapore Succeeds* given at a London conference in 1972, Goh resumed 'the basic thinking and philosophy underlying [his government's] policy' like this: 'Singapore must excel in ... whatever it attempts ... Government policy must be directed to the pursuit of excellence' (1977:17). Only excellence, only being the best would allow one to avoid perishing.

After the 1960s

This particular style of thought, this will to relentlessly improve did not disappear after the 1960s. On the contrary, it has continued to inform the thinking and acting of the Singaporean leadership up to the present day, not the least because of the People's Action Party's uninterrupted rule since independence and the way the leaders have constantly and meticulously groomed and co-opted their successors (Perry, Kong et al. 1997; George 2000; Rodan 2006). The recent call by Lee Hsien Loong, Singapore's current Prime Minister, to 'improve [the Island] and build on it, [to] make it something better ... [and to] keep on pursuing excellence, keep on aiming high, and keep on improving life' is a good illustration of how this way of thinking is still very much alive and kicking today (2004). And, the fact that Lee Hsien Loong is Lee Kuan Yew's oldest son and that his father still occupies an advising function in his Ministerial Cabinet (as 'Minister Mentor') points out to how the stability among Singapore's leadership has helped this style of thought to endure up to this day. But, as discussed below, the perhaps most striking illustration of the persistence up to this day of the will to constantly modernise among the Singaporean leadership is the Republic's twenty years of policies aiming to promote the biomedical sciences on the Island (Rodan 2006).

Before examining these particular policies, it is worth noting that while this will to modernise and constantly improve has endured up to this day, some of its elements had, obviously, to be adapted to the changing economical and geopolitical realities of the last twenty-five years. Two changes merit attention. First, there was a change in the Republic's economic policy and, therefore, of how modernisation was understood following Singapore's two first economical crises since independence, in 1974-75 and in 1985-86. These crises made clear that Singapore was becoming less attractive for multinational companies to relocate compared to emerging economies like Indonesia, other newly industrialised nations like Hong Kong or even developed countries. A change of economic policies was thus necessary if economic growth was to be sustained.

This was achieved in 1986 with the publication of a report of the Economic Committee aptly entitled *The Singapore Economy: New Directions.* Chaired by Lee Hsien Loong, then Minister for Trade and Industry, the Committee identified the causes of the 1985-6 crisis (loss of competitiveness) and proposed a series of 'policies for growth' to remedy the situation. One trend in these policies was the shift from a focus on industry to one on international services, notably the financial and banking sectors (Margolin 1989:227-8). As the authors of the report argued:

> 'We must move beyond being a production base, to being an international business centre ... Singapore should become a major exporter of services' (Economic Committee 1986:12).

The other trend was a move from low-skilled industries to industries using 'high technology and R&D' (Economic Committee 1986:Chapter 16; cf. also Margolin 1989:228-9). Thus, as scholars have showed, modernisation was still mainly economical and export-oriented; but it was now based on services and high-technology rather than low-skilled industries (Margolin 1989; Perry, Kong et al. 1997; George 2000).

The second change which merits mention relates to Singapore's economical and political situation and, therefore, to 'the ideology of survival.' In the 1960s, Singapore was poor and underdeveloped, it was rife with internal political discord and it was surrounded by unstable and threatening neighbours. From the 1980s onwards, the situation had changed dramatically: order had been restored under the strong leadership of Lee's People's Action Party; relations with Malaysia and Indonesia had improved; and, most important of all, Singapore had become affluent. Indeed, by the mid 1980s, Singapore's GNP *per capita* was similar to those of many developed countries and, by 2000, it was among the highest in the world. This, ironically enough, was problematic in terms of Singapore's ideology of survival. Indeed, it meant that there was no more 'sense of crisis and urgency' which could be used to drive people to continuously improve.

To avoid this from happening, the Singaporean leadership was quick to reshape the ideology of survival and adapt this mechanism to instil a desire for progress to the new situation. To do so, the leaders argued that while Singapore had indeed made tremendous progress, the levels of prosperity and comfort that had been reached remained extremely fragile; poverty, civil strife and other dangers were not far off. The main reason for this fragility was, they argued, the always stiffer international competition among nations. And the proof of both this frailty and tougher economic race were, the government argued, the economic crises which regularly

rocked the Island.[4] Faced with this situation, it was impossible to 'complacently settle for present levels of prosperity;' one needed, instead, to work harder and to understand 'the continual importance of upgrading the economy' (Perry, Kong et al. 1997:6).

Singapore's latest economic development plan – the 2003 *New Challenges, Fresh Goals: Towards a Dynamic Global City* published by the Economic Review Committee under the chairmanship of Lee Hsien Loong – exemplifies well the city-state's reshaped 'ideology of survival.' Drafted in reaction to 1997-1999 Asian Financial Crisis, the plan urged Singaporeans to 'remake and upgrade the economy' (Economic Review Committee 2003:4). It recognised that 'overall [Singapore] had made tremendous progress since the last major recession in 1985,' but warned that 'the economic race has [since] become tougher' (ibid. p.3). This meant that, 'as Singapore becomes more developed,' its citizens 'will need to work doubly hard to overcome the challenges ahead and sustain healthy economic growth' (ibid. p.29).

Biomedical Research as the Path to Modernity

Before the late 1980s, there was almost no biomedical research carried out in Singapore. In a 1986 editorial of the *Singapore Medical Journal* which discussed the development of medicine in the small Republic, Dr. Feng described this state of affairs in no uncertain terms, arguing that 'Singapore is too small and its talent pool too limited to engage in any meaningful basic medical research' (1986:463). Ironically enough, this situation was to change from that time onwards with the publication that very same year of the Economic Committee's already mentioned report *The Singapore Economy: New Directions.* Recognising that 'Singapore [did] not have a research tradition' (1986:149), it proposed to change this situation by developing a 'competence' in 'biotechnology' understood as 'pharmaceuticals, chemicals, food processing [and] agro-technology' (ibid. p.147). This was not the first time that the Singaporean leadership was interested in the life sciences but it was the first time that it officially stated its interest to promote biomedical research.

Since 1986 there has been no looking back and Singapore's wish to build a limited competence in biotechnology has become, over the next twenty years, a will to become a global 'biomedical sciences hub' with 'world-class science and technology capabilities' (Ministry of Trade and Industry 2006:i and 11). Specialised agencies promoting biomedical research have

[4] After the 1974-5 and 1985-6 economical crisis, Singapore was again hit by recession in 1997-9 (Asian Financial Crisis) as well as in 2001-02.

mushroomed: the National Science and Technology Board (now A*Star), created in 1991; the National Medical Research Council, founded in 1994; the Biomedical Research Council, opened in 2000; and the Research, Innovation and Enterprise Council and the National Research Foundation, both formed in 2005. The national budget allocated to promote research and development has exploded from $SG 2 billion in 1991 to $SG 13.55 billion in 2006. Specialised research centres dedicated to the life sciences have proliferated since Singapore opened its first such institution under the aegis of Sydney Brenner in 1987, the Institute of Molecular and Cell Biology, now directed by Sir David Lane. Likewise, Singapore's universities have also seen their biomedical divisions expand considerably while prestigious foreign medical schools such as Duke University have opened local branches in Singapore. Furthermore, the city-state has also made considerable efforts to educate and train Singaporeans as biomedical researchers and technicians while, at the same time, attracting foreign talent to come and work in the Republic, such as Edison Liu and Neal Copeland – two of the United States' most prominent cancer researchers. Finally, under the aegis of the EDB, Singapore has also successfully attracted foreign multinational companies active in the life sciences such as Novartis to come and settle part of their research base in Singapore.

This section argues that these twenty years of policies to promote biomedical research are very much a product of the will to modernise which has informed the Singaporean leadership's way of thinking from the 1960s onwards. It does so by describing how all four of the elements characteristic of the will to modernise have structured the city-state's efforts to turn the island into a global life sciences hub. First, it shows how the biomedical research was identified as an engine of economic development or modernisation. Then it describes how investment in the life sciences became to be understood as an improvement of Singapore's economy which was necessary to the Republic's survival. From there it explains how Singapore's government became seen as the planner and mobiliser of biomedical research. Finally, it argues that the notion of infrastructure was redefined to include 'technological infrastructure' which included, most notably, the construction of a 'Biopolis' and the realisation of a series of 'soft infrastructures.'

As alluded to before, one of the reason for the prevalence of this will to modernise among the leaders of the South-East Asian Republic up to this day, be it in the promotion of biomedical research or elsewhere, is the stability of Singapore's leadership. The activities of both Philip Yeo and the Economic Development Board to promote the life sciences in Singapore are a good illustration of this style of thought's continuing influence in the island. Yeo, the main architect of the development of the biomedical research in Singapore, was born on the Island

in 1947. After an engineering degree at the University of Toronto and a Master in Business at Harvard, he joined Singapore's Ministry of Defence in 1970 where he was trained by and would remain, for the next fifteen years, a close collaborator of Goh Keng Swee, one of the main artisans of the city-state's industrialisation after independence. In 1986, Yeo was nominated director of the EDB where he stayed until 2006. During his time as head of the EDB, he was in charge of promoting the life sciences in Singapore, a role which he further made his own when he was nominated co-chairman of the National Science and Technology Board/A*Star in 1999, a position from which he retired in 2007.

Biomedical Research as an Engine of Growth

The strong influence of the will to modernise on the city-state's promotion of the life sciences is discernible, first of all, in the way the Singaporean leadership understands biomedical research as being necessarily related to the concept of modernisation developed in the 1960s and still valid today: biomedical research is a driver of the country's (economic) development. Singapore's desire to promote the life sciences can only be understood in relation to this particular vision of modernity. Indeed, for the small Republic, scientific research in general and biomedical research in particular are 'important growth engines' (Economic Review Committee 2003:12), engines 'to achieve continued economic growth' (National Science and Technology Board 1996:13), engines 'to achieve ... long-term growth and prosperity' (Ministry of Trade and Industry 2006:iii). In other words, for Singapore, the promotion of biomedical research is understood as an economic development strategy to achieve progress and prosperity. This identification of biomedical research as a driver of economic development and progress is not a recent one; it has been developed gradually over the last 30 years or so and has its roots in Singapore's attempts to diversify its economic and industrial policies put in place in the 1960s.

As mentioned earlier, the Economic Committee's 1986 report certainly represents the most significant moment in these attempts to diversify, confirming for good the change from low-skills industries to services and high-tech industries. But, attempts at diversification were already evident before, in the early 1970s. It is then that the Singapore's governing elite began to construct its understanding of biomedical research as a driver of economic development. The first step was the realisation of the relation between the use of skills or technology in production and increased economical growth. In the early 1970s, the Singaporean government had been contemplating, in order to diversify its industries, to promote 'high-tech industries' as opposed to the more labour-intensive ones upon which Singapore's industrialisation had been

based since the *Development Plan, 1961-1964* (Margolin 1989; Khondker 1994; Huff 1995; Perry, Kong et al. 1997; Rodan 2006). One proponent of this strategy was the influential Goh Keng Swee. In his 1973 *Labour in a Technological Society*, he argued that:

> '[Singapore] should produce complex products requiring labour skills in great amounts, not merely cheap labour. In other words, we want to increase the level of technology of industries in Singapore' (Goh 1977:199).

He was thus postulating a relation between skills/technology and economic growth – the more skills/technology, the more value-added content, the more growth – which he was keen to exploit. Indeed, in relation to industries using unskilled labour, Singapore was starting to lose out to economies, such as Malaysia or Indonesia, which could offer lower labour costs (Perry, Kong et al. 1997:108). By having a more skilled labour force, Singapore would avoid this problem altogether. Indeed, it would allow it to target high-tech industries located in developed countries, attracting them with its lower labour costs. Furthermore, the skilled labour necessary to high-tech industries offered a higher added-value and thus produced more growth.

While some initial steps towards the systematic implementation of Goh's vision were taken with the launch of Singapore's 'Second Industrial Revolution' in 1979 (Margolin 1989), the real breakthrough was the Economic Committee's 1986 report. To start with, it reasserted the relation postulated by Goh while replacing 'skills/technology' with 'science and high-technology:' 'new high-tech industries' will offer better perspective for growth than low-skills ones because of their 'higher value-added content' (1986:Chapter 16). Then, for the first time, it both clarified which high-technologies Singapore would pursue and included 'biotechnology' in this list (ibid. p.147).[5] Finally, the report also called for Singapore to put into place 'an effective R&D policy' so as to develop a 'competence' in these technologies (ibid. p.148). This resulted, five years later, in the creation of the National Science and Technology Board and the publication of Singapore's first 5-years S&T plan, the *Window of Opportunities: National Technology Plan 1991*. Twenty years later, there has been no significant change to the basic policy options laid out in the 1986 report. Thus, Singapore's latest S&T plan, the *Science and Technology Plan 2010: Sustaining Innovation-Driven Growth* still purports to 'anchor' Singapore 'into a knowledge- and innovation-driven economy' so as to achieve 'long term growth and prosperity' (2006:iii).

[5] The list included the following technologies: information technology; biotechnology; micro-electronics; robotics & artificial intelligence; lasers/optics; and communications technology (ERC 1986:147-8).

The reasons why the 1986 report included 'biotechnology' among the 'new high-technologies' in which to invest were numerous. First, it was around that period that the important commercial potential of biotechnology had been recognized and that a new, highly promising and profitable industry based on these molecular biological technologies had started to emerge, in particular in the United States (American Office of Technology Assessment 1984; Kenney 1986; Zucker, Darby et al. 1998; Acharya 1999; Argyres and Liebeskind 2002). The first American start-ups founded by scientists with the help of venture capitalists and commercialising products using biotechnology started to appear in the mid 1970s and by 1984 there were already over one hundred of them. The 'biotechnology fever' did not only grip Wall Street; by the late 1970s large multinational pharmaceutical and chemical companies were entering the fray and starting to seriously invest in the new technologies. By 1983, American private investment in biotechnology had reached over one billion US dollars and, by 1984, biotech had been officially recognized as the new big thing by the American Office of Technology Assessment in its report *Commercial Biotechnology: An International Analysis.* The EDB, whose role was to constantly monitor the world market in search for new industries that would be of benefit to Singapore's long term growth, could not have missed these developments in the United States.

A second reason for the Singapore's interest in biotechnology was the fact that it seemed to match rather well the Republic's recent attempt to diversify its industries by investing in high-technologies. Indeed, biotechnology involved the use of a specialised technical knowledge synonymous with higher added-value and increased potential growth. Third, there was the fact that, from the late 1970s onwards, many foreign multinational pharmaceutical and chemical multinational companies had started to re-orient their activities around biotechnology (American Office of Technology Assessment 1984; Kenney 1986). Given Singapore's export-oriented economic model and its reliance on foreign, and especially American, multinational companies, this must have provided an additional incentive to invest in biotech for the Republic's leaders. Finally, one cannot neglect the influence of personal contacts, notably the relationship between Lee Kuan Yew and future Nobel Prize winner Sydney Brenner. Lee had met the South African molecular biologist through a banker friend in the early 1980s. He seemed to have been greatly impressed by Brenner, so much so that, in 1985, he made him a *Kuan Yew Distinguished Guest.* This was to be the start of a long association between Brenner and Singapore.

Another indication of the way that the will to modernise has structured the city-state's policies to promote the life sciences is the manner in which the latter has been related to the ideology of survival – the government's mechanism to instil an aspiration for progress among the Singaporean population. As discussed above, this mechanism had been adapted to Singapore's new economical and political situation in the 1980s. Most notably, references to poverty, civil strife or regional tensions had been dropped in favour of a fear of falling behind in an economic race between nations which was depicted as being as fierce as ever. As the Economic Committee's argued in 1986, economic competition had become 'stiffer:'

> 'When Singapore first began industrializing in the 1960s, our competitors were the other developing nations. We had obvious advantages. ... Now we are competing with the developed nations. ... Compared to these countries, our advantages are not so obvious. The competition is now much more intense' (Economic Committee 1986:10).

Twenty years later, the Economic Review Committee's had the same message, arguing that 'the economic race has become tougher' (2003:3).

As alluded to before, the only solution, given this situation, was to work harder and to upgrade the national economy. For the Singaporean government, one way to achieve the latter was to invest in knowledge-based industries and, notably, in the biomedical industry. Put differently, investing in new technologies in general and in the life sciences in particular was understood as a strategy necessary for the Republic's very survival. This, at least, was the way the Singaporean leadership thought from as far back as the early 1980s. Thus, in 1983, S. Dhanabalan, an influential member of Singapore's government, put it thus:

> '[Singapore can not] ignore the implications of the new technology.[6] Unless we acquire new skills, identify new opportunities and absorb new ideas, we will be left on the wayside of development. We need to retrain, upgrade and educate. We must move up or remain, as we have been, hewers of wood and drawers of water' (Dhanabalan 1983:6-7).

Although cast in a more modern idiom, the city-state's latest S&T plan defends basically the same position when it argues that:

[6] S. Dhanabalan's understanding of the new technology encompassed the following fields: 'robotics and computerisation,' and, 'farther down the road, advances in such fields of basic science as genetic engineering and biotechnology and artificial intelligence research' (1983:4).

'Singapore's economic strategies must keep up with the changing global economic landscape. Singapore must continue its process of upgrading and renewal to ensure that we remain competitive in a global knowledge economy' (Ministry of Trade and Industry 2006:3-4).

Government as Planner and Mobiliser of Biomedical Research

The clearest evidence of the way the will to modernise has informed and shaped Singapore's promotion of the life sciences is probably the key role played by the government in turning the Island into a global biomedical research centre. Indeed, the government has been 'the planner and mobiliser' of biomedical sciences as it was of industrialisation in the 1960-70s, a fact corroborated by the studies documenting the persistence of what is termed Singapore's 'developmental state' from the 1960s up to this day (Perry, Kong et al. 1997; George 2000; Rodan 2006). In other words, the role of government in relation to the life sciences has been – in conformity with Singapore's export-oriented economic model in place since the 1960s and under the guidance of foreign experts such as Sydney Brenner [7] – to attract the leading foreign multinational companies in the field to settle in Singapore by 'provid[ing] a comprehensive and efficient net of infrastructure' (Economic Committee 1986:13) while leaving them to undertake 'the bulk of R&D activities' (National Science and Technology Board 1991:ii).

As with its efforts to industrialise after independence, the government has used the same set of strategies to fulfil its role as the planner and mobiliser of biomedical research: (1) plans; (2) the creation of specialised agencies; (3) financial and technical assistance; (4) measures to develop the population; and (5) a world-class infrastructure. The first plan articulating policies to promote the life sciences was the already mentioned in the 1986 report of the Economic Committee. It laid out the main strategies 'to develop competence in selected new technologies and to move into high technology industries as one area for growth' (1986:145). It was followed by a plethora of other plans which both reiterated and specified the principles outlined in the 1986 report: the Economic Development Board's unpublished 1988 *National Biotechnology Programme* and 1989 *National Biotechnology Master Plan*; the Economic Planning Committee's 1991 *Strategic Economic Plan: Towards a Developed Nation*; the 1991 *Window of Opportunities: National Technology Plan*; the 1996 *National Science and Technology Plan – Securing Our*

[7] The use of experts to know what constituted the appropriate infrastructure for biomedical research is, of course, an another striking similarity to Singapore's efforts to industrialize in the 1960-70s, when the government had enlisted industrialisation specialists such as A. Winsemius. Brenner started advising the Singapore government in the early 1980s, after meeting Lee Kuan Yew. He notably partook, together with Philip Yeo, in the foundation of Singapore's first research centre dedicated to the life sciences, the Institute Molecular and Cell Biology, in 1987. And, from 1991 onwards, he was a permanent member of the International Advisory Council to the NSTB/A*Star together with the then chairman of GlaxoSmithKline, Sir Richard Sykes.

Future; the unpublished 2001 *S&T 2005 Plan*; the 2003 *The Report of the Economic Committee: New Challenges, Fresh Goals – Towards a Dynamic City*; and the 2006 *Science and Technology 2006-2010 Plan – Sustaining Innovation-Driven Growth*, Singapore's fourth and latest science and technology plan.

In a striking parallel to the establishment of the EDB in 1961 by the *Development Plan, 1961-1964*, all the plans enumerated above created a series of 'government agencies responsible for promoting R&D' (National Science and Technology Board 1991:21), now regrouped in what is called the 'National R&D framework' (National Science and Technology Board 1996:44-45; Ministry of Trade and Industry 2006:26-29). Indeed, while during the early years, from 1986 to 1991, the promotion of biomedical sciences was assumed principally by the EDB, new specialised organizations were created from the early 1990s onwards. Thus, in 1991, the National Science and Technology Board (now A*Star) was founded 'to develop Singapore into a centre of excellence in selected fields of science and technology' (National Science and Technology Board 1991:ii). Funding bodies were also set up, such as the National Medical Research Council or the Biomedical Research Council. And, by 2005, a Research, Innovation and Enterprise Council had been established to oversee and 'lead the national drive to promote research' (Ministry of Trade and Industry 2006:26).

Another series of measures contained in the various plans promoting biomedical sciences, were those related to financial and technical assistance for multinational companies – yet another symmetry with the 1961 development plan. These measures comprised, first of all, 'tax incentives for R&D' (Economic Committee 1986:149). One example was the 'Pioneer Status Certificates' granting 'complete tax exemption;' offered by the EDB since 1961 it was extended to cover enterprises undertaking R&D (National Science and Technology Board 1991:55-56). Second, there was 'government funding for R&D,' either as grants and loans or as investment in companies' capital. An example of the former is the Research Incentive Scheme for Companies which allocates grants to enterprises to hire and train research scientists. An illustration of the latter is Bio*One Capital, an organization founded in 1990 which can invest in foreign biotechnology or pharmaceuticals companies when advantageous for Singapore. Finally, there are a whole variety of technical assistance programmes generally run by A*Star and which comprise advice on financial assistance, business counselling and guidance on how to administer patents.

Education

For the will to modernise, the population is understood as a key resource for economic development whose quality can be improved via different strategies. As Singapore's Economic Planning Committee argued in a 1991 report:

> 'The single most important factor towards achieving developed country status is enhancing Singapore's most important resource, its people' (Economic Planning Committee 1991:7).

