Subject of innovation or : how to redevelop 'the patient' with technology

Mensink, W.H.

Subject of innovation

Cover design and illustrations by Bureau Stijlzorg, Utrecht

Cover image: Landscape with the Fall of Icarus, c.1555 (oil on canvas) by Bruegel, Pieter the Elder (c.1525-69)
Musees Royaux des Beaux-Arts de Belgique, Brussels, Belgium/ Giraudon/ The Bridgeman Art Library
Nationality / copyright status: Flemish / out of copyright

ISBN 978 90 9026519 3
NUR 730

Subject of innovation
or: how to redevelop 'the patient' with technology

Proefschrift
ter verkrijging van
de graad van Doctor aan de Universiteit Leiden,
op gezag van Rector Magnificus prof.mr. P.F. van der Heijden,
volgens besluit van het College voor Promoties
te verdedigen op dinsdag 20 december 2011
klokke 10.00 uur
door

Wouter Mensink

geboren te Zwolle
in 1979

Promotion committee:
Prof. Dr. B.R. Katzy (promotor)
Prof. Dr. P.P.C.C. Verbeek (promotor, University of Twente)
Prof. Dr. R.A. Bal (Erasmus University Rotterdam)
Prof. Dr. J.N. Kok
Prof. Dr. T.H.W. Bäck

Background of chapters

Chapter 2. *Presented as a poster*: 'Reciprocity, Technology and the subject' at SPT 2009 (the biannual international conference of the Society for Philosophy and Technolgy), 2009, July 7

Chapter 3. *Accepted for presentation at annual meeting of the Society for Social Studies of Science (4S), Cleveland Ohio, November 2-5, 2011 (presentation not held)*

Chapter 4. *Parts of final version published as*: Mensink, W. H. & Birrer, F. A. J. (2010). The role of expectations in system innovation: the Electronic Health Record, immoderate goal or achievable necessity? Central European Journal of Public Policy, 4, 36-59.
Parts of earlier version published as: Mensink, W. H. & Birrer, F. A. J. (2010). The role of expectations in radical system innovation: the Electronic Health Record, immoderate goal or achieable necessity? In K. Müller, S. Roth, & M. Žák (Eds.), *The Social Dimension of Innovation* (pp. 142-157). Prague: Linde nakladatelství, s.r.o.

Chapter 5. *Partly published as:* Mensink, W.H., Birrer, F.A. (2010). Translating policy into practice: argumentation in Dutch healthcare reform, *The 7th Conference on Argumentation of the International Society for the Study of Argumentation*

Chapter 7. *Presented as:* 'Democratising technology and innovation: the role of the 'participant' in Living Labs' at EASST 2010 (International Conference of the European Association for the Study of Science and Technology), 2010, September 2-4
Paper draws on an earlier publication: Dutilleul, B., Birrer, F. A. J., & Mensink, W. H. (2010). Unpacking European Living Labs: Analysing Innovation's Social Dimensions. *Central European Journal of Public Policy*, 4, 60-85.

Introduction

Research in 2011 confirmed the longstanding suspicion that the painting *Landscape with the fall of Icarus* is not in fact an original by