Both this understanding of the population and such enhancement strategies can be found in all the plans promoting the life sciences in Singapore – a further indication of how the will to modernise is at the heart of the transformation of the city-state into a global biomedical hub. While the schemes for social development contained in the 1961 development plan were rather varied, the strategies to enhance the quality of the population found in the plans relating to biomedicine focused primarily on education.[8] This was a focus which informed all of Singapore's economic diversification strategies from the late 1970s onwards, when the government identified the quality of the population in terms of education, training and skills as a 'fundamental requirement of economic growth' and modernisation (Economic Committee 1986:13). As Singapore's Economic Committee argued in its 1986 report:

> 'A country's development cannot only be measured by its per capita GNP. [Rather,] the driving force [of development] lies in factors such as the education level of our population' (Economic Committee 1986:59).

In relation to the biomedical sciences the strategies to increase the educational profile of Singapore's workforce consisted in four sorts of measures (cf.: Economic Committee 1986; National Science and Technology Board 1991; National Science and Technology Board 1996; Ministry of Trade and Industry 2006). First, it comprised measures to provide people with the knowledge and skills required for biomedical research so as to have a 'critical mass of R&D manpower' (National Science and Technology Board 1991:35). This meant 'expanding Masters and PhD programmes' at existing universities, polytechnics and research centres (Economic Committee 1986:149), offering 'scholarships and grants' as well as 'career counselling and guidance' (National Science and Technology Board 1991:40-41). It also meant opening new

[8] As discussed below, the strategies to improve the population's educational profile generally consisted in improving the possibilities for education and training (more schools, better access, etc.). But, interestingly, from 1983 to 1987, these measures where complemented with 'a form of social eugenics' (Perry, Kong et al. 1997:85). Indeed, based on Lee Kuan Yew's belief that intelligence was genetically based, measures were taken to encourage better-educated Singaporeans to reproduce so as to ensure that the population's level of competence would not decline. These measures included the promotion of marriage between graduates as well as the pre-primary and primary school registration priority to graduate women with three or more children (cf. Perry, Kong et al. 1997:88-91).

specialised research institutes, such as the Institute of Molecular and Cell Biology, providing 'resources of manpower, skills, technology, knowledge, and products and processes directed towards helping R&D activities undertaken by companies' (Economic Planning Committee 1991:72). Second, it also comprised measures to recruit foreign talents from abroad in order to both increase the numbers of scientists and researchers in the population and to offer the rest of the population access to 'role-models' as well as to 'knowledge and skills' (National Science and Technology Board 1991:38).

Third, there were also measures to 're-orient' the 'education system' so as to 'allow for more creativity' (Economic Committee 1986:118). Programmes were designed for students 'to be encouraged from young to be more creative and [to] be given the opportunity to experiment and tinker' (ibid. p.149). Fourth, there were measures to create a 'research and development culture,' that is schemes to raise the population's interest in science and its 'awareness' of the role of research 'for Singapore's prosperity' (National Science and Technology Board 1991:39). Similar to the nation-building activities of the 1960s, these measures included: the creation of a 'young inventors award which promotes creativity and innovation among students and young Singaporeans;' 'science and technology quizzes, fora, seminars and workshops to promote an interest in science and technology among the young;' 'publicity campaigns to promote R&D careers ... among the young and the general public;' the 'profiling of local inventors and scientists on television;' 'science and technology films for the general public and students;' as well as 'the creation of science and technology role models' (National Science and Technology Board 1996:35).

The Technology Corridor & Biopolis

The central place given to the notion of infrastructure in the promotion of the biosciences in Singapore represents not only another indication of the way the will to modernise has driven and shaped the latter but it is also, as will become clear, fundamental to this chapter's argument. Instead of the 'industrial infrastructure' of the 1960-70s, the plans for establishing a global life sciences hub in the city-state all contain strategies to build a 'technological or technology infrastructure' (Economic Planning Committee 1991; National Science and Technology Board 1991; National Science and Technology Board 1996). This infrastructure can only be understood in relation to the Singapore's definition of biomedical research as an engine of economic growth. In other words, it is an infrastructure that has to 'meet the needs of an economy characterised by knowledge-intensive activities' (National Science and Technology Board 1991:71); it has to provide a 'dynamic and vibrant environment for R&D'

which 'will make it easy for foreign companies to re-locate R&D operations in Singapore' (Ministry of Trade and Industry 2006:52).

An important part of this infrastructure is a 'physical infrastructure' (Ministry of Trade and Industry 2006:52) known as the 'Technology Corridor' (National Science and Technology Board 1991:71). Drawing its inspiration from similar 'sciences cities' built in Europe and North America, this 'technopolis' was conceptualised in the early 1990s and has been continually developed ever since (National Science and Technology Board 1991:71). Reminiscent of Jurong Industrial Estate in both its size and importance, this project aims, as most technopoles, to provide both a working and living space for 'a closely knit community' of 'researchers' and others who 'have the ability to exploit the commercial potential of the research' such as 'industrialists, financiers and managers' (National Science and Technology Board 1991:71-72). Situated on the South-West coast of Singapore, the Corridor comprises most of the city-state's higher education establishments,[9] countless research and business facilities[10] as well as a series of residential areas complete with retail facilities, schools, hospitals and other leisure and cultural amenities.[11]

Most of the work space for biomedical research has been recently relocated in a purpose-built biomedical research hub named Biopolis (Ministry of Trade and Industry 2006:53). Situated in the midst of the Technology Corridor and housing most of its research centres dedicated to the life sciences[12] as well as the NSTB/A*Star, Biopolis is a nine-buildings complex which offers biotechnology and pharmaceutical companies laboratory and office space as well as all the equipment, services, and resources necessary to undertake biomedical research and development. These include among others: conference facilities, meeting rooms, operating theatres, necropsy rooms, structures for the cryo-preservation of embryos and sperm, an academic library as well as the national tissue and DNA repository and the Singapore Tissue Network.

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[9] These include: the National University of Singapore, the National University Hospital, Nanyang Technological University, Ngee Ann Polytechnic and Singapore Polytechnic. Also in the area is the Asian campus of the French Business School *INSEAD*.

[10] These include Singapore's Science Park, Vista XChange, Biopolis and, more recently, Fusionpolis. The latter three are facilities offered by One North, a recent 200 hectares development within the Corridor (cf. www.one-north.sg).

[11] At first, the residential area was limited to Holland Village, an expatriate enclave north of the Corridor. Lately, new residential areas are being built within the One North development project. For more on these residential areas, cf. National Science and Technology Board 1991, National Science and Technology Board 1996 and www.one-north.sg. Cf. also: Wong, K. W. and T. Bunnell (2006). "'New Economy' Discourse and Spaces in Singapore: A Case Study of One-North." Environment and Planning A **38**: 69-83.

[12] These include: the BioInformatics Institute, the Bioprocessing Technology Institute, the Genome Institute of Singapore, the Institute of Bioengineering & Nanotechnology and the Institute of Molecular and Cell Biology.

Soft Infrastructure

Besides this 'physical' infrastructure of the Technology Corridor, technological infrastructure – and this was a novelty compared to the industrial infrastructure in the 1960-70s – also included what was termed 'soft infrastructure' (Economic Planning Committee 1991; National Science and Technology Board 1991; Ministry of Trade and Industry 2006). This notion first appears in the 1991 *Strategic Economic Plan* of Singapore's Economic Planning Committee, a plan strongly influenced by the thinking of Harvard Business School Professor Michael E. Porter and, most notably, by his opus *The Competitive Advantage of Nations* (1989).[13] The *Strategic Economic Plan* argued, as had the Economic Committee in its 1986 report, that Singapore's development should not only be measured in quantitative terms such as the GNP *per capita*; one had to complement this with qualitative measures. Put differently, these plans argued that development or progress should not only be quantitative; it also had to be 'qualitative' or 'sustainable' (Economic Planning Committee 1991:3). The government's will to invest in soft infrastructure was a response to these demands for qualitative growth. As the Economics Planning Committee argued:

> 'Singapore has spent the last 25 years investing heavily in physical infrastructure and today is rated one of the best in the world in this aspect. [In the future,] emphasis needs to be placed on soft infrastructure' (Economic Planning Committee 1991:7).

Lee Kuan Yew makes a similar point in his recently published memoirs:

> 'In material terms, we have left behind our Third World problems of poverty. However, it will take another generation before our arts, culture and social standards can match the First World infrastructure we have installed' (Lee 2006:13).

The *Strategic Economic Plan* defined 'soft infrastructure' as 'the elements of a country's economy and society, apart from resources and physical infrastructure, which make it dynamic' (Economic Planning Committee 1991:50). In a language strongly reminiscent of Porter's,[14] these elements are further described as 'key competitive advantages' of a nation which are not physical but relate instead 'to certain social structures and systems' (Economic Planning Committee 1991:54). Up until the late 1990s, the different plans and reports which promoted biomedical research in Singapore regularly listed three elements as constituting such non-physical 'key competitive advantages.' These three elements were: (1) schemes relating to

[13] The book is an empirical analysis of the factors that make a nation competitive in the global economy. It was based on the study of ten important trading nations among which figured Singapore

[14] Compare this description with Porter's notion of 'competitive advantages' and his definition of infrastructure as the elements 'that affect competition, including ... cultural institutions' (Porter 1989:75). Cf. also: Niskanen, W. A. (1991). "The Soft Infrastructure of a Market Economy." Cato Journal **11**(2): 233-238.

education aiming to provide human resources of quality (cf. Economic Planning Committee 1991:8; National Science and Technology Board 1996:38-41); (2) schemes purporting to encourage 'the commercialisation of technology, as well as building a culture of innovation and technology entrepreneurship' (cf. National Science and Technology Board 1996:42); and (3) an improved, up-to-date intellectual property legal system compatible with international norms (Economic Committee 1986:150; National Science and Technology Board 1991:67).

The first two of these soft infrastructures have already been examined above as 'measures to improve the quality of the population' and 'technical assistance programmes,' respectively. The notion that an intellectual property legal system was an important non-physical 'key competitive advantage' was recognised by the Economic Committee in its 1986 report. 'The government should speedily ... improve the patent system [because] it will be difficult to promote R&D if firms face difficulty in patenting their inventions' (Economic Committee 1986:150). This advice was rapidly put into practice. In the early 1990s, the legal norms were updated and the Singapore Patent Office was reorganised in accordance with a proposal of the World Intellectual Property Organisation (National Science and Technology Board 1991:67). By the end of the decade, Singapore's system to protect intellectual property had been aligned with other systems around the world, making it less costly and time-consuming then before.

Ethics Governance: a Necessary Component of a Modern Singapore

This section turns to the recent development of bioethical governance in the South-East Asian Republic and argues that it was the product of the will relentlessly to modernise the country that has informed the Singaporean leadership since the early 1960s. It does so by showing that, for the Singaporean leadership, an ethical framework for biomedical research was equivalent to laboratories equipped with the latest equipment or an internationally compatible IP system: it was a (soft) infrastructure that was necessary to modernise and transform Singapore into a world-class hub for the life sciences. As the section further explains, at the heart of such an understanding was the assumption that an ethical framework for biomedical research modelled on internationally recognised standards would guarantee the credibility or good reputation of Singapore's biomedical research around the world.

Before developing this argument, the section gives an outline of the development of bioethical governance in Singapore, from its emergence around the work of the National Medical Ethics Committee in the late 1990s to its consolidation through the activities of the Bioethics

Advisory Committee in the first decade of the twenty-first century. It also shows that, unlike the situation in the UK, this development is not the product of a will to respect human beings and protect them against the dangers of modern medicine; indeed, modern medical ethics (from which such a will grew in the UK) was virtually unheard of in the South-East Asian Republic until well into the 1990s.

Developing Ethics Governance in Singapore

The introduction of the language, principles, institutions and procedures of ethics governance began in 1996 under the auspices of the National Medical Ethics Committee (NMEC). Interestingly, the creation of the NMEC by the Singaporean government in 1994 had nothing to do with either the medical use of human tissue or, more generally, biomedical research. Indeed, the NMEC was created, first of all, to deal with passive euthanasia which had become an issue in Singapore in relation to the rising costs of medical services due to medicine's increased capacity to prolong the dying process of the aged and the terminally-ill (Iyer 1998:24-25; cf. also: Ministry of Health 1998:1-2 & 4-5). To solve this issue, the NMEC suggested the introduction of a system whereby patients could sign *ad hoc* forms which directed doctors to withhold life-saving measures when they were at a terminal stage of their lives, a suggestion which was turned into law in 1997 (National Medical Ethics Committee 1995; cf. also: Ministry of Health 1998:4-5). Second, the NMEC was created by the Singaporean government as a mechanism to strengthen the discipline among the medical profession and reassert the importance of what was known in the West as 'traditional' medical ethics (Ministry of Health 1998:5-6). As the then Minister of Health George Yeo argued in his speech announcing the creation of the NMEC:

> 'The doctor-patient relationship is a special one and should always remain so. It [can be] ... likened [to the relationship] between parents and children ... [or] the teacher-pupil relationship ... To preserve the health of the doctor-patient relationship, we need clear sanctions by the Ministry of Health and a strong ethical code among members of the medical profession ... [To that end,] the Ministry of Health has ... established a [National] Medical Ethics Committee to advise us ... The Committee will be discussing the need for an explicit code of conduct for doctors and how medical ethics should be taught to medical students and maintained in the profession' (Yeo 1994).

But, because of its relatively open terms of reference, the NMEC started to address questions relative to biomedical research in 1996 and introducing some of the categories, expertise and other ethical devices that make up ethics governance (cf. Ministry of Health 1998:3). It did so in a series of recommendations and guidelines whose 'objective ... was to ensure that the rights and the welfare of [human] research subjects were protected' (Ministry of Health 1998:8). The two most substantial texts were the NMEC's own *Ethical Guidelines on Research*

Involving Human Subjects and *Singapore Guideline for Good Clinical Practice,* proposed by the Ministry of Health and approved by the NMEC.[15] These two documents introduced a basic regulatory system protecting human subjects in research. Modelled on the standard ethical frameworks existing in developed countries, like the British Royal College of Physicians' (1990a) *Guidelines on the Practice of Ethics Committees in Medical Research Involving Human Subjects,* this system introduced new expressions, practices and institutions like 'human being,' the 'principle of autonomy,' 'research ethics committees' and 'informed consent procedures,' all borrowed from modern Western bioethics (Ministry of Health 1998:Annex IV/D; Ministry of Health 1999).

The NMEC did not only introduce Western-modelled ethical guidelines and their specific categories, institutions and other ethical technologies. But it also contributed to create a pool of local experts in modern research ethics by employing twelve members to research and decide on ethical issues. Some of them, like Professor of Psychology John Elliott or Professor of Law Terry Kaan, both from the National University of Singapore, would go on to serve, later on, as member of the Bioethics Advisory Committee. The work of the NMEC furthermore participated in giving modern Western bioethics a wider recognition among medical doctors and the wider population. Indeed, under the impulsion of both the NMEC and the Ministry of Health, various initiatives were taken to raise the profile of medical ethics in Singapore. These included, among others: the introduction of courses in medical ethics at the Singapore Medical Association (SMA) and the National University of Singapore for practicing doctors and medical students respectively; the obligation for newly qualified doctors to take a pledge reminding them of their responsibilities and their duty to their patients, to mankind and the profession; the creation of the SMA's 'Medical Ethics Award' for the best annual essay in bioethics; and the publication of articles on medical ethics in *The Straits Times.*

The NMEC's initial introduction of the language, principles, institutions and procedures of ethics governance was consolidated and systematised by the Bioethics Advisory Committee (BAC), which was created in December 2000. As the city-state's first institution solely dedicated to biomedical research ethics, the task of the BAC has been 'to examine the potential ethical, legal and social issues arising from research in the biomedical sciences in Singapore' (Bioethics Advisory Committee 2002b:1). As with the NMEC, the BAC has contributed to the production of local expertise in bioethics and to educate the public about bioethical issues. So, for example, the creation of the BAC in 2000 was followed by: the consolidation of the local pool of experts in bioethics due to the BAC employing twelve experts on the topic; the

[15] The other texts were short recommendations, such as the one forbidding experimental foetal tissue transplantation (except with a special authorisation) and the one banning the creation of human babies through cloning techniques (cf. Ministry of Health 1998:6-12).

organisation of numerous public consultations ran by the BAC about a variety of ethical issues such as human stem cell research or genetic therapy; the organisation by the BAC of Singapore's first international conferences in bioethics; the opening of the Singapore Medical Association's Centre for Medical Ethics & Professionalism in 2001; the opening of Centre for Biomedical Ethics at the National University of Singapore headed by British bio-ethicist Alastair V. Campbell; and an ever increasing number of articles on the subject of bioethics in *The Straits Times.*

Aside from producing local expertise in bioethics and in educating the public about bioethical issues, the BAC's also consolidated and systematised the basic research ethics framework set up by the NMEC through a series of five reports aimed to 'protect human life and the rights and welfare of the individual' (Bioethics Advisory Committee 2002a:i): the reports on the *Ethical, Legal and Social Issues in Human Stem Cell Research* and *Human Tissue Research* (2002a; 2002b); the report on *Research Involving Human Subjects* (2004); the report on *Genetic Testing and Genetic Research* (2005); and the report on *Personal Information in Biomedical Research* (2007a). To start with, these reports revisit and improve the regulatory system protecting human research subjects put in place by the NMEC. So, for example, the BAC's 2004 report on *Research Involving Human Subjects,* modelled on the latest Western research ethics frameworks, further modernises and upgrades the initial work done by the NMEC in its *Ethical Guidelines on Research Involving Human Subjects.* Furthermore, the five reports also go beyond a basic system to protect research subjects and also regulate, following current developments in modern Western bioethics, other more specific ethical issues. It is in this context that, in 2002, the BAC regulated the use of human tissue and cells in biomedical research by publishing its two successive reports on the *Ethical, Legal and Social Issues in Human Stem Cell Research* and on *Human Tissue Research.* This was the first time in post-independence Singapore that the use of human tissue in biomedical research was declared an 'ethical issue' and that an *ad-hoc* regulatory framework purporting to protect the rights and welfare of individuals was proposed.

The Absence of Modern Medical Ethics in Singapore until the 1990s

Unlike the situation in the UK, the development of ethics governance under the successive aegis of the NMEC and the BAC from the late 1990s onwards was not the product of a will to respect human beings and protect them against the dangers of modern medicine. Indeed, modern medical ethics – the matrix from which such a will grew in the UK – was virtually unheard of in the South-East Asian Republic until well into the 1990s, as was the case

elsewhere in Asia (cf. Macer 1992; Morioka 1995; Sakamoto 1999).[16] Modern medical ethics' categories, assumptions, principles, forms of expertise, institutions and practices were conspicuous by their absence (cf. Gwee 1981). There was no reference to 'the rights of the individual' or 'the dignity of the human being.' There was no belief that modern medicine was dangerous or otherwise detrimental to humankind. There was no professional bio-ethicists, nor any bioethical committee responsible for identifying, assessing and solving ethical issues in relation to modern medicine and research. There were no procedure of informed consent for human subjects undergoing medical experimentation. And 'research ethics committees' did not exist on the island (The Straits Times 1992; The Straits Times 1993). In an 1981 article published in the *Singapore Medical Association Newsletter*, A.L. Gwee, the *Singapore Medical Journal*'s first editor, summed up the situation by arguing that:

> 'There has been great upheavals and controversies in medical ethics all over the world in the last twenty years ... [but] Singapore seems to have lived through this period of medical strife in a becalmed state, for there has been no important debates ... in the last twenty years locally within the profession ... [The] major problems in local medicine have to do with medical behaviour of a personal nature like advertisement, fees and malpractice. One may say therefore that the major medical controversies have passed by Singapore' (Gwee 1981:1)

The claim that modern medical ethics was conspicuous by its absence in Singapore necessitates the following two caveats. First of all, the concept of modern research ethics was known to a small circle of medical professionals on the island. Thus, for example, the *Singapore Medical Journal*, regularly contains a few scattered references to the latest developments of research ethics in the West (e.g.: Singapore Medical Journal 1960; Singapore Medical Journal 1974). But, these developments were never thought as directly relevant to Singapore until the 1990s. Second, the city-state has had what is called in the West 'traditional' medical ethics since its colonisation by the British in 1819. Indeed, traditional medical ethics were brought to Singapore by British physicians and surgeons who had come with the administrators, soldiers and merchants who established themselves in the colony from the 1820 onwards (cf. Lee 1978; Tan 1991). At the heart of this traditional system of ethics is the Singapore Medical Association's (which was the Malaya branch of the British Medical Association before independence) 'Ethical Code' which is enforced by the Singapore Medical Council (cf. Singapore Medical Association 1982).

There are certainly many possible reasons for the absence of modern medical ethics in Singapore before the 1990s. But, one which has perhaps had a determining effect is the

[16] Bioethics first emerged in Japan in the late 1980s, early 1990s before spreading progressively to other Asian countries, thanks notably to the work of UNESCO. The creation of the Asian Bioethics Association in 1995 in Japan was a turning point in the development of bioethics in Asia.

important role played by the notion of 'Asian values' in the thinking of Singapore's governing elite until the late 1990s and the incompatibility of these values with some of bioethics' key concepts. The notion of 'Asian values' is the product of the Singaporean leadership's determination to actively combat the spread of 'unwholesome' Western values in Singapore, a determination which has existed since independence (cf. Hill and Lian 1995:Chapter 8; Perry, Kong et al. 1997:Chapter 3; Hill 2000). This determination has to be understood in relation to the governing elite's will to modernise and, more particularly, to its strategies to develop the population to ensure it fits Singapore's modernisation project. In the 1960-70s, as already alluded to in this chapter's second section, the education and nation-building programmes that made up these strategies sought to instil the population with values like respect for hard work, thrift, punctuality, responsibility and patriotism in order to mould it into a disciplined workforce and a strong nation (Chua 1995:Chapter 5; Hill and Lian 1995:Chapter 8; Perry, Kong et al. 1997:Chapter 3).

During the 1980s-90s, partaking in a movement that saw many South-East Asian countries articulate a national identity around the notion of 'Asian values,' Singapore's governing elite further developed these values and construed them as specifically 'Asian' (cf. Chua 1995:Chapter 7; Hill and Lian 1995:Chapter 8; Perry, Kong et al. 1997:Chapter 3; Birch 1998; Hill 2000). Values like hard work, thrift and responsibility were not abandoned but augmented by a series of other values like the primacy of the collective over society or the importance of the family which, it was argued, were specifically Asian and came from traditions such as Confucian Ethics. As it had been done in the 1960s-70s, these new 'Asian values' were inculcated into the population through a series of education and nation-building programmes which included: the introduction of compulsory courses in religious studies; the creation of an Institute of East Asian Philosophies to develop these values; and, in 1991, the establishment of a 'national ideology' composed of a 'set of Shared Values' to which all Singaporeans should 'subscribe and live by' (cf. Government of Singapore 1991).

Aside from instilling a certain set of desirable values, these different education and nation-building programmes also sought to halt the spread in the island of undesirable values which, according to the Singapore leadership, had originated in the West and posed a threat to Singapore's modernisation project. In the 1960-70s, these undesirable Western values ranged from 1960s student radicalism to anti-establishment attitudes and were symbolised, in the eyes of Singapore's governing elite, by 'the long-haired hippies with patched-up jeans and patched up souls' (Hill and Lian 1995:188). The following extract from Goh Keng Swee's 1976 lecture on 'The Pitfalls of Western Intellectual Radicalism' provides a good illustration:

> 'Our citizens have been assailed by many new and strange ideas and practices. There is the hippie cult, the cult of permissiveness, student radicalism, ideologies of the welfare state and anti-establishment and anti-multinational company attitudes, to name a few. We have had to combat these ideas and practices because we believe that they are irrelevant to our situation and in some cases would be harmful to our interests' (Goh 1977:164)

With the development of its 'Asian values' rhetoric during the 1980s-1990s, the Singaporean leadership slightly redefined the Western values it judged to be undesirable. It notably re-focused its attacks on the notion of individualism which was judged to carry excessive importance in the West and concentrated its forces in combating American and European concepts of human rights which it saw as the symbol of this excess (cf. Perry, Kong et al. 1997:Chapter 3; George 2000:Chapter 3; Hill 2000; Thompson 2001; Chong 2004). It was only after the 1997-1999 Asian Financial Crisis that Singapore (together with many other Asian countries) abandoned its 'Asian values' rhetoric.

In contrast to its overt and systematic opposition to human rights, the Singapore government never explicitly judged modern medical ethics to be incompatible with 'Asian values' and therefore to constitute a Western value whose diffusion in Singapore was undesirable. Nevertheless, there are a couple of reasons to believe that Singapore's 'Asian values' rhetoric did present an obstacle to the development of bioethics in the Republic. First, bioethics' Western origins together close relationship to both 1960s student radicalism (cf. Toulmin 1988; Rothman 1990) and human rights discourses (e.g. Council of Europe 1997; UNESCO 2005) seem amply sufficient to qualify as an undesirable Western value. Second, as some scholars have argued, there are major incompatibilities between Asian values and some of bioethics' key concepts which would present an important obstacle to its adoption by a country championing Asian values (cf. Sakamoto 1999; Chan and Goh 2000; Hattori 2002; Yu 2002; Holden and Demeritt 2008). In particular, the primacy of the community and the family over the individual which is a cornerstone of Singapore's Asian values is incompatible with bioethics' emphasis on personal autonomy.

It is also noteworthy that the emergence of bioethics in Singapore in the late 1990s coincides temporally with the country's abandonment of the Asian values rhetoric. It would be wrong to interpret both events as signs of a will of Singapore's governing elite to democratise and liberalise the country. Indeed, as scholars have demonstrated, Singapore's abandonment of the Asian values rhetoric in the late 1990s did not at all result in the democratisation of Singapore's political structures or its adoption of human rights (cf. Tan 2001; Lee 2005; Chua 2005a; Chua 2005b; Rodan 2006). Nor did Singapore's abandonment of the Asian values rhetoric stop its

government from continuing to imbue its population with values such as the primacy of society over the individual or the importance of the family, as it did, for example, in its latest nation-building programme: *Singapore 21: Together, We Make the Difference* (cf. Government of Singapore 1999). But, the abandonment of the Asian values rhetoric certainly removed a series of potentially glaring contradictions that would have existed if the Singapore government had promoted bioethics and Asian values at the same time.

Ethics Governance as 'Soft Infrastructure'

Given the absence of modern medical ethics in Singapore until the mid-1990s, the development of ethics governance in the Republic could not be the product of a will to protect human beings as it was in the UK. Instead, the development of bioethical logic in Singapore was the product of the will relentlessly to modernise the country that has informed the Singaporean leadership since the early 1960s. This is demonstrated by the way the Republic's leaders have consistently seen ethics governance as a key element of the (soft) infrastructure that Singapore needs to build in order become a world-class hub for the life sciences. For them, bioethical governance is on a par with the setting up of an IP system, the creation of a culture of innovation or the construction of laboratories equipped with the latest equipment; all these elements of infrastructure are, for them, necessary steps in the constant modernisation of Singapore.

A good illustration of this way of thinking is an article published in the *Singapore Medical Journal* in 1999 in which the chairman of the governmental committee responsible to oversee clinical trials conducted in Singapore explains the aim and importance of the NMEC's recently adopted *Singapore Guideline for Good Clinical Practice*. For him, the ethical framework put in place by the *Guideline* is necessary 'to strengthen [Singapore's] infrastructure and build an [ethical] culture for clinical trials' in order for 'Singapore to function as a regional hub in Asia' where foreign 'pharmaceutical companies [are willing to] invest' (Woo 1999:7). Another example, is the ministerial speech announcing the creation of the BAC in December 2000. Not insignificantly, the speech was given by Trade and Industry Minister George Yeo at a ceremony held by Shering-Plough for the launch of its new manufacturing plant for blockbuster drug Claritin – itself an important success for the government's plans to turn the Island into a biomedical hub. In this speech, Yeo proceeded, after having duly welcomed Shering-Plough's investments in the island, to remind the audience of the Republic's aim to promote biomedical research and how it intends to do it:

'Singapore is committed to the long-term development of the Life Sciences as an important pillar of Singapore's economy in the coming decades ... [and] we are putting in place the major building blocks needed for the development of the Life Sciences industry' (Yeo 2000:2-3).

Many of these 'major building blocks' were well-known and had been developed from 1986 onwards. Yeo listed them as follows:

'[1] build[ing] up a technology and research infrastructure; ... [2] the availability of venture capital; ... [3] re-orientate the entire education system [so as to] nurture local talent; ... [and 4] attract large numbers of foreign talents' (Yeo 2000:2-3).

But, for the first time, Yeo added a new element to this list: 'we must [now also] put in place an ethical framework to guide research' (ibid. p.2). For Yeo, ethics governance had become one of the 'major building blocks' whose establishment was necessary to transform Singapore into a world-class hub in the life sciences. While this understanding was repeated numerous times after that, the most telling confirmation of this very particular understanding of research ethics is to be found in Singapore's latest science and technology plan. The latter lists the Bioethics Advisory Committee and the ethical regulations for research it has put in place as a 'soft infrastructure' or a part Singapore's 'world-class research infrastructure' which should transform the island into a world-class hub for the biomedical sciences:

'World-Class Research Infrastructure. Singapore has made significant progress in creating an attractive environment with high quality facilities to support research and technology activities ... that will make easy for foreign companies to locate R&D operations in Singapore. With good infrastructure support, Singapore hopes to ... position itself as the R&D gateway to Asia, through which companies can access the attractive markets in the region. [Singapore's research infrastructure comprises:] A. The physical infrastructure: [1.] Biopolis, the centre of biomedical research in Singapore ... with its scientific equipment ... ; [2.] the Singapore Tissue Network, the national tissue and DNA repository ... B. The soft infrastructure: [1.] the Bioethics Advisory Committee ...; [2.] the National Advisory Committee for Laboratory Animal Research ...' (Ministry of Trade and Industry 2006:52-55).

Ethics Governance as Mechanism to Produce International Credibility

The reason why Singapore's leaders understood ethics governance as a necessary piece of its 'world-class research infrastructure' is because they identified ethics governance as a mechanism to ensure the 'credibility' or 'good reputation' of Singapore's research base (Woo 1999:7; Bioethics Advisory Committee 2004:3; Elliott 2007; Lim 2007).[17] Since it started promoting biomedical research in the mid-1980s, Singapore's aim was to be, in the not too distant future, one of the best centres for the life sciences worldwide. This, of course, meant

[17] Power (2007) makes a similar point in relation to corporate ethics, arguing that private corporations have embraced voluntary systems of ethics governance to improve their 'reputation' among the public.

avoiding being labelled as a 'new wild east' (Elliott 2007) or a 'renegade jurisdiction' (Lim cited in Ong 2001) where scientists and companies of little repute and reliability would come and undertake unethical research of substandard quality. Adopting and implementing a modern research ethics framework was deemed to be the best remedy against such a label. Professor Lim Pin, Chairman of the BAC and former deputy chairman of the EDB, was explicit about that:

> 'It became clear [in the late 1990s] that in order to be successful, we needed to have a good reputation. We needed credibility and therefore had to have an ethical framework for research. ... One fear for young developing countries wanting to succeed [like Singapore] is that in order to succeed they will do anything, including research deemed unethical elsewhere, and thus become identified as a [second-class] country ... We want to avoid that. We want to be internationally competitive. We want to be equal and ethics is a critical part in achieving this. It is essential' (Lim 2007).

In other words, ethics governance was understood as a mechanism which would guarantee the good reputation of Singapore's research base and thereby participate in establishing the island as a world-class hub for the life sciences. As the BAC declared while articulating its own mission:

> 'We hope that in establishing clear and transparent [ethical] rules, standards and procedures, the reputation of Singapore as a global centre of excellence in biomedical research will be upheld and strengthened' (Bioethics Advisory Committee 2004:3).

The Ministry for Health and Transport, Dr. Balaji Sadasivan, made a similar point in his presentation of the BAC's guidelines to the Annual Diner of the SMA:

> 'The [ethical] framework for licensing, controlling and monitoring of biomedical research activities ... would strengthen our international reputation and standing as a research centre' (Sadasivan 2003:3).

The aim was not to render Singapore's biomedical research credible to its own population. Indeed, unlike the UK, there had been no scandals or public outcries related to medical research like those exposed by Pappworth or those at Bristol or Alder Hey in Singapore (Tan 2007). There was actually so little interest in the topic among the population that many of the BAC's scheduled dialogue sessions with the public had to be cancelled (Toh 2007). Rather, the aim of ethics governance was, in the eyes of the Singaporean leadership, to give Singapore's biomedical hub a good reputation in relation to an international audience. In conformity with the city-state's export-oriented economic model, this audience was composed by all those that were deemed necessary to create a thriving biomedical industry in Singapore. These were, first of all, foreign multinational biotechnological and pharmaceutical companies, for which an

ethical framework for research was deemed to be an advantage (Pereira 2006; Sunder Rajan 2007). This was a fact well understood by those in charge in the Singaporean government. Thus, for example, while discussing the *Singapore Guideline for Good Clinical Practice*, the chairman of Singapore's council overseeing clinical trials argued that an ethical framework for research conferred the city-state 'an international reputation' which would bring about 'giant pharmaceuticals [to] invest in Singapore,' thereby allowing the latter 'to capture the global market' (Woo 1999:7). Talented overseas researchers were the other, important part of the targeted audience. Indeed, it was assumed by those in charge in the Singaporean government that no gifted foreign scientist would want to risk his or her career by being associated with a country of low repute (Elliott 2007; cf. also Pereira 2006:112).

Singapore's fear of and wish to avoid being labelled a 'new wild east' is related to existing discourses which have denounced and tried to expose the 'outsourcing' of ethically dubious biomedical research from Europe and the USA to countries with more 'liberal attitudes' in these matters (cf. Petryna 2005a; Petryna 2005b; Petryna 2006). Although Singapore has not been the primary target of these discourses, the city-state has also received its share of negative publicity. Articles have appeared in major Western media outlets as well as in academic journals condemning Singapore as 'too liberal' in terms of research ethics. These included among others: 'Biomedical Science: a Liberal Regime,' published in the *Far Eastern Economic Review* (2003); 'Singapore Sweetens the Pills,' published in *The Guardian* (2004); 'A Candy Store for Scientists,' published in the *Los Angeles Times* (2004); 'Asia is Stem Cell Central,' published in *Businessweek* (2005); and 'Singapore Acts as Haven for Stem Cell Research,' published in *The New York Times* (2006). As their titles often give away, the critique in these articles is that the city-state lacks adequate modern bioethical regulations or, when the existence of guidelines is acknowledged, that these solely serve as a cover-up and that any type of research is therefore possible in Singapore (Pereira 2006:112). The Singaporean leadership has always been keen to dismiss this critique, setting up a modern research ethics framework, constantly improving it and insisting that it is no smokescreen.

The way Singapore handled the case of Professor Shovron in 2003 is illustrative of these efforts. Shovron, a prominent British scientist lured to Singapore in 2000 and installed as director of its National Neuroscience, was accused by patients of wrongdoings in late 2002, notably taking blood samples without proper consent. Singapore's reaction was swift. First of all, Shovron was sacked after an investigation conducted by the Singapore Medical Council judged him culpable of the wrongdoings he had been accused of. Furthermore, the rules relative to research committees were tightened up with the publication of the BAC's *Research*

Involving Human Subjects – Guidelines for IRBs in 2004. Finally, government agencies in tandem with the state-controlled media issued a series of statements condemning Shovron as a 'cowboy' and arguing that the fact that the issue had been dealt with 'swiftly and decisively' illustrated 'the ability of the relevant authorities ... to identify shortcomings and further strengthen the regulatory process' (Chang 2003). As Professor Lim Pin argued, Shovron was one of these 'people trying to do things here [in Singapore] that they know they will not be able to do in their own home country' (cited in Chang 2003). One 'cannot get away with [such] shortcuts in Singapore,' he continued, '[because] we are very protective and jealous about our reputation' (cited in Enserink 2003:233)

Importing Bioethical Governance from the West

Given that, for Singapore, the aim of having a bioethical *dispositif* was to promote its credibility and reputation among an international audience, the categories, principles, expertise, institutions and procedures that made up this *dispositif* had to conform to globally recognized standards as like the rest of Singapore's infrastructure from laboratories to airports and IP law systems. This was explicitly stated by the Singaporean government. For example, in his speech announcing the creation of the BAC, Yeo argued that Singapore 'must have ethical standards for research which stand up to international scrutiny' (2000). Similarly, the BAC argued in its reports that:

> '[We have to] ensure the harmonisation of our laws with accepted international best practice ... [from] the leading jurisdictions around the world' (Bioethics Advisory Committee 2002b:2-3);
>
> 'The harmonisation of our national ethics governance framework with that of leading research jurisdictions is of national strategic importance' (Bioethics Advisory Committee 2004:29).

In other words, Singapore had to import a whole system of ethical values – ethics governance and the matrix in which it had developed, modern Western bioethics – from Europe and North America. Indeed, the internationally recognised ethical frameworks that Singapore sought to emulate were those that had been developed in 'scientifically advanced countries' like the USA or the UK (Bioethics Advisory Committee 2007a:9; cf. for example: Ministry of Health 1998:Annex IV/D; Bioethics Advisory Committee 2002a:14-20). Of course, there was room, within this process of import, for minor modifications or refinements. In relation to the ethical regulation of stem cell, for example, the BAC recommended the adoption of the UK ethical framework 'subject to modifications as necessary for Singapore as well as refinements

found in regulatory systems in other countries' (2002a:32; cf. also: Elliott 2007; Lim 2007).[18] But, these minor modifications and refinements aside, the task for Singapore was to import a whole system of ethical values from the West. This was in stark contrast to Singapore's promotion of Asian values and its opposition to undesirable Western norms like human rights that has informed the country's policies since independence.

Importing a whole system of ethical values meant, first of all, that Singapore had to address all the 'ethical issues' deemed of importance to this international audience. To do so, Singapore had to monitor existing international recognised ethical *dispositifs* around the world and make sure that its own *dispositif* was up to date. It is therefore no surprise that the list of topics tackled by both the NMEC and the BAC – research on human beings; clinical trials; cloning; genetic testing; etc. – is a carbon copy of the catalogue of issues addressed by bioethical commissions in other developed countries and by international organisations like UNESCO. Research using human tissue was one of these issues that Singapore had to address to ensure its bioethical dispositif was up-to-date. Indeed, human research tissue, including stem cell research, was an important topic debated in many developed countries at the start of the twenty-first millennium and Singapore's survey of the development of bioethics worldwide could not have failed to register this. It was therefore only a matter of when, not if, the BAC would address the medical and scientific use of human tissue. As a matter of fact, it did so rather rapidly, addressing the issue in its two first reports (2002a; 2002b).

Not only did Singapore have to address all problems of ethics deemed to be of importance to an international audience of pharmaceutical companies and medical researchers. It also had to do so using the language, principles, forms of expertise, procedures and technologies that were used in internationally recognised bioethical *dispositifs* and with which the international audience which Singapore targeted was familiar with. It is therefore unsurprising that the BAC described 'human tissue banking and human tissue research' as well as 'stem cell research' as presenting a series of 'ethical, social and legal issues' that had to be investigated by experts in bioethics organised in a bioethical committee like the BAC (2002a:i; 2002b:i). It is also therefore to be expected that human tissue research was described by the BAC as an activity fraught with dangers against which 'all human beings' had to be protected in the name of 'respect for human life' and 'respect for the human body' itself (2002a:i; 2002b:35; 2004:24-27). Similarly, it is unsurprising that the BAC would suggest, in order to solve these ethical issues, the adoption of 'an ethical and legal regulation' that would 'provide a firm foundation for the proper and

[18] To this day, the BAC has never suggested any such 'modifications' or 'refinements.' But, as discussed in chapter 6 in relation to informed consent, one can of course find some minor differences in practice between the Singaporean system of ethics governance and those of 'scientifically advanced countries.'

ethical governance of human tissue research in Singapore' (2002b:8). Likewise it is to be expected that Singapore's ethical framework would feature the principle of informed consent and institutional review boards (cf. 2002a; 2002b; 2004). In short, given Singapore's understanding of ethics governance as a mechanism to guarantee its good reputation to an international audience, it is unsurprising that the Republic's bioethical *dispositif* is, as described in detail in the first section of this chapter, so strikingly similar to the one in place in the UK.

To import this Western system of ethical values, the Singaporean government did two things. First, it surveyed, monitored and adopted the ethical standards put forward by key developed countries and recognised international organisations. In the words of George Yeo, Singapore has to 'monitor closely' and take up 'the ethical standards adopted by leading Life Sciences research centres in the world' (2000). This pattern of review and reproduction is discernible in both the work of the NMEC and the BAC. So, for example, the NMEC 1997 *Ethical Guidelines on Research Involving Human Subjects* followed very closely the corresponding regulation in place in Canada and the UK, notably the Royal College of Physicians' (1990a) *Guidelines on the Practice of Ethics Committees in Medical Research Involving Human Subjects* (Ministry of Health 1998; Tan 2007). Similarly, the BAC modelled itself and its reports on comparable organisations and reports published by recognised international organisation (UNESCO; WHO) or key Western countries (USA; UK; Australia; Sweden; Japan). Interestingly, the most influential reports surveyed by the BAC to set up its bioethical *dispositif* were the ones from the UK. In relation to stem cells, for example, a domain where the BAC (2002a:32) explicitly adopted 'the UK model' as its 'basis model,' the BAC's recommendations were strongly influenced by the following UK reports: the 1984 Report of the Committee of Inquiry in Human Fertilisation and Embryology chaired by Mary Warnock; the 1989 report of the Polkinghorne Committee on Research Use of Fetuses and Fetal Material; and the Nuffield Council on Bioethics' 2000 report on *Stem Cell Therapy: the Ethical Issues* (cf. Bioethics Advisory Committee 2002a:Chapter 6). Similarly, in relation to other human tissues, the BAC's recommendations explicitly followed those set out by the UK Medical Research Council in its 2001 *Operational and Ethical Guidelines* on *Human Tissue and Biological Samples for Use in Research* (cf. Bioethics Advisory Committee 2002b:21-22, 29 & 33).

Second, as already mentioned, Singapore also hired and consulted numerous international experts in bioethics. So, for example, the Bioethics Advisory Council has an 'International Panel of Experts' manned with four experts from Canada, the USA and the UK and whose function is, among others, to 'align Singapore with international best practice' (Bioethics Advisory Committee 2007). These four experts are: Professor Martin Bobrow, a British

geneticist and member of the UK's Nuffield Council on Bioethics; Professor Barbara Knoppers, a Canadian medical law and ethics specialist and member of UNESCO's International Bioethics Committee; Dr. Thomas Murray, President of the New York-based Hastings Centre and one of the first bioethics research centres; and Professor Bernard Lo, Director of the Program in Medical Ethics at the University of California, Los Angeles. A further foreign bioethical expert hired by Singapore was British bioethics pioneer A.V. Campbell who was became director of NUS' Centre for Biomedical Ethics and member of the BAC.

Conclusion

This chapter started by showing how influential ethics governance has become in thinking about, problematising and administrating the medical use of the human body in Singapore today. It did so by giving an account of the increasing number from 2000 onwards of: articles on the topic in Singapore's main daily, *The Straits Times*; statements from government officials and international ethics experts on the rise of bioethics in the South-East Asian Republic; scholarly articles authored by lawyers, doctors, philosophers and others on the issue; and reports and guidelines relative to the ethics of the medical use of human tissue. From there, the chapter went on to examine some key concepts, forms of expertise, procedures, institutions and subjectivities that characterise the Singaporean version of bioethical governance. It showed, in particular, how strikingly similar this version is from the one in place in the United Kingdom.

This discussion provided the basis to look backwards and explore the conceptual, material and political conditions that have made it possible for ethics governance to become predominant in Singapore from the 2000s onwards. Put differently, the chapter went on to explore some of the beliefs, values, forms of expertise, institutions, principles and technologies that have made it possible, today, to conceptualise the medical use of human tissue as creating a series of 'ethical, legal and social issues' necessitating 'ethical and legal guidelines.' The chapter argued that although Singapore's bioethical dispositif is almost identical to the one in place in the UK, their conditions of possibility are very different. In particular, it showed that the will to respect human being and protect them against the dangers of modern medicine that has been increasingly prevalent in the UK from the 1960s onwards did not play any significant role in Singapore until the turn of the century. Indeed, as the chapter further showed, modern medical ethics (the matrix from which this will to respect human beings grew out in the UK) was

virtually unheard of in the South East Asian Republic until well into the 1990s. Instead of being the product of a will to respect human beings like in the UK, the chapter argued that development of ethics governance in Singapore is the result of a will to relentlessly modernise the City-State that has characterised the thinking of the Singaporean leadership ever since independence in 1959.

To demonstrate this argument, the chapter first described this will to modernise to ceaselessly modernise the country when it was first articulated in the ten years or so that followed independence. It showed, in particular, that this will to modernise comprised: a notion of modernity understood as primarily economic or industrial; an understanding that its was for the government to make this modernity happen by attracting foreign multinational industries; and the belief that in order to attract these industries, the government had notably to build a world-class industrial infrastructure. Then the chapter explained how this will to modernise has informed and driven Singapore's attempt to turn the city-state into a world-class hub for the life sciences from 1985 onwards. It notably showed how biomedical research became conceptualised as the engine of economic development replacing low-added value industry. It also showed how the meaning of infrastructure was transformed from the elements necessary to support industrialisation to the physical and intellectual components to enable the emergence of a knowledge-based economy. Finally, the chapter explained how ethics governance was developed as one element of this infrastructure, alongside the construction of Biopolis and the set up of a modern IP system. It also showed how this understanding of ethics as a key element of Singapore's infrastructure for its biomedical economy rests on the assumption that ethics governance is vital in guaranteeing one's international reputation. This link between ethics and reputation elucidate in turn the strange similarity between the British and Singaporean bioethical *dispositifs*. Indeed, to reassure an international audience, Singapore had to use the same language, expertise, institutions and procedures that are internationally recognised as standard.

Chapter 6

A Human Being Graced with a Capacity to Reflect and Decide – Devising a New Figure of the Citizen

Chapters 4 and 5 analysed the different conceptual, material and political conditions that make it possible to conceptualise the medical use of human tissues as an ethical problem in both the United Kingdom and Singapore today. The present chapter builds on these insights and explores how the different principles, forms of expertise, institutions and procedures that make up bioethical governance reconfigure the ways in which we understand ourselves and others as subjects and citizens. In other words, it examines how the different grids of intelligibility, technologies and authorities that comprise the bioethics *dispositif* are overflowing and transforming our modes of being. In order to do so, this chapter focuses on a key element of bioethical governance: the principle of informed consent and the numerous strategies, procedures and ethical technologies of government devised to operationalise it.

Before exploring how bioethical governance and, more particularly informed consent, reconfigure modern subjectivities and forms of citizenship, the chapter offers an introductory account of the concept of informed consent. Significantly, it situates this concept within bioethical governance, explaining how it is both an ethical principle and a series of ethical technologies that seeks to ensure that human beings are respected and protected from the dangers relative to the collection and medical use of human tissue. It also shows that informed consent has become a cornerstone of ethics governance. One sign of the importance that informed consent has gained within bioethical governance today is the ever increasing number of texts that recommend its application, explain its importance and functioning and/or discuss the ways in which it should be operationalised.

Having given a description of the principle of informed consent and its key role within bioethical governance, this chapter analyses the ways in which the principle of informed consent and the ethical technologies through which it is operationalised reconfigure modern subjectivities and forms of citizenship. Taking its cue from Hacking's (2002) essay 'Making Up People' and Rose's (1996c; 1999b) analysis of the psy-sciences, the chapter argues that informed consent is articulated around a particular figure of the subject whose reality it

presupposes and which, at the same time, it helps to bring into existence. This figure of the subject is that of the human being capable of reflecting and deciding on his or her own existence and body. On the one hand, this figure of the human being is, according to the literature on informed consent, how people already are in reality. In other words, this particular concept of the subject is, according to this literature, a natural given that has to be protected against the dangers of modern medical science through the principle of informed consent and the different techniques that operationalise it. On the other hand, the descriptions of this figure of a human being able to reflect and decide that one finds in the literature on informed consent participate in the construction of this particular subject by creating a sphere of possibilities for people to think and interact accordingly. The construction of this subject is further reinforced by the ethical technologies through which the bioethical literature operationalises the principle of informed consent. Indeed, these technologies expand and consolidate the sphere of possibilities to act as a human being capable to reflect and decide by ensuring that this concept of the subject can be enacted and is respected in the rapports between researchers and research subjects.

To substantiate this argument, this chapter examines, first of all, the way the literature on informed consent portrays the human being as 'a person' who is 'able to think, act and communicate.' More specifically, it describes how these texts conceive this person and his or her particular capacity: its different dimensions; its development and possible loss; and the methods to assess its presence or absence. Second, this chapter also examines how these same texts portray informed consent as a means to transform the relationship between the medical researcher and the research subject ('the doctor-patient relationship') so as to enable the latter to be a person that thinks and acts about his or her life and body. It shows in particular how the literature on informed consent seeks to eliminate the paternalistic ethos around which this relationship was articulated and which negated the 'patient as person.' It also shows how this literature aims to rebuild the rapport between doctor and patient as a 'process of communication' where the patient is given time, space and resources to think and decide.

The argument made in this chapter has to be qualified in two respects. Firstly, the figure of the human being capable to reflect and decide on his or her own existence is not a recent concept, nor is it particular to bioethical governance. Indeed, scholars have showed that this understanding of the person has a long genealogy in the West and has been both assumed by and brought into existence through a wide set of practices such as marriage, ownership and autobiographical writing (e.g. MacFarlane 1978; Carrithers, Collins et al. 1985; Taylor 1989; Mascuch 1997). By being articulated around this same figure of the subject, informed consent

and, more generally, bioethical governance partake in and further strengthen these pre-existent and widespread cultural assumptions about personhood. Secondly, while the bioethical literature on informed consent certainly creates a sphere of possibilities in which people can act as human beings able to reflect and decide, this does not mean that people will effectively do so in reality. On the contrary and as medical ethnographers have extensively documented (e.g.: Corrigan 2003; Busby 2004; Geissler 2005; Hoeyer 2007), people often do not conform to the descriptions of human beings and human actions found in the bioethical literature on informed consent.

As discussed in chapter 5, the consequence of Singapore's understanding of bioethical governance as a mechanism to produce international credibility is that the Republic's system of ethics governance is very similar to the one in place to the United Kingdom. This resemblance extends to the way the principle of informed consent is defined and operationalised in both countries. For a long time, informed consent, because of its emphasis on the individual or the person, was seen as antithetical to Singapore's authoritarian political culture and to its rhetoric on Asian values which held both the community and family over the individual (cf. Yu 2002; Holden and Demeritt 2008). But, with the adoption of bioethical governance from the late 1990s onwards, informed consent has been taken on and implemented by the Singaporean government (e.g.: Ministry of Health 1998:Annex IV/D, Paragraph 2.5; Bioethics Advisory Committee 2002b:23-29; Bioethics Advisory Committee 2004:27; Bioethics Advisory Committee 2007a:23-37). This is the case, even though the government has warned, through the Bioethics Advisory Committee, that 'the value of free choice' which underpins informed consent 'does not supersede all other values in [Singaporean] society' (2007a:26). As with most of bioethical governance's other rules, institutions and procedures, the notion of informed consent that Singapore has adopted and implemented is very similar to the one existing in the UK. Given this similarity, this chapter explores the ways in which informed consent reconfigures modern subjectivities and citizenship in the UK and Singapore at the same time, drawing its examples from both countries. Where there are marked and relevant differences, these are noted and explained.

Informed Consent and its Importance within Bioethical Governance

Informed consent, as it has already been alluded to in chapters 4 and 5, plays an important part within bioethical governance in both the United Kingdom and Singapore. To start with, it is one of the principles found in the different ethical codes that regulate the use of human tissue

in medical research in the two countries. For example, Singapore's Bioethics Advisory Committee listed 'informed consent' as one of the 'governing ethical principles' guiding the conduct of research with human tissue (2002b:33-34). Likewise, the Royal College of Physicians' *Guidelines on the Practice of Ethics Committees* identifies 'consent' as a 'fundamental principle' for the 'storage and use of human bodies, body parts, organs and tissues' for medical research (Royal College of Physicians 2007:52; cf. also chapters 5 & 7). There are countless other similar examples (e.g.: Nuffield Council on Bioethics 1995:Chapter 6; Ministry of Health 1998:Annex IV/D; Medical Research Council 2001a:Chapter 6; Human Tissue Authority 2006a; Human Fertilisation and Embryology Authority 2007:Paragraph S.8).

As an ethical principle, informed consent requires scientists wanting to collect and use human body parts in medical research to inform the potential donors about why they want to do that and how they will proceed. Furthermore, it also requires them, after having adequately informed the potential donors, to obtain their permission before collecting and using their body parts. For example, Singapore's Bioethics Advisory Committee lays down that researchers working with human tissue 'have an obligation to ensure that valid and appropriate consent to the donation [of the tissue] is obtained' (2002b:23). A valid and appropriate consent means, first of all, that the consent is 'informed,' i.e. that 'sufficient information on choices and potential consequences' is given to the potential donor (ibid.). Furthermore, it means that consent should be 'free,' i.e. that it is the product of the 'unfettered voluntary exercise of free will' (ibid.). Similarly, the British Human Fertilisation and Embryology Authority sets out that all people donating their reproductive tissues for research have to be 'provided with adequate information including details of all the risks' by the scientists planning the research (2006:6). Furthermore, these people have to 'be free from coercion, pressure or manipulation' when deciding whether or not to donate their reproductive tissues to research (ibid.).

Informed consent is not just an abstract principle; it is also made up of numerous types of ethical technologies that have been set up, in both the UK and Singapore, to realise the principle in practice. There are, first of all, what I have termed guidance mechanisms: detailed directives and other practical guidance addressed to either researchers or potential donors to help them transform the principle of informed consent into everyday practice. These include: guides for researchers to assess whether potential donors have the capacity to consent (e.g. British Medical Association and The Law Society 2004); directives for researchers about who and how one should obtain consent (e.g.: General Medical Council 1998; Ministry of Health 1998:Annex IV/D; Royal College of Pathologists 2001; Medical Research Council 2001a:Chapter 6; National Cancer Centre 2002:Paragraph B.3; NUS Institutional Review

Board 2005b; Human Tissue Authority 2006a; Human Fertilisation and Embryology Authority 2007:Paragraph S.8; Medical Research Council 2007; Royal College of Pathologists 2007:Chapter 5); and directives for potential donors about how one should be treated by researchers (e.g.: Department of Health 2001d; Consumers for Ethics in Research 2003a; Consumers for Ethics in Research 2003b).

Secondly, there are what I have called assistance mechanisms: devices that assist researchers to realise a particular action required by the principle of informed consent. These include patient information sheets that help researchers give the necessary information to potential donors (e.g.: Ministry of Health 1998:Annex IV/D; NUS Institutional Review Board 2005b; Human Tissue Authority 2006a:19; Royal College of Pathologists 2007:41-42) and the use of translators when the potential donor does not speak the same language as the researcher (e.g.: Medical Research Council 2001a:17; Human Tissue Authority 2006a:17; Royal College of Pathologists 2007:42-43). Thirdly, there are what I have termed monitoring mechanisms: devices that control that researchers are effectively abiding by the principle of informed consent. These include: institutional forms like research ethics committees or regulatory agencies (e.g.: Human Fertilisation and Embryology Authority; Human Tissue Authority), which have to ensure through licensing procedures and inspections that researchers using human tissue fulfil consent requirements (cf. Ministry of Health 1998:Annex IV/D; Bioethics Advisory Committee 2004; Human Tissue Authority 2006a; Human Fertilisation and Embryology Authority 2007; Royal College of Physicians 2007); and record-keeping systems like written consent forms that can document that consent requirements have been fulfilled (e.g.: Ministry of Health 1998:Annex IV/D; NUS Institutional Review Board 2005b; Human Tissue Authority 2006a:20-21).

As the other ethical principles and technologies that make up bioethical governance in both the UK and Singapore, informed consent is understood as a way to solve some of the ethical issues that arise from the collection and medical use of human tissue. It is, in other words, a way to ensure that human beings are respected and protected against the dangers linked to the use of the human body in medical research. For example, Singapore's Bioethics Advisory Committee argued that 'the fundamental objective of a system of ethics governance,' which includes 'free and informed consent' as one of its 'core principles,' is to 'promote respect for all human beings and protect their health and rights' (2004:24-26). Similarly, the London-based Nuffield Council on Bioethics argued that 'consent of those from whom tissue is taken' is an 'important consideration' in ensuring 'respect for the human body and respect for human dignity' (1995:40). More succinctly, the United Kingdom's Royal College of Physicians

explained that 'the principle of consent is based upon a doctrine of respect for persons' (2007:39).

As it has been widely argued, informed consent is a key constituent of ethics governance, both in the United Kingdom and in Singapore, but also elsewhere. First, as alluded to in chapter 2, the key role played by informed consent has been widely acknowledged and criticised by social scientists working on bioethics and the ethical governance of the life sciences (e.g.: Wolpe 1998; Scheper-Hughes 2001b; Corrigan 2003; Jasanoff 2005:Chapter 7; Sunder Rajan 2006; Salter and Salter 2007). Second, the importance is also explicitly recognised by experts in bioethics in both the United Kingdom and Singapore. For example, in his *Foreword* to a book on *Informed Consent in Medical Research*, Richard Smith, the then editor of the *British Medical Journal*, argued that 'with every day that goes by the issue of informed consent becomes more central' (2001:xi). Similarly, the philosophers, lawyers and doctors who compose Singapore's Bioethics Advisory Committee and who drafted its report on *Human Tissue Research* argued that 'free and informed consent is the cornerstone of the legal and ethical legitimacy and validity of a gift of human tissue intended for research' (Bioethics Advisory Committee 2002b:23). Likewise, the House of Lords, in its report on *Stem Cell Research* argued that 'informed consent is especially important in all research on tissues of human origin' (2002:Paragraph 8.21). There are plenty of other similar examples (e.g.: Faulder 1985:2; O'Neill 2002:2; O'Neill and Manson 2007:1-2) and the fact was further confirmed to me in interviews by many experts in the field (e.g.: Campbell 2007; Elliott 2007; Knoppers 2007).

The importance of informed consent within bioethical governance is furthermore underlined by the ever increasing number of texts in both the UK and Singapore that discuss the notion, arguing its importance, recommending its application and/or explaining its functioning and how it can be operationalised. These texts include, first of all, reports of bioethics committees or other similar bodies that discuss the importance of informed consent in medical research in general or in relation to the collection and medical use of bodily tissues in particular. Examples are numerous: the Mary Warnock *Report on Human Fertilisation and Embryology* (1985 [1984]:16 & 66-67); the Institute of Medical Ethics' report on *Medical Research with Children* (Nicholson 1986:216-223); the Royal College of Surgeons' reports on *Research on Healthy Volunteers* (1986:11-12) and on *Research Involving Patients* (1990b:15-29); the John Polkinghorne *Report on the Research Use of Fetuses and Fetal Material* (1989:Chapter 6); the Nuffield Council on Bioethics' reports on *Human Tissue: Ethical and Legal Issues* (1995:Chapter 6) and *Stem Cell Therapy: the Ethical Issues* (2000b:9-10); the National Medical Ethics Committee's *Ethical Guidelines involving Human Subjects* (Ministry of Health 1998:Annex IV/D); the report of the Bristol Royal

Infirmary Inquiry (2001:Chapter 23); the report of the Royal Liverpool Children's Inquiry (2001:Chapter 11); the reports of Singapore's Bioethics Advisory Committee on the *Ethical, Social and Legal Issues in Stem Cell Research* (2002a:22-23, 30 & 33-34), *Human Tissue Research* (2002b:23-29) and *Research Involving Human Subjects* (2004:24-27 & 39-40); the United Kingdom's Department of Health's report on *Human Bodies, Human Choices* (2002:Section 6); and the House of Lords' report on *Stem Cell Research* (2002:Paragraph 8.21).

Aside from these reports there is also a series of scholarly books and articles on the topic of informed consent in relation to either medical research or, more specifically, human tissue research written by philosophers, doctors and lawyers. These include, among many others: the section on 'The Principle of Valid Consent' in Maurice Pappworth's (1969 [1967]:231-235) *Human Guinea Pigs*; G.R. Dunstan and Mary J. Seller's (1983) *Consent in Medicine*; Carolyn Faulder's (1985) *Whose Body is It? The Troubling Issue of Informed Consent*; Ranaan Gillon's (1985j) *Consent*; the chapter on 'Respect for Persons' in John Harris' (1985:Chapter 10) *The Value of Life*; Stella R. Quah's (1989) *The Patient's Right to Know*; Mary Warnock's (1998) *Informed Consent – A Publisher's Duty*; David Chan's (2000) *The Doctor-Patient Relationship*; the chapters on 'consent' in Ian Kennedy and Andrew Grubb's (2000:Chapters 5 & 6) *Medical Law*; Myint Soe's (2000) *Informed Consent in Medical Cases*; the section on 'Information and Consent' in Alastair V. Campbell's (2001:222-225) *Medical Ethics*; Len Doyal and Jeffery Tobias' (2002) *Informed Consent in Medical Research*; Martin Bobrow's (2004) *The Patient's Consent*; the chapters on 'consent' in Emily Jackson's (2006:Chapters 4 & 5) *Medical Law*; Paul Tan's (2006) *The Doctrine of Informed Consent*; the chapter on 'competence, consent and compulsion' in Margaret Brazier's (2007:Chapter 5) *Medicine, Patients and the Law*; and Onora O'Neill's (2007) *Rethinking Informed Consent.*

A final type of texts on informed consent is guidelines and other documents offering guidance as to when and how to apply the principle of informed consent. These include first of all laws (e.g.: Human Fertilisation and Embryology Act 1990; Human Tissue Act 2004; Medicines for Human Use (Clinical Trials) Regulations 2004). It also encompassed guidelines and other forms of guidance from: governmental bodies (e.g.: General Medical Council 1998; Ministry of Health 1999; Department of Health 2001a; Department of Health 2001b; Department of Health 2001c; Department of Health 2001d; General Medical Council 2002; General Medical Council 2008); regulatory authorities (e.g.: Human Tissue Authority 2006a; Human Fertilisation and Embryology Authority 2007); funding agencies (e.g.: Medical Research Council 1992; Medical Research Council 2001a); professional organizations (e.g.: Royal College of Pathologists 2001; British Medical Association and The Law Society 2004; British Medical

Association 2006; Royal College of Pathologists 2007; Royal College of Physicians 2007); universities and tissue banks (e.g.: National Cancer Centre 2002; NUS Institutional Review Board 2005b; UK Biobank 2006; UK Stem Cell Bank 2006); and patients associations (e.g.: Consumers for Ethics in Research 2003a; Consumers for Ethics in Research 2003b; The Patients Association No Date).

The Human Capacity to Reflect and Decide

Having given a description of the notion of informed consent and its key role within bioethical governance, I can now examine the ways in which the principle of informed consent and the various ethical technologies that seek to operationalise it reconfigure modern subjectivities and citizenship. As explained above, I argue that informed consent is articulated around a particular figure of the subject – the human being able to reflect and decide on his or her own existence and body – whose reality it presupposes and which, at the same time, it helps to bring into existence (cf. Rose 1996c; Rose 1999b; Hacking 2002). On the one hand, this figure of a human being able to reflect and decide is, according to the literature on informed consent, a natural given that has to be protected against the dangers of modern medical science through informed consent. On the other hand, the descriptions of the human being that one finds in the literature on informed consent participate in the construction of this particular figure of the subject by creating a sphere of possibilities to think and act accordingly. The construction of this particular subject is further reinforced by the ethical technologies that operationalise the principle of informed consent. Indeed, these technologies develop and strengthen the sphere of possibilities for people to act as human beings capable of reflecting and deciding by ensuring that this concept of the person can be enacted and is respected in the rapports between researchers and research subjects.

To substantiate this argument, the present section examines the way the literature on informed consent portrays the human being as 'a person' who is 'able to think, act and communicate.' It describes in particular how these texts conceive this particular capacity: its different dimensions; its development and possible loss; and the methods to assess its presence or absence. The next sections examine how these same texts portray informed consent as a means to transform the relationship between the researcher and the research subject ('the doctor-patient relationship') so as to enable the latter to be a person that thinks and acts. They show how the literature on informed consent seeks to eliminate the paternalistic ethos around which this relationship was articulated and which, according to this literature, negated the

person in the research subject or patient. They also show how this literature aims to rebuild the rapport between the scientist or doctor and the research subject or patient as a 'process of communication' where the latter is given time and space to think and decide.

'A Being Able to Think, Act and Communicate'

As other principles and techniques that make up bioethical governance, informed consent is a mean to ensure that human beings are respected and protected against the dangers arising from the use of human tissue in biomedical research. For example and as already mentioned above, bioethics experts working for Singapore's Bioethics Advisory Committee conceive 'free and informed consent' as a mean to 'promote respect for all human beings and protect their health and rights' (2004:24-26). Likewise, the bioethical experts working for the Nuffield Council on Bioethics thought that bioethical governance and consent were key to ensure the 'respect for the human body and respect for human dignity' (1995:40). Alastair V. Campbell, who, as previously discussed has been prominent both in the UK and Singapore, offers another illustration; he argued that 'respect for persons' implies that one 'must be given information and be allowed to make up [one's] own mind' (2001:10). There are countless other examples in the literature on ethics governance that relate informed consent to the notion of respect for human beings (e.g.: Campbell 1975 [1972]:Chapter 5; Faulder 1985:Part 1; Harris 1985:Chapters 10-11; Gillon 1985g; O'Neill 1996; Medical Research Council 2001a:3 & 6; Royal College of Physicians 2007:39).

For the literature on informed consent mentioned at the end of the previous section, the human being is conceived as a 'person' or a 'moral agent' that is 'able to think, act and communicate.' For example, Alastair V. Campbell (2001:10) argues in *Medical Ethics* that, as persons, human beings 'have their own opinions and aims in life, which require them to act intelligently in most of the things they do.' Similarly, Ranaan Gillon (1985a:1735) explains in *Philosophical Medical Ethics* that human beings as 'persons' are 'rational willing agents' with a certain 'self-awareness.' They have, he further argues, a 'capacity to think, decide and act on the basis of such thought and decision' (1985b:1806). The House of Lords gives a comparable definition in its report on *Stem Cell Research*, explaining human beings as 'persons' are 'beings able to think, act and communicate' with other persons (2002:Paragraph 4.7). Similarly, O'Neill and Manson (2007:51 & 54) explain in their book *Rethinking Informed Consent* that human beings have moral 'agency' which they define as involving:

> 'commitments, ... the ability to grasp rational relations between propositions and the ability to put one's commitments to act into action ... [including] communicative action' (O'Neill and Manson 2007:54).

While the concepts of personhood or agency put forward in this literature do differ and are aspects of different theories, from Kantian philosophy to feminist and human rights discourses, they all assume that a person is an entity with a series of capacities. These capacities include: (1) the ability to hold values or commitments; (2) the ability to communicate and exchange information; (3) the ability to reason or reflect; and (4) the ability to decide and act. For the sake of simplicity, I subsume this understanding of personhood and this series of four different abilities under the generic term of 'capacity to reflect and decide.'

The capacity to hold values or commitments is, according to the literature on informed consent, an ability to entertain a certain worldview and to hold certain principles and preferences. Carolyn Faulder, for instance, argues that 'people carry with them ... hopes, fears, beliefs, experiences, prejudices [and] expectations' (1985:29). Likewise, the British Medical Association explains, in its guide to assess the mental capacity of patients and research subjects, that the latter 'have their own religious beliefs and value systems' (2004:4). O'Neill and Manson make a similar point when they argue that persons have the ability to hold to types of commitments: (a) 'practical commitments that stem from their desires, needs, whims, preferences, principles and so on;' and (b) 'cognitive commitments' which cause persons which hold them to 'take certain things (but not others) to be the case; some things to be likely, others to be impossible, and so on' (2007:51-52). These worldviews, principles and preferences are, according to the literature on informed consent, particular to each person; they are shaped by their experiences as well as their socio-economic and cultural backgrounds. Faulder, for example, argues that a human being's worldview and preferences constitute his or her 'personal luggage' and are shaped by the 'particular circumstances of [his or her] individual existence' (1985:29). Similarly, Paul Tan, a lawyer at the National University of Singapore, explains that a person has a 'view of the world' and particular 'concerns' that are informed by his or her 'background' such as 'gender, race [and] economic status' (2006:157). Likewise, the British Medical Association argues that 'aspects of a person's thinking may derive from ... a particular cultural or ethnic background' (2004:154).

Besides the capacity to hold values or commitments, a person also has, according to the literature on informed consent, an ability to communicate and exchange information with other human beings. For instance, the Department of Health's (2001b:4) *Reference Guide to Consent* argues that persons have 'an ability to communicate' with other agents. Alastair

Campbell offers another example in his *Medical Ethics*, arguing that persons have the capacity to exchange information with other agents in 'respectful and broadly rational dialogue[s]' (2001:11). Martin Bobrow, a member of the Nuffield Council and one of the international experts advising Singapore's Bioethics Advisory Committee has a very similar stance, explaining that persons have an ability to exchange information with each other as part of a 'process of communication' (2004:2). According to the literature on bioethical governance, the capacity to communicate and exchange information also allows other agents to influence or challenge a person's values and preferences. For example, O'Neill and Manson (2007:55) suggest that 'communicative actions have to take account of the commitments of others, and may aim to alter their commitments.' In the same way, Paul Tan argues that information 'disclosed' by a person to another will 'make a difference' and can even lead to cases of 'manipulation' (2006:165).

Aside from an ability to have preferences and communicate, the literature on informed consent also conceives the person as a being graced with what Myint Soe, the Singapore Medical Association's legal advisor, calls a 'capacity to reason' (2000:5). The authors that elaborate on the particulars of this capacity to reason argue that it is a faculty to assess and make inferences from one's values and commitments as well as the information received from other agents. Tan, for example, describes it as the ability to 'take into account a variety of considerations' (2006:157). O'Neill and Manson talk about a capacity to 'grasp inferential relations between [one's] cognitive commitments and [one's] practical commitments, including the descriptions under which [one] acts' (O'Neill and Manson 2007:53). Harris (1985:197-198) explains that it is an ability to assess the 'truth or validity' of specific beliefs, notably the ability to probe whether there is 'a commensurate relationship between the strength of the evidence for [particular] facts and the strength of the beliefs they support;' it is also the capacity to make 'inferences [that are] valid.'

The fourth and last faculty that a person has is, according to the literature on informed consent, the capacity to decide and act. It is best understood as an ability to settle on one particular a course of action and turn it into reality. The British Medical Association describes it as 'the capacity' to 'retain information for long enough' so as 'to use it and weigh it in the balance in order to arrive at a decision' (2004:138). Similarly, O'Neill and Manson (2007:54) talk about 'the ability to put one's commitments to act into action.' More simply, John Harris (2003:11) suggests that persons have 'the ability ... to make choices that shape [their] lives.' According to the literature on informed consent, the course of action on which a person settles is necessarily particular to that person as it reflects a mixture between his or her values,

the information he or she had received and the way he or she had reasoned. Someone else will not necessarily settle for the same course of action, nor find it reasonable. For example, Carolyn Faulder (1985:25) explained that a person's decisions are necessarily 'subjective judgments' and can, as such, appear 'unwise or irresponsible' to others. Similarly, the British Department of Health argues in its *Reference Guide* on consent that a person will 'make a decision based on their own religious beliefs or value system' (2001b:4). This decision might be 'perceived by others to be irrational' (ibid.); it might even be viewed as

> 'So outrageous in its defiance of logic or of accepted moral standards that no sensible person who had applied his or her mind to the question could have arrived at it' (Department of Health 2001b:4).

For the literature on informed consent, the human being as person has, as a self-contained entity graced with its own capacity to reflect and decide, a certain autonomy or independence in relation to other human beings (cf.: Wolpe 1998; O'Neill 2002). Harris, for example, suggests that 'autonomy is part of our concept of the person' (2003:10). Similarly, Gillon argues that 'autonomy' is a 'necessary feature' of 'any rational agent' (1985b:1807). Autonomy, for the literature on informed consent means that persons will, by exercising their capacity to reflect and decide, direct their own actions and lives. As Faulder argues, autonomy means 'to control one's own destiny and to determine one's own ends' by using one's capacity to reflect and decide (1985:2). Similarly, Harris suggests that autonomy implies that a person is 'able to control [his or her] own life ... by the exercise of [his or her] own faculties' (1985:195). So too, Singapore's Bioethics Advisory Committee argues that 'autonomy' means that persons will 'decide for themselves what is good for them' (Bioethics Advisory Committee 2004:25; cf. also: Ministry of Health 1998:Annex IV/D, Paragraph 2.3.1).

For the literature on informed consent autonomy or independence does not mean that human beings as persons are secluded and isolated from each other. On the contrary, human beings as persons will, as entities graced with a capacity to communicate, interact and dialogue with each other. As the House of Lords explains, the human being as a person is a being that is 'able to ... communicate' with other human beings (2002:Paragraph 4.7). Similarly, Alastair Campbell suggests that human beings as persons engage in 'broadly rational dialogues' with each other (2001:11). For the literature on informed consent, these interactions and process of communication allow human beings as persons to receive information to help them think and take decisions. As Campbell explains, 'in order to act intelligently,' human beings as persons 'must ... be given information' (ibid. p.10). Furthermore, these interactions and communication give human beings as persons the necessary support to think and take a

decision. For example, the UK General Medical argues that 'discussions' with other human beings will 'help [a person] to make decisions' (2008:14).

'Adults, Children and the Mentally Incapacitated'

While, in principle, the literature on informed consent considers that human beings have personhood or moral agency, this is not necessarily always the case. As Carolyn Faulder has argued, 'there are, of course, categories [of human beings] who cannot be described as "reasonable persons"' (1985:39; cf. also: Quah 1989:187; O'Neill 2002:40).[19] Indeed, for this literature on informed consent, the ability to reflect and decide is not immutable. On the contrary, it is a faculty which develops from birth onwards and only reaches full development in adulthood. It is, furthermore, a faculty that, even after attaining maturity, fluctuates with time due to illness, physical disabilities or the environment. To capture these developments and fluctuations, the literature on informed consent uses a series of categories to classify human beings in relation in relation to the development or state of their capacity to reflect and decide. The most important of these categories are those of 'children,' 'adult' and 'the mentally incapacitated' (e.g.: Faulder 1985:39; Quah 1989:187; Nuffield Council on Bioethics 1995:Chapter 6; Ministry of Health 1998:Annex IV/D, Paragraph 2.5.5; Soe 2000:5; Bobrow 2004:4; Royal College of Physicians 2007:Chapter 8) This same literature has also devised 'tests of capacity' to determine in which of these categories a particular individual should be classified and, thereby, how much moral agency they have (British Medical Association and The Law Society 2004:4).

From birth until the start of the start of adulthood, an individual will be classified as a 'child' and deemed, by the literature on informed consent, to lack a fully-fledged capacity to reflect and decide. As the Royal College of Physicians explains, 'children as a group' have 'difficulty in expressing their needs or defending their interests' (2007:58). Similarly, O'Neill argues that 'children, or at least younger children' are not 'in the maturity of their faculties' (O'Neill 2002:40; O'Neill 2003:4). Indeed, for the literature on informed consent, the capacity to reflect and decide is not given fully-developed at birth. Rather, informed by psychological theories about the development of moral judgment in children, this literature understands the capacity

[19] The notions of (mental) capacity and incapacity are of course not exclusive to the bioethical literature on informed consent. On the contrary, there is a long history of debates and a vast literature on the topic, most notably in relation to the UK's recent re-organisation of its mental health services and the adoption of the 2005 *Mental Capacity Act* and the 2007 *Mental Health Act* (cf. Department of Health, Review of the Mental Health Act 1983: Report of the Expert Committee, London, 1999).

to reflect and decide as slowly acquired with time and the experiences one goes through in life. For example, the Medical Research Council explains that:

> 'A child's ability to consent develops as he or she learns to make increasingly complex and serious decisions, which can be experience and/or age-related' (Medical Research Council 2004:27).

Another illustration is the report on *Medical Research with Children* published by the Institute of Medical Ethics (Nicholson 1986). Strongly influenced by Piaget's examination of how children develop a respect for moral rules and Kohlberg's three stages in the development of moral judgement – from the 'pre-conventional' stage between seven and ten years old, to the 'conventional' stage between ten and fourteen and the 'post-conventional' stage after fourteen – the authors of the report understand 'the progress towards mature judgement as a gradual process' (ibid. p.130). And, having sampled a series of empirical psychological studies on how children understand health in general but also the risk involved when participating in research as well as the process of consenting, the authors further suggest that 'children ... develop their capacities for moral judgement in a relatively uniform manner' (ibid. p.141), which they describe thus:

> 'Before the age of 7 years (by which is meant the developmental age of an average 7-year-old ...) attempts to obtain a child's assent ... are likely to be meaningless ... The nearer the child is to 14 years old, the more important does his assent to a research procedure become. Nevertheless, in the age range 7 to 14, he will not usually have reached an adult level of moral judgement ... From the age of 14 years upwards, it appears that children ... are as competent as adults to decide' (Nicholson 1986-151).

From the 'age of maturity' onwards, one becomes, according to the literature on informed consent, an 'adult.' It is presumed, by this same literature, that individuals who have reached adulthood have a fully developed capacity to reflect and decide. So, for example, the British General Medical Council explains that:

> '[One] must work on the presumption that every adult ... has the capacity to make decisions ... and to decide to, or refuse, an examination, investigation or treatment. [One] should only regard [an individual] as lacking capacity once it is clear ... they cannot understand, retain, use or weigh up the information needed to make a decision or communicate their wishes' (General Medical Council 2008:27)

Similar illustrations can be found in many texts relative to informed consent (e.g.: Department of Health 2001d:3; British Medical Association and The Law Society 2004:5). Adulthood is defined in terms of age: all those older than a certain age are deemed to be adults. In the United Kingdom, this age varies between 16 and 18 years of age; in Singapore, it is considered to be 21 years of age (Ministry of Health 1998:Annex IV/D, Paragraph 2.5.5.1; Soe 2000:5;

Bobrow 2004:4; Medical Research Council 2004; General Medical Council 2008:23). The presumption that an adult has the capacity to reflect and decide can only be reversed if there are 'doubts' about that individual's ability to think, act and communicate which are then corroborated by a test of capacity (Department of Health 2001b:4; British Medical Association and The Law Society 2004:17).

Adults who have been determined to lack the ability to think, act or communicate through the use of a test of capacity will, according to the literature on informed consent, be classified as 'mentally incapacitated' or otherwise 'incompetent' (e.g.: Quah 1989:187; Medical Research Council 1991b; Ministry of Health 1998:Annex IV/D, Paragraph 2.5.5.2; Soe 2000:5; Bobrow 2004:4; British Medical Association and The Law Society 2004; Royal College of Physicians 2007:60-61). The reasons that can affect someone's ability to reason and choose range from temporary physical states (fatigue; drunkenness) to more permanent ones (mental illness; disability). The British Medical Association's guide to assessing people's capacity to reflect and decide offers an good illustration. Among the possible conditions that might cause the loss of one's capacity, the guide lists: 'physical conditions, such as severe pain or fatigue;' 'poor eyesight, deafness and problems with speech and language;' and 'mental disabilities' caused by mental illnesses like dementia, depression or schizophrenia (2004:149-150).

Tests of capacity are highly codified procedures which are to be carried out by qualified medical doctors (cf. Ministry of Health 1998:Annex IV/D, Paragraph 2.5.5.2; British Medical Association and The Law Society 2004; Royal College of Physicians 2007:43-44; General Medical Council 2008:30). The British Medical Association and Law Society's (2004) widely used and cited guide to the *Assessment of Mental Capacity* is probably one of the best illustration of these tests of capacity. The aim of these tests is to assess whether someone can reason correctly, not whether his or her values or preferences on which his or her choices are based are acceptable or reasonable. According to the *Assessment of Mental Capacity*, the test purports 'to assess what the person is actually capable of deciding ... not whether the decision is sensible or wise' (ibid. p.23). For example, a decision based on an 'unusual value system' and thus seemingly 'irrational' is not a sign of a lack of capacity; inversely, a decision based on 'a misperception of reality' or a series of erroneous inferences is a sign that someone 'lacks capacity' (ibid. p.4).

To proceed to such an assessment, the doctor will have to gather background information on the individual being assessed as well as interview him or her. In relation to background information, the *Assessment of Mental Capacity* recommends the examination of: 'past medical

and psychiatric records;' 'systematic assessment of cognitive functioning' done by 'clinical psychologists;' 'reports from social workers, nurses or care workers;' and 'information from friends and family' (ibid. p.154). In relation to the interview, the British Medical Association's guide suggests to pay attention to the following elements: 'appearance and behaviour;' 'speech;' 'mood;' 'thought;' 'perception;' 'cognition;' 'orientation;' 'memory;' 'intelligence;' and 'insight' (ibid. p.155-159). The guide also recommends, where necessary, to use more systematic evaluations such as 'medical or psychometric tests' such as the *Mini-Mental State Examination* (ibid. p155 & 157).

'Doctors Must Abandon Paternalistic Attitudes'

This section and the two that follow examine how the literature on informed consent portrays informed consent as a mean to transform the doctor-patient relationship so as to enable the 'patient as person' to think and act about his or her life and body. This should further substantiate the argument made in this chapter, namely that informed consent revolves around an understanding of the subject – the human being capable of reflecting and deciding on his or her own existence and body – whose existence it both presupposes and helps to construct. The present section analyses what, for the literature on informed consent, is the first step in the transformation of the rapport between doctor and patient: doing away with the paternalistic ethos that, according to this literature, has long informed the doctor-patient relationship. It shows that the rationale put forward by the literature on informed consent for discarding paternalism is that it negates the person within the patient. The next two sections go on to examine what, according to the same literature, is the second step in the transformation of the doctor-patient relationship: its re-organisation as a 'process of communication' where the patient is given time, space and resources to think and decide. They show how, for the literature on informed consent, this re-organisation should enable the patient as person to unfold and develop.

For the literature on informed consent, informed consent is a way of transforming the relationship between doctor and patient or, in the case of human tissue research, the rapport between the researcher and the research subject giving his or her bodily tissues. The transformation, according to this literature, should enable the 'patient as person' to think and act about his or her life, health and body. Ian Kennedy, for example, argued that:

> 'There is little doubt that ... the doctrine of informed consent promises to transform the doctor-patient relationship. It reasserts the notion that the patient is a partner ... and cannot be a partner if he is kept in ignorance' (Kennedy 1981:130).

Similarly, Carolyn Faulder explained that 'informed consent ... is crucial to creating an ethical and healthy patient-doctor relationship' (1985:128). Stella Quah, a sociologist at the National University of Singapore (NUS) and one of the first to write on informed consent in the South-East Asian Republic, expressed a similar view, explaining the role of 'the concept of informed consent' in transforming 'the doctor-patient relationship' and challenging 'the "traditional" values of professional authority' (1989:187).

For this literature, the first step in transforming the doctor-patient relationship is to do away with paternalism which, it claims, has informed the rapport between the doctor and the patient until now. For instance, in its report on the retention of body parts at the Royal Liverpool Children's Hospital at Alder Hey, the Inquiry called for the medical profession 'to consign paternalism to the annals of history' (2001:445). Likewise, Alastair V. Campbell argued that:

> 'Doctors ... must abandon paternalistic attitudes and include their patients as participants ... That is what respect for people involves ... The old paternalistic attitude ... must be rejected' (Campbell, Gillett et al. 2001:11 & 26).

David Chan, a professor of philosophy at NUS and an early member of Singapore's Bioethics Advisory Committee, made a similar point in his survey of the attitudes of Singaporean doctors in relation to 'medical paternalism, consent and patient autonomy' (2000:58):

> 'Doctors cannot avoid taking patient choice ... into account. The age when doctors are respected as superiors whose diagnoses and treatment prescriptions are unquestioned is over' (Chan and Goh 2000:76).

Paternalism, for the literature on informed consent, is a belief held by doctors and patients alike that it is doctors who should decide what patients do about their health and bodies. Furthermore, it is the belief that doctors should do so without consulting their patients, for only they know what is best. John Harris, for example, gives the following definition:

> 'Paternalism is the belief that it can be right to order the lives of others for their own good, irrespective of their wishes or judgments. The characteristic cry of the paternalist is "Don't do that, it isn't good for you"' (Harris 1985:194).

Similarly, the Inquiry into the retention of body parts at the Royal Liverpool Children's Hospital at Alder Hey argued that:

> 'Paternalism is ... the policy of restricting the freedom and responsibilities of one's dependants in their supposed best interest' (The Royal Liverpool Children's Inquiry (Chairman: Michael Redfern QC) 2001:369).

The belief that patients should not be involved and consulted in relation to decisions about their health and body means, according to the literature on informed consent, that paternalism often involves doctors withholding information from or lying to patients. For example, Chan explains that the 'withholding of information on ... risks is a common feature of paternalism' (2000:69). Similarly, O'Neill argues that 'the whole tradition of medical paternalism centres on desires to assist patients and research subjects by mild and well-intentioned deception and euphemisms' (2002:119). Likewise, Faulder asserts that 'the paternalistic doctor' always 'believes he knows what is best' for his patient; 'almost invariably this means he is going to lie' to him (1985:118).

According to the literature on informed consent, there are different reasons as to why paternalism has dominated the relationship between doctor and patient for so long. One reason often mentioned in this literature is that doctors believe that their knowledge of human health is infinitely superior to the one of patients. For example, Faulder argues that:

> 'Doctors generally ... say that they must [decide for their patients] because their skills and experience give them the advantage of superior knowledge ... Patients have [to] put themselves into their hands precisely because they possess these skills and they [must therefore] rely on their doctors to choose the best [solution]' (Faulder 1985:28).

Similarly, Tan explains that 'medical paternalism finds its roots' in the 'claim that doctors know best' about human health (2006:150). Another reason for the predominance of paternalism often put forward by the literature on informed consent is doctors' belief that their patients are not intelligent or knowledgeable enough to decide about their own health and bodies. David Chan, for instance, explains that:

> 'Doctors seem to think that either the patients' knowledge is still inadequate, or their knowledge does not translate into rational thinking' (Chan and Goh 2000:70).

Similarly, Faulder argues that medical paternalism stems from the 'contempt with which some of these doctors view their patients and the low opinion they have of their intelligence' (1985:111). A further reason for the prevalence of medical paternalism put forward by the literature on informed consent is that, in the case of medical research in particular, to inform and involve patients would represent an obstacle to the progress of science as it would lead to them refusing to participate. For example, Faulder argues that:

> '[Doctors often hold] the belief that it is of paramount importance to get the scientific answers, and if informing their patients means that they are less likely to be co-operative in that research, then such doctors will have no difficultly in asserting that the individual patient's interests must take second place to the interests of science. This is a dangerous road to go down' (Faulder 1985:111).

Similarly, Stella Quah explained that in 'a research setting,' 'medical researchers may, consciously or unconsciously,' see informing their patients as a hindrance to 'their goals of experimentation and discovery' (1989:184). Furthermore, in the case of Singapore, the literature on informed consent often explains the prevalence of medical paternalism because of the latter's similarities with Singapore's Asian values, most notably the Asian propensity to respect and revere authority. So, for example, Chan argues that 'paternalism' is compatible with 'Confucian ethics' where the 'doctor [is said to] have the heart of a father' and should be respected as such (2000:59). Similarly, Teoh, explains that 'Asians' are 'perhaps less likely to ask difficult questions or to openly question the doctor's opinion' (1996:14). So too, the nurses in charge of obtaining informed consent at the Tissue Repository at Singapore's National University Hospital explain that among the 'older less educated Asian population' many potential donors are 'very surprised' to be asked for consent; for them, doctors are to be 'respected and revered' (Tissue Repository at the National University Hospital 2007).

For the literature on informed consent, the problem with paternalism and the reason why it recommends its elimination is that it negates the patient as person and his or her capacity to reflect and decide about his or her own health and body. Indeed, the belief that the doctor should not consult or take into account the patient's values and preferences as they are irrational and a hindrance to good medical science does certainly fly in the face of this literature's concept of the person. This incompatibility is expressly recognised as a problem by the literature on informed consent. For example, John Harris argues that paternalism 'involves treating the agent as incompetent' and 'denies the individual control over her own life and moral destiny' (1985:194). Indeed, 'where the agent is misinformed, or only told part of the truth, or where he is kept in total ignorance,' Harris further argues, 'his capacity to make the best choices he can will be undermined' (ibid. p.198). Similarly, Faulder explicates that a paternalistic attitude 'betrays an insulting contempt for the intelligence and self-awareness of the patient' (1985:5) and transforms him or her into a 'passive and uncomplaining' subject (ibid. p.110).

'A Process of Communication'

For the literature on bioethical governance, informed consent is not only a way to abolish a doctor-patient relationship based on paternalism. It is also a means to re-construct in its place a new relationship that would enable the patient as person to unfold and employ his or her capacity to reflect and decide about his or her health and body. In Alastair Campbell's words,

> 'A different model of the medical relationship is required [in place of the old paternalistic model] to ensure that patients are treated in a way that respects their individuality and their capacity to make judgments for themselves' (Campbell, Gillett et al. 2001:21).

A new model of doctor-patient relationship that would allow patients or research subjects to reflect and decide about their health and bodies should, for the literature on informed consent, be articulated around the notions of 'communication' and 'time and space to think.' This section examines the notion of communication while the next section explores the notion of time and space for reflection.

For bio-ethicists, the doctor-patient relationship has to be re-organised as a 'process of communication' (Bobrow 2004:2) or a 'dialogue' (Tan 2006:171). The aim of this dialogue is to enable the patient to obtain, from the doctor, all the information that he or she considers necessary to decide about what he or she wants do with his or her body and, most notably, to decide to give or not parts of it to medical research. In general, the information given will, for the most part, be about the research itself and its implications for the patient. Alastair Campbell, for instance, argues that:

> 'Respect for Persons. ... Patients [as persons] have their own opinions and aims in life, which require them to act intelligently in most of the things they do. But in order to act intelligently, patients must ... be given information ... [Respect for persons] implies a respectful and broadly rational dialogue between doctor and patient' (Campbell, Gillett et al. 2001:10-11).

Similarly, the British General Medical Council explains in its guide on good practice that:

> '[There should be] an open and helpful dialogue ... between doctors and research participants. Effective communication is the key to enabling participants to make informed decisions' (General Medical Council 2002:Paragraphs 17-18).

Through a series of rules and ethical technologies of government, the literature on informed consent sets out and manages the content, amount and form of the information obtained by the patient during his or her dialogue with the doctor. These rules and technologies are explored below.

Of Content and Quantity

For the literature on informed consent, the information obtained by the patient during the dialogue with the doctor has to have a specific content and quantity. In relation to content, this literature dictates that the information should be limited to medical and technical information about the research and its implication for the patient or research subject. The doctor or researcher, who is deemed to be 'the expert' in the field, should provide the patient, who is 'usually ignorant about the basic medical facts,' with the necessary medical knowledge about the investigation to which he or she is asked to participate (Faulder 1985:35). Conversely, the doctor or researcher should not impose his or her own values or preferences on the patient. Indeed, according to the literature on informed consent, the dialogue should bring together the medical expertise of the doctor with the values or preferences of the patient. As Alastair Campbell explains, the 'dialogue between doctor and patient' should 'combine the patient's values and the doctor's expertise to produce benefit' (2001:11). Similarly, the UK Department of Health explains that:

> 'The patient and the health professional need to come to an agreement ... based on the patient's values and preferences and the health professional's clinical knowledge' (Department of Health 2001a:10).

In relation to quantity, the literature on informed consent dictates that the patient or research subject should be at least given minimum information about the proposed investigation, whether he or she wants it or not. To do otherwise, the literature argues, would negate the concept of the person. In addition, the doctor or researcher should encourage the patient or research subject to request any supplementary information he or she think is important and should satisfy these requests. To ensure that a minimal amount of information is given to each patient or research subject and to guarantee that those who require more information can obtain it, the literature on informed consent has set a two-part system. The first part ensures the minima by requiring that doctors or researchers give a set amount of information in relation to a series of specific aspects of the research (purpose; risks; etc.). The second part ensures that the patient or research subject has the possibility of asking any additional information he or she considers as important in order to make his or her decision.

'There is No Right to Remain in Ignorance'

The imperative to give at least minimal information about the proposed research to the research subject, whether or not the subject has requested such information or expressed any interest in having it, is based on the assumption that there is no right to remain in ignorance about one's health or body. Indeed, this would negate the notion of the person that the literature on informed consent seeks to promote. Harris, for instance, explains that:

> 'It is doubtful whether there could be any right to remain in ignorance ... [On the contrary, doctors should] remedy where possible both the defects of reasoning and of information which militate against the individual's capacity [to reflect and decide] ... [even if this means] contravening the wishes of the agent [not to know]' (Harris 1985:208 & 213).

The UK Human Tissue Authority (2006a:18) makes a similar point, recommending to researchers that while 'some patients may not be interested in knowing about the proposed use of the tissue,' they 'should nevertheless have all their options explained to them and be provided with an appropriate level of information.' Likewise, the British General Medical Council recommends to physicians in its guide on *Seeking Patients' Consent* that:

> 'If patients ask you to withhold information and make decisions on their behalf ... you should explain the importance of them knowing the options open to them, and what the [investigation] will involve. If they insist they do not want to know in detail ... you should still provide basic information' (General Medical Council 1998:Paragraph 11; cf. also: General Medical Council 2008:11).

To ensure that this 'basic information' is provided, the literature on informed consent requires the physician to give some information to the patient or research subject about four different aspects of the proposed research. These four aspects are: (1) the nature and purpose of the proposed research; (2) the procedures undertaken on the patient or research subject; (3) the risks for the patient or research subject and the benefits for the research subject or society in general; (4) the financial and commercial aspects of the proposed research. There are numerous texts in which these different aspects are listed and discussed (e.g.: Nuffield Council on Bioethics 1995:Chapter 6; Royal College of Physicians 1996:32; General Medical Council 1998:Paragraphs 5 & 35-37; Ministry of Health 1998:Annex IV/D, Paragraph 2.5.1; Campbell, Gillett et al. 2001:222-225; Royal College of Pathologists 2001:8-9; Medical Research Council 2001a:15; Department of Health 2001b:5-6; General Medical Council 2002-26; Bioethics Advisory Committee 2002b:23-29; Human Fertilisation and Embryology Authority 2007:Paragraphs S.8.2-S.8.4). These four aspects are examined in turn below.

As with any other research, the first aspect of the proposed research about which researchers who want to collect and analyse human tissues have to inform potential participants is the nature and purpose of the proposed investigation. For example, under the heading 'what information should be given?,' the UK Human Tissue Authority explains to researchers collecting and using human tissue that:

> 'Information should include the nature of the intended activities and the reasons for them' (Human Tissue Authority 2006a:18).

Similarly, Singapore's National Medical Ethics Committee argues that, among 'the items of information' that 'prospective subjects' should be given are the research activities and 'the reasons for the research' (Ministry of Health 1998:Annex IV/D, Paragraph 2.5.1). In the case of human tissue research, this requires, first of all, to explain to potential research subjects which tissues would be collected for research. For example, Singapore's Bioethics Advisory Committee sets out that:

> It is necessary to ensure that donors fully understand what is proposed to be taken, particularly if gross human tissue samples (e.g. entire organs or blocks of organs, or of limbs, as opposed to tissue slides or small tissue blocks) are involved' (Bioethics Advisory Committee 2002b:27).

Similarly, the British General Medical Council requires that researchers 'must be satisfied that participants understand the amount and nature of tissues, organs or body fluids which will be taken' (2002:Paragraph 24). In accordance with such requirements, Singapore's National Cancer Centre explains in its *Patient Information Pamphlet* that it will collect the 'leftovers' from the tissues that are 'removed from [a patient's] body [during surgery] to help in the diagnosis and/or treatment' (2005:1). Similarly, the UK Biobank explicates to potential donor in its *Information Leaflet* that they will be requested to 'give small samples of blood (about three tablespoons) and urine' (2007a:3).

Explaining the nature and purpose of the research requires, furthermore, that doctors tell the prospective donor how the collected tissue will be used. This will involve giving information about the particular research project in which the tissue will be used (this is known as 'specific consent'). For example, the UK Human Embryonic Stem Cell Co-ordinators' Network describes its research to potential donors of fertilised human eggs as a 'project to generate human embryonic stem cell lines that could be useful for research into genetic diseases' (2007a:1; 2007b:1). In case the tissue is collected to be stored in a bank and used in future research projects (generic/general consent), this has to be made explicit. For example, the UK Human Tissue Authority requires that:

> 'Patients should be told whether the consent is generic (i.e. for use in any future research project that has ethical approval) or specific' (Human Tissue Authority 2006a:18).

According to the British Medical Research Council, 'it is not acceptable to seek unconditional blanket consent ... using terms such as "all biological and medical research;"' instead, 'possible future research should be explained in terms of the types of studies that may be done, the types of disease that could be investigated and the possible impact of the research on them personally' (Medical Research Council 2001a:15). So, for example, the UK Biobank explains in its *Further Information Leaflet* that the samples collected 'will be kept for several decades' and should allow researchers to understand the 'impact of lifestyle, environment and genes' on the 'risk of developing serious diseases' like 'cancer, heart disease, stroke, diabetes [and] dementia' (2007b:3 & 6). In Singapore, the Bioethics Advisory Committee accepts donation of tissues for future research but recommends that:

> 'Donors should be free to decide whether their gift [of tissue] should be a general one (in that the [tissue] may be applied towards any research use or purpose), or for a specific (and specified) limited research use or purpose only' (Bioethics Advisory Committee 2002b:26).

Explaining the nature and purpose of the research will also require researchers to explain what happens to the tissues themselves. For example, the Human Fertilisation and Embryology Authority requires researchers to tell potential donors about 'any tests that may be performed on embryos or cells derived from the embryos' (2007:84). Similarly, the Human Tissue Authority requires researchers to explain 'how the tissue will be used' (2006a:18). So, for instance, in its *Further Information Leaflet*, the UK Biobank explains to prospective donors 'what happens to the blood and urine samples' (2007b:5). First of all, it tells them, they are put 'into several different tubes,' some of which are 'spun in the assessment centre to allow immediate separation of the blood in its constituent part' (ibid.). Later, it continues, they are 'transported overnight to the UK Biobank laboratory in Manchester for further processing and storage,' including 'preserving the white blood cells in such a way that they can be grown and more genetic material produced in the future' (ibid.).

Finally, explaining the nature and purpose of the research also requires the researchers to inform participants about what happens to the tissues collected once they have been used. The British Medical Research Council, for instance, requires researchers to explain to potential donors 'how any surplus material will be disposed of when it is no longer required' (2001a:16). Similarly, the UK Human Tissue Authority recommends that 'establishments which store or use human organs and tissue' for research 'develop a clear and sensitive disposal policy,'

document it and 'make it available to the public' (2006b:15). Indeed, 'relatives [that] donate organs, tissue or a whole body ... for ... research ... may wish to know how the material will be disposed of after use' (ibid.). Likewise, Singapore's Bioethics Advisory Committee suggests that tissue banks have 'respectful and appropriate methods of disposal for ... human tissue samples' and inform the potential participants about these methods (2002b:27).

The second aspect of the proposed research about which researchers have to inform potential participants are the procedures undertaken on the human subject during the research. In the case of human tissue research, it will often suffice to explain 'the process involved in obtaining the sample' (Medical Research Council 2001a:15), a process that can be more or less complex depending on what part of the body is needed. A good illustration can be found in the Human Fertilisation and Embryology Authority's (2006:7) leaflet *Donating Eggs for Research*:

> '1. The donor is given drugs, usually a nasal spray, to stop their normal cycle. Once this has been achieved they are given another drug to stimulate super ovulation ... This drug is often injected ... 2. The donor is monitored for the number of follicles that are developing ... by ultrasound analysis and/or blood tests. 3. When eggs are almost ready ... another drug is injected to prepare for collection. 4. During egg collection the donor is usually given a sedative or anaesthetic. 5. The eggs are collected, most commonly using a thin tube and ultrasound guidance. The tube is inserted through the vagina into the follicles containing eggs, and fluid including the eggs is drawn out through the tube. 6. Once collected the eggs ... are placed into culture dishes.'

The description of the 'assessment visit' in the UK Biobank's (2007a:3) *Information Leaflet* offers another interesting example:

> 'The appointment at the assessment centre should take about 90 minutes. During this visit, you would: ... answer questions about your health, lifestyle, memory, work and family history; have non-invasive measurements of blood pressure, pulse rate, height, weight, body fat, grip strength, bone density and lung function; [and] give small samples of blood ... and urine for long-term storage and analysis (including genetic data).'

The third aspect of the proposed research about which researchers have to inform potential participants are the risks and benefits of the proposed investigation. For example, Singapore's National Medical Ethics Committee requires that doctors explain both 'the potential risks' and 'the anticipated benefits and consequences of the study for the subject and society' (Ministry of Health 1998:Annex IV/D, Paragraph 2.5.1). Similarly, the UK Human Tissue Authority suggests that 'patients ... should be told of any "material" or "significant" risks' (2006a:18). They should notably be informed of all 'physical risks' (Medical Research Council 2001a:15) 'inherent in the way the sample will be obtained' (Human Tissue Authority 2006a:18). The UK Biobank (2007a:7), for example, informs potential donors that 'taking part' in the project should, in principle, 'not cause [them] any harm' although they 'may feel some discomfort

when [they] have blood taken, although [the bank's] staff are specially trained to reduce this risk.' Another illustration can be found in the Human Fertilisation and Embryology Authority's (2006:7) leaflet *Donating Eggs for Research* which describes 'the medical risks involved in egg donation:'

> 'The long term consequences of taking the fertility drugs that are used when women donate are not known and there have been concerns expressed that exposure to these drugs may increase the chance of certain types of cancer ... although to date there has been no conclusive evidence ... In the short term, the fertility drugs can cause donors to experience discomfort, mood swings, infections or bleeding as well as the risk of developing ovarian hyperstimulation syndrome (OHSS). Mild OHSS is relatively common (occurring in between 1-10% of treatment) and can be treated and controlled. Severe OHSS is rarer (occurring in around 1% of cases) and very rarely severe OHSS can be fatal. There are also risks associated with the type of anaesthetic or sedation that is used when the eggs are collected.'

Researchers also have to mention risks of a more psychological nature. In the case of human tissue research, these risks are generally related to 'information, such as genetic information or HIV status' that might result from the tests done on the collected tissue and 'which may have significant implications for [the participant or his or her] family members' (Human Tissue Authority 2006a:18). For example, the Medical Research Council explains that:

> 'Tests done on samples of human material in the course of research may reveal information that has implications for the donor's future health or healthcare, or otherwise impacts on their interests ... Participants have a right to know information that may affect their interests, but ... they might [also] choose not to exercise that right ... This must be ... explained clearly to research participants before they consent to take part in the research' (Medical Research Council 2001a:18).

Finally, researchers should also mention the possible benefits (or lack thereof) of the proposed research, either for the participants directly or for society in general. The information provided to potential tissue donors by Singapore's National Cancer Centre provides a good illustration:

> 'Human tissues provide the materials for researchers to study different diseases ... Some of the research findings may help doctors and scientists develop new products, such as drugs and diagnostic tests leading to better prevention and treatment of diseases' (National Cancer Centre 2005:1)

The fourth and last aspect of the proposed investigation about which researchers have to inform potential research subjects are the financial and commercial aspects of the research project. For example, the UK General Medical Council requires that researchers be 'open and honest about any financial transactions associated with the use of tissues, organs or body fluids' (2002:Paragraph 24). Similarly, Singapore's Bioethics Advisory Committee recommends that:

> 'If it is likely that donated tissue samples will in the future be made available for commercial research with consequent financial benefit or gain to third parties, we suggest that this possibility be made clear to donors at the very outset' (Bioethics Advisory Committee 2002b:24).

Another example is offered by the UK Human Fertilisation and Embryology Authority which requires that researchers 'ensure that donors are given information about how the research is funded, including any direct payments or benefits which would accrue to researchers and/or their departments, and any financial interests in the research project or its sponsoring organisations' (2007:85).

Asking Questions, Listening & Showing Sensitivity

In addition to giving minimal information about the proposed research, researchers should also encourage the patient or research subject to request any supplementary information he or she think is important. If the patient or research subject asks questions, these should be answered satisfactorily by the researcher. The imperative to do so is based on the assumption that patients or research subjects, while all in need of some information to reflect and decide about what happens to their bodies, will vary in the amount of information they desire to do so. For example, the UK Department of Health in its guide on consent suggests that:

> 'Patients will vary in how much information they want: from those who want as much detail as possible, including details of rare risks, to those who ask health professionals to make decisions for them' (Department of Health 2001a:18).

Similarly, the UK Human Tissue Authority reminds researchers that while 'some patients may not be interested in knowing about the proposed use of the tissue' that is removed from them, others 'will want [to be provided with] more detail than others' (2006a:18). Singapore's Bioethics Advisory Committee makes a comparable point when it argues that 'it should be self-evident' that 'the level of detail offered' should be tailored 'at helping the potential research participant [to] understand' (2007a:24).

To guarantee that patients are encouraged to ask for additional information and to ensure that doctors do satisfy these requests, the literature on informed consent has devised a series of ethical technologies of government. These include: (1) invitations to potential research subjects to ask additional questions; (2) printed lists of possible additional questions that potential research subjects might want to ask; (3) injunctions to researchers to listen, show sensitivity and answer questions asked by potential research subjects; and (4) injunctions to researchers to

indicate to potential research subjects how they can reach them if they want to resume the dialogue. These different ethical mechanisms of government are explored below.

The first of these technologies are invitations to potential research subjects to ask any additional questions they have about the proposed research. These invitations to ask questions have become a standard element of information sheets offered to potential research subjects. For example, the Royal College of Physicians' guidelines on research ethics committees, which have influenced practice in both the UK and Singapore, recommend that written information sheets given to patients or research subjects should always contain such information (e.g.: 1984:12; 1990a:17; 1996:32). Similarly, the Human Fertilisation and Embryology Authority (2003:2) requires that patients or research subjects 'should be informed' by the investigators that they 'have the opportunity to ask questions and discuss' before agreeing to give their tissues to research. Likewise, the Association of the British Pharmaceutical Industry advises that:

> 'The investigator [should always ensure] ... that he has ... given the volunteer the opportunity to question him on any points felt by the volunteer to require qualification' (Association of the British Pharmaceutical Industry 1988:8).

One can find many examples of such invitations to ask questions made to patients or research subjects when in patient information sheets or general information leaflets for patients and research subjects. The British Department of Health's guide on consent for adults, for instance, advises the patient or research subject that:

> 'You should always ask [the researchers] more questions if you don't understand or if you want more information' (Department of Health 2001d:5).

Another example can be found in the Tissue Repository of the National University of Singapore's *Information Pamphlet*:

> 'You will have an opportunity to speak with your doctor or nurse before/after your operative procedure to make sure that all your questions are answered' (Tissue Repository at the National University Hospital 2006:2)

These invitations to ask questions often come together with recommendations to write down points that remain unclear as well as any additional questions that one wants to ask the researcher. So, for instance, in its leaflet on *You and Your Doctor*, the Patients Association suggests to patients that:

'If you think of more questions after leaving the doctor, write them down' (The Patients Association No Date:8)

Similarly, the British Department of Health reminds patients that they should 'always ask anything [they] want' and that, 'as a reminder,' they 'can write [their] questions [on the consent form] in the space over the page' (2001a:47).

The second ethical technology to encourage patients to ask any additional questions they have about the proposed investigation are printed lists of possible questions that the patient or research subject might want to ask to researchers. These lists of questions generally follow the themes – nature of the investigation; benefits and risks; etc. – around which the minimal information is articulated. The information leaflets distributed by the London-based charity Consumers for Ethics in Research (CERES) provide a good illustration of such lists (2003a; 2003b; 2003c). So, for example, in its leaflet *Medical Research and You: What You Need to Think About,* CERES suggests:

'Here are some questions you [as a potential research subject] may want to ask before you sign [a consent form]: How was I chosen? What will happen to me? ... How often will this happen, or for how long? Will it hurt? What are the possible side effects of the research? How long will the research take? Will I have to make extra visits to the hospital, or stay in longer? Will my fares or expenses to and from appointments be paid? What kind of care will I have if I do not take part in the research? Will the researchers collect information about my genes? If you are pregnant, how might the research affect your baby? What is the research for? ... Who is sponsoring the research?' (Consumers for Ethics in Research 2003a).

Similarly, in its brochure *Genetic Research – Giving Samples for Large Studies,* CERES also advises research subjects to ask 'the following questions:'

'What does the study involve? Will I find it uncomfortable or painful to give a sample? How many samples will I have to give and how often? Will the arrangements for taking the sample be convenient for me? Will my fares or expenses to and from appointments be paid? Does the research involve interviews or filling in questionnaires about my or my family's health? What will happen to my blood or other sample? ... Will my samples be kept when the study ends and, if so, what will happen to them? ... Will I be told the research results? Do you want to know the overall results of the research? When are the research results likely to be available or published in medical journals or the national press?' (Consumers for Ethics in Research 2003b).

The third ethical technology to encourage patients to ask any additional questions they have about the proposed investigation are injunctions addressed to researchers to listen to, demonstrate sensitivity and answer the queries of patients. These injunctions contain, first of all, a call to researchers to listen to research subjects. For example, Peter Byrne, a member of the Centre for Medical Law and Ethics at King's College, argues that:

> 'The patient can expect to be heard ... [and] the doctor can be expected to make a reasonable effort to listen and to explain' (Byrne 1983:30).

In his lecture on informed consent at Singapore's Clinical Research Centre, Martin Bobrow made a similar point, explaining to the researchers listening to him that they should 'not talk all the time' but that they should 'listen as well' (2004:4). Likewise, Campbell argues that 'for [a dialogue] to happen, the patient and the doctor must be prepared to listen to each other' (2001:11). So too, the UK Human Tissue Authority explains that 'seeking consent is a process which involves listening ... so as to arrive at a shared understanding' (2006a:20).

Another element of these injunctions to listen, demonstrate sensitivity and answer questions is the imperative, for researchers, to show a certain empathy for the potential research subject's perspective. For example, the UK General Medical Council recommends that researchers 'be prepared to respond ... sensitively to any questions which the participants may ask' (2002:Paragraph 24). So too, Martin Bobrow explains to researchers that dialoguing with the research subjects 'requires care, thought, sensitive handling and patience' (2004:1). Similarly, the UK Department of Health explained that researchers should be sensitive to the 'patient's perspective' and be aware of what he or she might want to know, in particular: 'what would [the investigation] involve?; will it hurt?; what about the risks?; can I drive/work/look after my family afterwards?' (Department of Health 2001a:32). The UK Human Tissue Authority makes a similar point and requires researchers to 'be sensitive' to the fact that subjects' particular 'attitudes towards the use of tissue' and remember that these attitudes 'can vary widely among cultures and religions' (2006a:17). Likewise, consent nurses from the Tissue Repository at Singapore's National University Hospital explain that they 'really try to put [themselves] in the patient's shoes' when they go and talk to them to obtain their consent to give tissue for research (Tissue Repository at the National University Hospital 2007).

Yet another element of these injunctions to listen, demonstrate sensitivity and answer questions is that the imperative, for researchers, to do their utmost to respond to their patients' queries 'honestly' and 'fully.' For example, the UK Department of Health recommends that:

> 'If the patient asks specific questions about the procedure and associated risks these should be answered truthfully' (Department of Health 2001b:6).

The UK General Medical Council makes a comparable suggestion in its guide on consent:

> '[Researchers] must respond honestly to any questions the patient raises and, as far as possible, answer as fully as the patient wishes ... [They] must answer ... questions as fully, accurately and

objectively as possible' (General Medical Council 1998:Paragraph 9; cf. also General Medical Council 2002:Paragraph 14).

In case the researcher is not able to answer a subject's question, he or she must organise someone who can to come and respond to the subject. So, for instance, the UK Department of Health recommends that if the person researcher 'is not able to answer [the subject's] questions,' he or she should 'find out or arrange for someone else to talk to [the subject] about [his or her] concerns' (2001d:5).

The fourth ethical technology to encourage patients to ask any additional questions they have about the proposed investigation are injunctions addressed to researchers to indicate to patients how they can reach them if they want to resume the dialogue with them. This imperative entails informing the patient that he or she can ask additional questions at any time, even after that he or she signed the consent form. For example, Carolyn Faulder explains that:

'The patient has to understand that she can resume the dialogue at any time and feel free to ask more questions at they occur to her' (Faulder 1985:115).

In order to enable patients to resume the dialogue at any time, patient information sheets will generally contain an invitation to request further information should the need arise later on and these invitations will always come along with the contact details of the researchers. As the Royal College of Physicians' guidelines recommend:

'Information sheets should clearly state the name, address and telephone number of the investigator and, if appropriate, of the person supervising the research' (Royal College of Physicians 1996:32).

So, for example, the *Patient Information Pamphlet* given to potential donor by Singapore's National Cancer Centre explains, under the heading 'Can I contact anyone if I have further questions?,' that:

'You may call the National Cancer Centre Tissue Repository (6436-8307) and ask for the Repository Administrator who will be able to assist you with further questions' (National Cancer Centre 2005:2)

Similarly, the UK Stem Cell Co-ordinators' Network's (2007a; 2007b) *Research Information Sheets* explain, under the heading 'Who should I contact for further information?,' that:

'If you have any questions or concerns and would like to discuss this further, please feel free to contact: Glenda Cornwell, Stem Cell Research Coordinator, The Assisted Conception Unit, Guy's Hospital, Tel. 07704 700 782, glenda.cornwell@kcl.ac.uk' (2007a:3; 2007b:3).

Of Quality

For the literature on informed consent, the information obtained by the patient during the dialogue with the doctor does not only have to have a specific content and quantity but also a particular quality. Indeed, as Alastair Campbell explains, 'great attention must be paid to the quality of the communication' (2001:223). Likewise, O'Neill and Manson suggest that for 'successful communication' to take place, it is necessary to meet 'some epistemic standards' (2007:84). A certain level of quality or epistemic standard is vital to ensure that the information disclosed by the physician is understood by the patient or research subject. As O'Neill and Manson argue:

> 'Successful communication must in the first place use a language that its audiences can follow, and make what is said intelligible to them' (O'Neill and Manson 2007:85).

Similarly, the UK Human Tissue Authority explains that a 'valid consent can only be given if proper communication has taken place' (2006a:17).

To ensure that the quality of the information obtained by the patient during his or her dialogue with the doctor had the necessary quality, the literature on informed consent has devised a series of rules and ethical technologies of government. Some of these rules and technologies refer to the language used by the doctor and the patient; they aim to ensure that this language is adequate in relation to the following three dimensions: (1) the national/cultural; (2) the socio-economic; and (3) the expert/lay. The other rules and technologies refer to other aspects of how one communicates, ranging recommendations relative to when and where to dialogue to the speed of one's explanations and the use of visual aids. These different rules and technologies are explored below.

The first set of rules and technologies that refer to the quality of communication relate to language. For the literature on informed consent, doctor and patient have to speak the same language. As O'Neill and Manson argue, 'speaker and audience must share a language' (2007:56). Language, for this literature, has at least three dimensions or meanings. The first of these dimensions or meanings is language understood as a national idiom replete with its cultural references. In the United Kingdom, researchers have to be certain that the patient or research subjects understands and speaks English. If this is not the case, researchers should use translators and information materials written in a language that the research subjects can read. So, for example, the UK Human Tissue Authority reminds researchers that:

> 'Particular consideration should be given to the needs of individuals and families whose first language is not English. Where consent forms are used, these should be available in ... the main community languages ... Wherever possible, professional translators ... should be used' (Human Tissue Authority 2006a:17).

In the same way, researchers in Singapore have to identify which of the Republic's four official language (Mandarin, Malay, Tamil, English) the research subjects understand and speak and address them in that language. However, if they do not share a language, they will have to draft in a translator. The consent nurses at the Tissue Repository at Singapore's National University Hospital, for example, will be able to speak English and Mandarin but will have to use translators to speak with those speaking Malay, Tamil or another language (Tissue Repository at the National University Hospital 2007). Similarly, the consent forms used at Singapore's National Cancer Centre remind the researcher that the patient should have 'the nature of the donation ... explained ... in a language/dialect that [he or she] understands' (National Cancer Centre 2004:1).

The literature on informed consent furthermore reminds researchers that, when translating from one language to another, they should pay particular attention to potential cultural and religious differences that often came together with different languages. For example, the UK Human Tissue Authority explains that:

> 'Attitudes towards the use of tissue ... can vary widely among cultures and religions [and that] all healthcare professionals must be sensitive to this' (Human Tissue Authority 2006a:17).

Similarly, consent nurses at the National University Hospital's Tissue Repository will be aware from which of Singapore' four ethnic groups (Chinese, Malay, Tamil, European) the patient comes as this will indicate different sensitivities in relation to the gift of bodily tissues. For instance, Malays will be approached with particular care as they are often thought to be opposed to tissue donation (Tissue Repository at the National University Hospital 2007). So too, Stella Quah explains researchers should be attentive to 'cultural or religious differences' as they will affect the 'meaning' patients attach to donating parts of their bodies (1989:185).

The second dimension or meaning of language for the literature on informed consent is language understood in socio-economic terms. Researchers should ensure that the patients or research subjects' socio-economic situation does not constitute an obstacle to their understanding and/or faculty to express themselves. In case it is an obstacle, researchers

should adapt the way they communicate and the information they provide accordingly. Carolyn Faulder, for example, explains that:

> 'The ugly class divisions in our society also have to be taken into account. Doctors are invariably middle-class ... whereas a large number of their patients will be working class. This puts them at a distinct disadvantage when it comes to voicing their preferences or doubts to someone who speaks with a different accent, almost in a different language ... they feel they cannot express themselves "properly" ... [and are] intimidated ... but these obstacles to communication must be overcome' (Faulder 1985:35-36).

Similarly, the UK General Medical Council reminds physicians that they should be attentive to 'patients' occupation' as it 'may have a bearing on the information they need in order to reach a decision' (1998:Paragraph 6; cf. also 2002:Paragraph 18). So too, the UK Department of Health suggests that 'there should be support for those ... who have low levels of literacy' (2003:21). Stella Quah makes a comparable point, explaining that 'social class differences between [researcher] and patient with the patient feeling inadequate, ignorant and worried' will have to be overcome to allow good communication (1989:185). The nurses at the National University Hospital's Tissue Repository in Singapore also suggest that the 'level of education' will have an important bearing on communication and will have to be addressed (Tissue Repository at the National University Hospital 2007).

The third dimension or meaning of language for the literature on informed consent is that of a technical or expert language, as opposed to the idea of a lay or non-expert language. A consequence of physicians' expert medical knowledge is the highly technical and often abstruse language that they use. As Faulder explains, 'expertise generates its own jargon and nowhere more so than in medicine' (1985:35). Such a language is only understood with difficulty by non-specialists, creating a 'communication gap' between physicians and patients or research subjects (ibid. p.112). As Faulder further argues, 'communicating specialised knowledge to someone who is untutored in the subject is a problem in any field' (ibid. p.35). In consequence, the literature on informed consent recommends that doctors simplify their explanations and use a 'non-technical and readily understood language' (Campbell, Gillett et al. 2001:223) when informing their patients or research subjects. For example, the Royal College of Physicians recommends that:

> 'The scale and type of the research activity ... should be couched in easily comprehensible terms but any necessary simplification should not have the effect of understating any risks or of glossing over inconvenience or discomfort' (Royal College of Physicians 1990b:16).

Similarly, Martin Bobrow, in his exposition of informed consent suggests that the 'language' used by researchers should be 'clear and simple' (2004:3). So too, *the Singapore Guideline for Good Clinical Practice* requires that:

> 'The language used in the oral and written information about [the research] ... should be as non-technical as practical and should be understandable to the subject' (Ministry of Health 1999:29).

Some texts even suggest that in order to be certain that the language one uses is comprehensible, one should use existing tests of comprehension. So, Nicholson (1986:221), for example, argues that to ensure that they speak 'a language level that is likely to be comprehended' by patients, doctors should use any of the 'various tests of readability [that] are now available.' The UK General Medical Council, for instance, does have its information leaflets for patients edited in 'plain English' – a style of writing that is 'clear and concise' and which uses 'short sentences, everyday words and personal words (such as "I," "we" and "you")' – by the Word Centre (e.g. General Medical Council 2007; cf. also: The Word Centre 2008).

Aside from the rules and technologies related to language, the literature on informed consent has also set out a series of principles and mechanisms which regulate and manage how, when and where one should communicate. First, many texts in this literature will contain injunctions to researchers to inform and discuss with patients at a time best suited to them. For example, the UK The General Medical Council recommends researchers to 'discuss [the medical research] at a time when the patient is best able to understand and retain information' (1998:Paragraph 13). Similarly, the British Medical Association suggests that researchers 'choose the best time of the day' to discuss with the research subject (2004:18). Consent nurses at Singapore's National University Hospital have similar rules and they will be careful to go and talk to a patient when it is best suited for him or her (Tissue Repository at the National University Hospital 2007). Likewise, Singapore's Bioethics Advisory Committee recommends that consent 'has to be taken in a timely ... manner' (2007a:24).

Secondly, the literature on informed consent will contain injunctions to researchers to ensure that the discussion is held at the best possible location for the research subject. The British Medical Association for example, suggests that researchers 'choose the best location' and 'create the right environment' (2004:17 & 18). It notably recommends that that 'the temperature in the room is comfortable and that the lightening is soft and indirect, but sufficiently bright for easy eye contact and interpretation of expression, and to study any relevant documentation' (ibid.). It also recommends that the researcher should 'try and

eliminate any background noise or distractions' and make certain that 'there are no obstructions which could hinder the development of a relationship of equals,' such as 'the height and positioning of the chairs' (ibid.).

Thirdly, the literature on informed consent contains advice for researchers about how they should communicate with research subjects. Some of this advice is about the way researchers should speak. For example, the UK General Medical Council suggests that, 'where patients have difficulty understanding information or [where] there is a lot of information to absorb,' the doctor should 'provide [this information] in manageable amounts' and do it 'over a period of time' and maybe 'repeat it' (1998:Paragraph 13). Similarly, the British Medical Association recommends that researchers should 'speak at the right volume and speed,' 'use short sentences with familiar words' and, 'if necessary, accompany speech with slightly exaggerated gestures or facial expressions' (2004:18). There is also some advice relative to the use of both signers and visual aids to improve communication. For example, the UK General Medical Council suggests providing patients or subjects whose disabilities impair their capacity to hear or read information with alternative means of being informed like: the use of 'signers;' the 'tape recording of the [discussion];' or the use of 'written material, visual and other aids to explain complex aspects of the investigation ... where appropriate and/or practicable' (1998:Paragraph 13).

Among the 'written material' mentioned above, the 'patient information sheet' has become ubiquitous and is a document often discussed in the literature on informed consent (e.g.: Royal College of Physicians 1990b:16-17; General Medical Council 1998:Paragraph 36; Ministry of Health 1998:Annex IV/D, Paragraph 2.5.1; Medical Research Council 2001a:15; Department of Health 2001d:8-9; Bioethics Advisory Committee 2004:22-29; Human Tissue Authority 2006a:19). These patient information sheet are generally standardised leaflets describing the medical investigation, notably its purpose, procedures, risks and benefits. In conformity with the requirements regarding language outlined above, these leaflets will be 'written in simple, easily comprehensible language' (Royal College of Physicians 1996:32) and 'be available in a number of local languages and in a variety of formats, e.g., Braille, audiovisual, etc.' (Human Tissue Authority 2006a:19). Such a leaflet is considered as a tool to facilitate the patient or research subject's understanding; a piece of information that he or she can take home to study and reflect about or that he or she can show to and discuss with a friend or a relative (Royal College of Physicians 1990a:21). In no circumstances should it be 'a substitute for talking to the patient;' it should, rather, 'be used to support the oral description of what is involved' (Royal College of Physicians 1990b:16).

Time & Space to Think

Informed consent, according to the literature on the subject, is a means of building a new doctor-patient relationship around the notions of 'communication' and 'time and space to think' so as to enable the patient as person to unfold and employ his or her capacity to reflect and decide. While the previous section has discussed the notion of 'communication,' the present section examines the notion of 'time and space to think.'

For the literature on informed consent, the doctor-patient relationship has to be re-organised so as to offer the patient enough time and space to think. The aim is to encourage and enable patients or research subject to reflect and decide whether he or she wants to give bodily tissues to medical research by giving him or her the time, space and support to do so. The British Medical Association, for example, explains that:

> 'People should be enabled and encouraged to take for themselves those decisions which they are able to take ... [and to] regulate their own lives' (British Medical Association and The Law Society 2004:3).

Similarly, having posited that patients have 'their own opinions' and can 'act intelligently,' Alastair Campbell argues that for them to express these opinions and act intelligently they must 'be allowed' to 'think about what is being said' and 'make up their own minds' (2001:10-11).

The literature on informed consent has set out a series of rules and ethical technologies of government in order to generate the time, space and support necessary for patients or research subjects to think and decide. These rules and technologies include three sets of injunctions: (1) to research subjects to take their time and think carefully before deciding whether or not to participate in the research; (2) to research subjects to enlist the support of family, friends, personal GP and patient advocates; and (3) to researchers not to temper with the research subjects' capacity to reflect and decide by using any forms of coercion. These rules and technologies are explored below.

The first rule or technology is the injunction made to research subjects to take the time to think carefully before deciding whether they want to give their bodily tissues to medical research. These injunctions can be found in patient information sheets as well as in leaflets

about medical research addressed to the general public. For example, the leaflets *Medical Research and You* published by Consumers for Ethics in Research (CERES) recommend to potential research subjects to 'think carefully before [they] decide to take part' (Consumers for Ethics in Research 2003b). They also inform potential research subjects that they can and should take their time:

> 'Do I have to decide at once? No. You can ask for time to think about it' (Consumers for Ethics in Research 2003b).

Patient Information Sheets will generally contain similar injunctions. For example, the UK Biobank *Information Leaflet* suggests to those who have been invited to participate that:

> 'Before you decide whether to join, it is important for you to understand why UK Biobank is being done and what is involved. Please take the time to read the following information carefully' (UK Biobank 2007a:1).

Ethical guidelines and research manuals will, similarly, strongly recommend to researchers to make sure that research subjects are given enough time to think carefully about their participation. Singapore's National Medical Ethics Committee, for example, advises doctors that

> 'Sufficient time must be given to the prospective subject for reflection' (Ministry of Health 1998:Annex IV/D, Paragraph 2.5.2).

Similarly, the UK Human Tissue Authority recommends that researchers 'seek the person's consent to the proposed procedure well in advance' so as to give him or her 'reasonable time to reach a decision' (2006a:16; 2006c:14). It suggests, in particular, that 'it is important that [researchers] do not convey to [the person] any sense of being rushed' (2006c:18). So too, the UK General Medical Council advises researchers to 'give the patient time to reflect, before and after they make a decision, especially if the information is complex or what [they] are proposing involves significant risks' (2008:13). It recommends in particular that researchers 'ask if [the potential research subjects] would like more time to think about [their participation]' (ibid. p.19).

The second rule or technology to encourage and enable the research subject to think and decide is the suggestion made to him or her to enlist the support of others such as family, friends, personal GP or patient groups to discuss the issue and help him or her decide. These injunctions can be found in both patient information sheets and leaflets on medical research for the general public. The CERES' leaflet on *Medical Research and You*, for example, informs

potential research subjects that they 'may want to talk to family or friends or [their] GP' about whether or not to take part (2003a:2). Similarly, the *Research Information Sheet* of the UK Stem Cell Co-ordinators' Network tells those invited to participate to:

> 'Please take time to read the following information carefully and discuss it with others if you wish' (UK Stem Cell Co-ordinators' Network 2007a:1; UK Stem Cell Co-ordinators' Network 2007b:1)

Ethical guidelines and research manuals also contain recommendations to researchers to encourage research subjects to enlist the support of their family, friends, personal GP and/or patients associations. Nurses at Singapore's National University Hospital Tissue Repository, for example, will make sure the prospective research subject can 'discuss the issue with both his family and his personal GP' (Tissue Repository at the National University Hospital 2007). Similarly, the UK General Medical Council recommends that researchers:

> 'Make sure, wherever practical, that arrangements are made to give the patient any necessary support. This might include for example, using an advocate or ... [involving] those close to the patient ... [Furthermore] you should accommodate a patient's wishes if [he or she] wants ... a relative, partner, friend, carer or advocate to be involved in discussions or to help [him or her] make decisions' (General Medical Council 2008:13-14).

Likewise, the UK Human Tissue Authority suggests that 'giving consent' should 'be seen as part of a continuing process in which individuals, and their relatives or close friends, can discuss the issue fully' (2006a:16). So too, the Royal College of Physicians recommend that '[research] subjects should be given plenty of time to ... consult their families or their general practitioners' (1990b:21).

Although injunctions to patients to enlist the support of other people can be found in both the UK and Singapore, there are differences between the two countries in relation to who is enlisted for support and how they are enlisted. In the UK, patients or research subjects will be encouraged to enlist the support not only of their family and personal GP but also of their friends and patients support groups like The Patient Association or Consumers for Ethics in Research (CERES). So, for example, the General Medical Council talks about enrolling the support of 'a relative, partner, friend, carer or advocate' (2008:14). The UK Stem Cell Co-ordinators' Network invites potential donors to contact CERES if they want support or more information (2007a:3; 2007b:3). In the UK, furthermore, it is understood that while it would be beneficial for the research subject to discuss the issue with other people, he or she cannot be forced to do so. So, for example, the General Medical Council explains that researchers 'should consider involving ... people who are close to the patient' but only 'if the patient

agrees' (2008:25). Similarly, CERES explains to patients that they should 'talk to family or friends' but that 'the decision is [theirs]' (2003a:2).

In Singapore, research subjects are mostly encouraged to enlist the support of their family and, sometimes, their personal GPs. For example, nurses working at the National Cancer Centre's Tissue Repository at the Singapore General Hospital will make sure the potential donor of the tissue discusses the issue with his or her family (Kon 2007). Similarly, nurses working for the Tissue Repository at Singapore's National University Hospital will ensure that prospective research subjects 'discuss the issue with both [their] family and [their] personal GP' (Tissue Repository at the National University Hospital 2007). In contrast, texts on informed consent never mention 'patient advocacy groups.' This absence is due to the inexistence in Singapore of associations like the London-based Patient Association and CERES. The inexistence of such associations in the South-East Asian Republic is unsurprising given Singapore's authoritarian political culture articulated around the People's Action Party's (PAP) supremacy since independence. Although, there has been a will on behalf of the PAP to develop a stronger civil society in order to help the country's economic development since the late 1990s, this has not translated into the liberalisation or democratisation of the Republic. This will has led to the creation of a few civil society organisations and to their integration into the policy process. But, the Republic's political culture – the general censorship and discouragement, the sometimes overt repression and the stringent legal requirements to fulfil in order to create an organisation – still leaves little room for civil society organisations and activities (cf.: George 2000:Chapter 14; Lee 2001; Tan 2005; Chua 2005a; Chua 2005b).

In Singapore, the family of the potential research subject is, in general, automatically integrated to the discussion about whether or not the subject should give his or her bodily tissues. Chan's survey of doctors' attitudes in Singapore, for example, reveals that 'ninety percent [of doctors] consider it appropriate to discuss a patient's case with immediate family members' (2000:73). Similarly, nurses at both the National Cancer Centre's and the National University Hospital's Tissue Repositories will, in principle, contact the family of the prospective donor to discuss the issue with its members. When prospective research subjects are elderly persons, nurses will first contact the family members to ask them whether they can approach the research subjects (Kon 2007; Tissue Repository at the National University Hospital 2007). The family's key role in the process of informed consent in Singapore is related to official discourses about the family as the basic unit of Singaporean society and the importance of filial piety.

These discourses were first developed as part of the rhetoric on Asian values that emerged in the 1980s (cf. Hill and Lian 1995:Chapter 6; Tan 2001). One of the major values identified in the 1991 *White Paper on Shared Values* was the notion of 'family as the basic unit of society' (Government of Singapore 1991:10). This was further elaborated in a 1994 report on *Singapore's Family Values* that identified the Confucian notion of 'filial piety' as one of the five family values shared by Singaporeans (Hill and Lian 1995:154; cf. also: Ministry of Community Development 1994). Filial piety requires children to show respect and deference towards their parents and to care for them when they become old. As elsewhere in Asia, it has often been mooted as a specifically Asian value and a bulwark against Western individualism (cf. Sakamoto 1999; Hattori 2002; Yu 2002). Even after Singapore abandoned its Asian value rhetoric in the late 1990s, the government did not abandon its promotion of strong families and filial responsibility (cf. chapter 5). For example, in one of its latest nation-building projects, a report entitled *Singapore 21: Together, We Can Make the Difference*, the government argued that 'strong families' were the country's 'foundation and future' (1999:24). The notion of strong families signifies, among other things, that children, 'when [their] parents reach their twilight years,' should offer them 'support' and 'care' for them (ibid. p.27). This means that children should and will take care of their parents' health care when they are old, taking with them and liaising with doctors (Kon 2007; Tissue Repository at the National University Hospital 2007). Thus, the will of doctors and nurses to integrate the family in discussions about the donation of tissue is, in Singapore, a sign of sensitivity towards the prospective research subject and his or her family.

In many Asian countries, the integration of the family in the process of informed consent is interpreted, by bio-ethicists, as evidence that Asians have a different understanding of both the doctor-patient relationship and the human being as well as, more generally, different cultural values than in the West (e.g. Asai 1996; Fan 1997; Sakamoto 1999; Hattori 2002; Yu 2002; Chan 2004; Cong 2004). Given that in Singapore the particular place given to the family within the process of informed consent is a consequence of the country's Asian values rhetoric, it would make sense to interpret this place as proof that Singaporeans have different cultural values than in the West (Chan 2000; Yu 2002). But, unlike in other Asian countries, neither of Singapore's two bioethical committees perceives the role given to the family by doctors and nurses as evidence that Singaporeans have an understanding of the doctor-patient relationship and the human being that is culturally different than in the West (Elliott 2007). On the contrary, they argue that Singaporean and Western understandings are in principle similar (e.g. National Medical Ethics Committee 1995; Ministry of Health 1998:Annex IV/D; Bioethics Advisory Committee 2004; Bioethics Advisory Committee 2007a). There are two main reasons

for the committees' desire not to emphasise possible cultural differences between Singapore and the West. Firstly, the idea that there are cultural values that are specifically Asian and superior to Western values lost its attractiveness after the 1997-1999 Asian Financial Crisis. Indeed, the crisis has often been perceived in Singapore and other South-East Asian countries as a refutation of this idea, leading these countries to quietly abandon their Asian values rhetoric and talk about cultural differences (Thompson 2001; Chong 2004). Secondly, Singapore's desire to be recognised as a world-class player in biomedical research meant that the country had to adopt a system of ethical governance that conformed to (not culturally different from) globally recognised moral standards. Only such a system could bring the international credibility that Singapore strived for (cf. chapter 5).

The third and last rule or technology to encourage and enable the research subject to think and decide is the injunction made to researchers not to temper with the research subjects' capacity to reflect and decide by using any forms of coercion or manipulation. This injunction can be found in many texts on informed consent. Carolyn Faulder, for example, argues that:

> 'Our bodies belong to us ... We alone must decide whether we wish to lean our bodies to the cause of medical research. No one has ... the right to seek to influence, deceive or manipulate us into making a decision which is against our own best wishes for ourselves' (1985:128-129)

Similarly, O'Neill and Manson argue that researchers have no right to use 'coercion, duress, force or constraint' or deception, manipulation or fraud' to try to bring a prospective research subject to give his or her bodily tissues to medical research (2007:76 & 92). So too, the *Singapore Guideline for Good Clinical Practice* explains that:

> 'Neither the investigator, nor the [research] staff, should coerce or unduly influence a subject to participate [in a research project]' (Ministry of Health 1999:28).

There are, according to the literature on informed consent, a number of situations that can lead to undue influence or pressure being exercised on prospective research subjects and should thus be avoided. One of these situations is when the researcher is the doctor in charge of the prospective research subject's health. Here, the subject and patient can feel that he or she has to give his or her bodily tissues to further benefit from the doctor and researcher's services. Singapore's National Medical Ethics Committee, for example, argues that 'patients may feel undue pressure if consent is requested by physicians directly responsible for their care' (Ministry of Health 1998:Annex IV/D, Paragraph 2.5.2). Similarly, Martin Bobrow explains that:

> 'It is easy to forget how many different people may bring pressure to bear on someone to participate in a medical procedure ... The most likely culprit is the attending medical professional. Often this is a person that they see as having some authority, frequently someone to whom they entrust their health and believe they are indebted for services already rendered. Unless this is made explicit to them, they may feel that the extent to which they receive proper care depends on them being cooperative in agreeing to take part in research' (Bobrow 2004:2).

To avoid this situation, the literature on informed consent recommends that researchers discuss this issue explicitly with the patient and ensure them that their refusal to take part will not affect the medical care they will receive. For example, the *Patient Information Pamphlet* of Singapore's National Cancer Centre Tissue Repository explains to patients that 'whether [or not] you choose to donate, your medical care will not be affected' (2005:2). Similarly, Martin Bobrow recommends that, to avoid that patients feel obliged to participate, the professional must go an extra mile to point out that the quality of care they will deliver is not contingent on the patient agreeing to take in a research programme' (2004:2). Alternatively, some texts on informed consent recommend that, instead of the researcher-physician, a third party with no stakes in the issue should discuss with the patient and ask for his or her consent. Singapore's Bioethics Advisory Committee, for example, argues that:

> 'In instances where patients may be potential research participants, we reiterate that particular caution is necessary when the attending physician is also the researcher, lest patients feel under an obligation to their physicians. ... Where the risk of pressure on a prospective research participant is seen as significant, it may require an independent competent third party to take consent' (Bioethics Advisory Committee 2007a:24).

Another situation that can lead to undue influence or pressure being exercised on prospective research subjects and that should thus be avoided is when these potential subjects are either prisoners or in a dependent relationship with the researcher (e.g. students, junior medical staff, nurses, etc.). According to the literature on informed consent, such prospective research subjects are not really free to refuse their consent. Singapore's National Medical Ethics Committee, for example, explains that, 'because of their special status, questions can always be raised about [prisoners'] freedom to refuse consent' (Ministry of Health 1998:Annex IV/D, Paragraph 2.5.6.2). Similarly, the Committee also suggests that 'subjects, who maybe in dependent relationships with investigators (e.g. students, junior medical staff, nurses, etc.), may not feel "free" to refuse' (ibid.). In general, texts on informed consent recommend that prisoners or people in dependent relationships should not be asked to donate their tissues to research. Singapore's National Medical Ethics Committee, for example, explains that 'research on prisoners should not be undertaken' (ibid.). Similarly, the Royal College of Physicians explains that:

> 'No student should undertake experiments for any investigator who acts as a personal tutor to that student ... Similar considerations apply to others in hierarchical relationships e.g. junior medical or nursing staff' (Royal College of Physicians 2007:61).

Yet another situation that can lead to undue influence or pressure being exercised on prospective research subjects and that should thus be avoided is when they are paid to give their bodily tissues for research. According to the literature on informed consent, monetary rewards could persuade people against their better judgement. The Nuffield Council on Bioethics, for example, argues that monetary rewards for giving human tissue 'may obstruct rather than secure genuine consent' (1995:50). Similarly, Singapore's National Medical Ethics Committee suggests that 'excessive remuneration or other forms of benefit' can 'persuade patients to volunteer against their better judgment' (Ministry of Health 1998:Annex IV/D, Paragraph 2.5.3). Given the risk of coercion or manipulation that monetary rewards entail, the literature on informed consent generally forbids any such remuneration (e.g.: Nuffield Council on Bioethics 1995:Chapter 6; Medical Research Council 2001a; Bioethics Advisory Committee 2002b).

Conclusion

The aim of this chapter has been to contribute to our understanding of ways in which the different principles, expertise, institutions and procedures that make up bioethical governance reconfigure modern subjectivities and citizenship. To do so, it has focused on a key element of bioethical governance – the notion of informed consent. Except when there are marked and relevant differences, the chapter has drawn its illustrations without distinction from the United Kingdom and Singapore. This has been made possible by the fact that Singapore has adopted and implemented a very similar notion of informed consent to the one existing in the UK. This, as explained in chapter 5, is a consequence of Singapore's understanding of bioethical governance as a mechanism to produce international credibility.

Before exploring the way informed consent has sought, through its principles, procedures and institutions, to transform modern subjectivities and forms of citizenship, the chapter gave an introductory account of the notion of informed consent. Situating informed consent within bioethical governance, it has showed how informed consent is both an ethical principle and a series of ethical technologies that seek to ensure that human beings are respected and protected from the dangers relative to the collection and medical use of human tissue. It has also demonstrated that informed consent has become a cornerstone of ethics governance in

both the UK and Singapore. To do so, it has drawn attention to the ever increasing number of texts that recommend the application of informed consent, explain its importance and functioning and/or discuss the ways in which it should be operationalised.

Having given a description of the principle of informed consent and its key role within bioethical governance, the chapter went on to analyse the ways in which the principle of informed consent and the ethical technologies that operationalise it reconfigure modern subjectivities and forms of citizenship. The chapter argued, in that respect, that informed consent is articulated around a particular figure of the subject: the human being capable of reflecting and deciding on his or her own existence and body. Taking its cue from Hacking's (2002) essay 'Making Up People' and Rose's (1996c; 1999b) analysis of the psy-sciences, the chapter further argued that this figure of the subject around which the notion of informed consent revolves is both a reality that the bioethical literature on informed consent presupposes and one that it helps to create. On the one hand, the figure of the human being capable of reflecting and deciding is, according to this literature, how people really are. It is this already existing human being that this literature aims to protect against the dangers of modern medical science through the principle of informed consent and the different techniques that operationalise it. On the other hand, the descriptions of this human being that one finds in the literature on informed consent participate in the construction of this particular subject by creating a sphere of possibility for people to think and interact accordingly. This sphere of possibility and, thereby the figure of the human being is further reinforced by the ethical technologies that the literature on informed consent devises to ensure that this particular subject can be enacted and is respected in the rapports between researchers and research subjects.

Before substantiating this argument, the chapter made two caveats. Firstly, it explained that the figure of the human being capable of reflecting and deciding is not particular to bioethical governance. On the contrary this understanding of the person has a long genealogy in the West and has been at the heart of a series of practices. The bioethical literature on informed consent partakes in and further strengthens these pre-existent and widespread cultural assumptions about personhood. Secondly, the chapter made clear that while the literature on informed consent creates a sphere of possibilities in which people can act as human beings able to reflect and decide, this does not mean that people will effectively do so in real life. In actual fact and as medical ethnographers have extensively documented, people do often not conform to the descriptions of human beings and human actions put forward by bio-ethicists.

In order to substantiate this argument, the chapter examined, first of all, the way the literature on informed consent portrays the human being as 'a person' who is 'able to think, act and communicate.' It has described how the person is conceived as a being graced with a series of faculties – that of holding particular values, of communicating, of thinking and of deciding – which it terms 'the capacity to reflect and decide.' It also explained how, according to the literature on informed consent, this capacity develops during childhood and how it can be lost during adulthood at the inset of a mental illness or disability. As further evidence for its argument, the chapter also examined how this same literature portrays informed consent as a means of transforming the doctor-patient relationship. For this literature, such a transformation is necessary in order to allow the 'patient as person' to unfold and to use his or her capacity to think and decide about his or her body and health.

The first step in this transformation is the elimination of the paternalistic ethos around which, it is argued, the doctor-patient relationship has long been articulated. Indeed, as the chapter showed, this ethos based on doctors deciding what is best for patients without consulting them very much negates the notion of the patient as a person capable of thinking, acting and communicating put forward by the literature on informed consent. The second step in the transformation of the doctor-patient relationship is its re-organisation around the concepts of 'communication' and 'time and space to think.' The chapter showed how, according to the literature on informed consent, this re-organisation should enable potential research subjects to think and decide about whether or not they want to donate their bodily tissues to medical research. The chapter described in particular the different rules and ethical technologies of government devised by this literature to ensure that a dialogue takes place between doctor and patient during which the latter receives sufficient information to think and decide what he or she wants to do. The chapter also described the series of rules and technologies set out by this same literature to ensure that the patient has the necessary time, support and space to think and decide what he or she wants to do. It is maybe worth underlining here how astonishing it is that the desire to protect subjects from the potential dangers of medical science has been translated into such a complex set of ethical technologies for managing the relations between doctors and patients.

Chapter 7
Conclusion

This thesis has argued that, over the last twenty years, a new logic of rule, which I have termed 'bioethical governance,' has reconfigured the way the scientific and medical use of the human body is problematised and administered. As the thesis has showed, bioethical governance is an immense apparatus made of a series of resolutely heterogeneous elements, including: key categories such as 'the human being;' research centres on bioethics; a particular language and argumentative style; instruction manuals and tests to determine whether an individual has the capacity to grasp information and take decisions; human tissue banks; official reports on the medical use of human tissue; distinctive 'problems of ethics;' injunctions to patients to take their time to reflect on whether they want to give parts of their body to medical research; professional degrees in medical ethics; moral principles such as 'the respect for life;' guidelines on how to ethically collect human biological samples; systems to document and account for the interactions between researchers and research subjects; translators and consent nurses; medical law textbooks; invitations to patients to ask questions; national commissions on bioethics; patient information sheets and consent forms; articles in bioethical journals; and regulatory agencies.

As this thesis has further showed, three of the numerous elements that compose bioethical governance are particularly characteristic of this new mentality of rule. Firstly, a belief that medical research with human tissues constitutes an 'ethical issue' because of the dangers it represents for human beings and a corresponding desire to solve this issue by re-organising biomedical science in a way that is protective and respectful of human life and dignity. Secondly, the institutional form of the bioethical committee whose members are philosophers, theologians, doctors and lawyers and whose mandate is to analyse and offer solutions to the ethical issues that the medical use of the human body is supposed to generate. Thirdly, an assemblage of codes, practical instructions and guidance, formal procedures and monitoring bodies generally referred to as an 'ethical framework' and which aims to guarantee that the collection and use of human body parts in medical research is done in a way that respects and protects human beings.

As the thesis has made clear, bioethical governance has become a mentality of rule that is both widespread and exerting a growing influence across the globe. At first the preserve of philosophers and lawyers specialising in biomedical ethics and law, it has now been adopted by a wide range of actors, including: international organisations such as UNESCO, the WHO and the OECD; national ethics commissions; funding agencies for medical research; life sciences laboratories, hospitals; pharmaceutical companies; professional medical associations; and patient organisations. Furthermore, while bioethical governance was first developed and restricted to countries in the West, most notably the United States of America and the United Kingdom, it has been increasingly exported outside the Western world in the last fifteen years. Countries like Brazil, China, Japan and Singapore, for example, have all recently adopted and introduced this new mentality of rule.

This thesis has focused on the development of bioethical governance in the United Kingdom and Singapore. Both at the forefront of biomedical research and bioethical thinking today, these two countries offer an interesting combination of similarities and differences. There are many similarities in the way their medicine is organised as well as in the content and structure of their ethical frameworks, most of which are due to a shared colonial past and exchanges which have remained important even after independence in 1959. These similarities stand in productive tension with a series of differences between the two countries. There are, to start with, differences in the way bioethical governance was developed in the UK and Singapore. In the former, it progressively grew out of the discourse of bioethics from the late 1980s onwards as in other Western countries such as the USA. By contrast, in Singapore it was imported ready-made in a short period around and after the millennium. Furthermore, the two countries' histories post-1960 also present some important differences. The UK had to contend with the end of empire, de-industrialisation and the emergence of neo-liberalism and other radical discourses from the 1960s. At the same time, Singapore was concerned with its development and modernisation as well as with building a post-colonial national identity centred on specifically Asian values.

Based on comprehensive archival research and a series of complementary interviews and using Foucault's (1991a; 2004a; 2004b) genealogical approach, this thesis has examined three aspects of bioethical governance in the UK and Singapore. Firstly, it has mapped out the ways to think about, problematise and administer the medical use of the human body before the emergence of bioethical governance. The thesis has argued that, from the 1820s to the 1980s, there were two principal logics of rule that dominated the way the medical use of the human body was thought about and organised. The description of these two mentalities of government, which I

have termed 'anatomical liberal governance' and 'haemato-social governance' respectively, offered an interesting contrast to bioethical governance. Most significantly, this contrast has enabled the thesis to highlight some of the distinctive features of bioethical governance such as the typical bioethical knowledge which it incorporates, its belief in the dangers of science and its emphasis on informed consent.

Secondly, the thesis has located and traced the development and assemblage of the rationalities, authorities and practices that make the existence of bioethical governance in the UK and Singapore possible today (cf. Donzelot 1980; Barry, Osborne et al. 1996; Miller and Rose 2008). Although the two countries share an identical model of bioethical governance, the thesis has argued that the conditions of existence of bioethical governance in the UK were different from those in Singapore. The thesis has demonstrated that the development of bioethical governance in the UK is the product of a 'will to protect human beings' from the dangers of modern medicine. This will to protect human beings, the thesis has argued, is a style of thought that grew out of modern bioethics and that is articulated around the following five elements: a belief that modern medicine is dangerous, a desire to respect human beings, bioethical committees, moral codes and technologies.

In contrast to this, the thesis has argued that the import of bioethical governance to Singapore in the late 1990s was the result not of the growth of bioethics but of a relentless 'will to modernise' the country. This will, the thesis has argued, is a style of thought that has characterised the Singaporean leadership ever since independence in 1959 and which is built around, in particular, an economically determined notion of modernisation and the concept of infrastructure. The thesis has showed how, after informing the country's industrialisation in the 1960-70s, this will led the Singaporean government to transform the island into a world-class hub for the biomedical sciences from the mid 1980s onwards. For the Singaporean leadership, bioethical governance was a way to ensure the good reputation of the country's biomedical research and was, as such, one element of the 'infrastructure' that the government set out to build in order to attract multinational pharmaceutical companies to relocate on the island.

The third aspect of bioethical governance explored by this thesis is the way in which the different rationalities, authorities and practices that make up this new logic of rule are articulated around and help reconfigure modern subjectivities and forms of citizenship (cf. Rose 1996c; Rose 1999b; Hacking 2002; Isin 2002). Focusing on a key element of bioethical governance – the principle of informed consent and the different ethical technologies devised to operationalise it – the thesis has argued that informed consent is articulated around a

particular figure of the subject: the human being capable of reflecting on and deciding about his or her own existence and body. On the one hand, this human being is considered to be a natural given by bio-ethicists. Indeed, this figure is at the centre of their efforts to protect human beings from the dangers of modern medical science. On the other hand, bio-ethicists, by their discussions of this figure of the subject and their efforts to protect it also participate in the constitution of this particular human being. Indeed, the linguistic categories which they use to describe this human being as well as the ethical technologies which they devise to ensure that this particular subject is respected in the rapports between researchers and research subjects create a sphere of possibilities for people to think and interact accordingly.

These original insights on bioethics and the ethical governance of the life sciences provided by this thesis stem from its genealogical approach that contrasts with the perspective generally adopted in the sociological literature in this field. Two differences in particular are worth highlighting. Firstly, this thesis does not bemoan bioethics' bureaucratic structure or condemn its perceived complicity with the biomedical industry in exploiting research subjects, as do most researchers in this field (e.g. Elliott 1999; Jasanoff 2005; Salter and Salter 2005; Waldby and Mitchell 2006; Sunder Rajan 2007). Instead it has focused on the rationalities, practices and authorities that compose bioethics and the ethical governance of the life sciences. This difference of focus has allowed the thesis to identify and draw attention to the gigantic heterogeneous assemblage of linguistic categories, moral principles, expertise, formalised procedures, typical problems and institutional forms that make bioethical thought and intervention possible in the first place. Secondly, this thesis does not criticise bioethics' abstract and Western notion of the subject and its failure to grasp socio-cultural realities as many scholars have done (cf. DeVries and Subedi 1998; Kleinman 1999; Hoffmaster 2001a; Corrigan 2003). Instead, it has assessed the role played by bioethical governance in the constitution of modern subjectivities. This difference of focus allowed this thesis to emphasise the creative power of the knowledges, practices and institutions that make up today's immense bioethical *dispositif*. More specifically and as alluded to above, this particular focus has allowed this thesis to identify and draw our attention to the figure of the human being brought into being by the vast bioethical literature on informed consent.

More importantly, this thesis also contributes to the burgeoning study of what I have termed 'contemporary ethical discourses.' By this term I refer to these new languages of virtue – discourses on human rights and democracy, agendas for environmental sustainability, corporate social responsibility programmes, bioethics and the like – that have flourished since the end of the Cold War and which seek to infuse various domains of life such as war, trade

and science with a renewed sense of morality. Many scholars have recognised the rising significance of these contemporary ethical discourses and started to study their impact on modern forms of governance and subjectivity (cf. Rose 1999a:Chapter 5; Strathern 2000b; MacDonald 2003; Osborne 2003; Barry 2004; Guilhot 2005:Chapter 1; Rabinow and Palsson 2005; Barnet, Clarke et al. 2007; Dean 2007:Chapter 3; Power 2007; Weszkalnys 2007; Moon 2008). Some have identified a shift of mentality from an opposition to capitalism to a will to 'ethicise' it which, they argue, has allowed these politics of virtue to proliferate after the end of the Cold War (MacDonald 2003; Osborne 2003; Guilhot 2005). Others have explored some of the institutional forms such as the non-governmental organisation (or NGO) that make contemporary ethical languages possible (Strathern 2000b; Barry 2004; Guilhot 2005; Rabinow and Palsson 2005). Others still have analysed particular technologies of government without which some moral discourses could not exist such 'standardised narrative reporting,' 'league tables and rankings' for corporate ethics governance (Power 2007:93, 94; cf. also: Barry 2004; Weszkalnys 2007). Finally, some of these scholars have discussed new forms of citizenship that these languages of virtue both assume and help to bring into being, such as the figure of the 'moral fieldworkers' (Strathern 2000b:2; cf. also Guilhot 2005:5) and that of the 'ethical consumer' (Barnet, Clarke et al. 2007).

The genealogy of bioethical governance put forward in this thesis offers a double contribution to the study of this 'ethical turn' in governing. Firstly, its in-depth analysis of one particular language of virtue (bioethics) adds to our understanding of the conditions of possibility and processes of subjectification associated with these ethical discourses. Secondly, this thesis also provides us with a conceptual framework with which to explore the impact of other languages of virtue on today's forms of governance and notions of subjectivity. As explained in the thesis, the framework used in this research is built around concepts such as 'problematisation,' 'rationalities,' 'technologies' and 'subjectivities.' These concepts were initially developed by the literature on governmentality to analyse the impact of liberalism and neo-liberalism on mentalities of rule and modes of being. This thesis suggests that these concepts can and should now be applied to the new languages of virtue that have thrived since the fall of the Berlin Wall. Such an approach, it is suggested, should allow us to better understand the way in which the ethical turn in governance has transformed our logics of rule and our notions of subjectivity over the last twenty years.

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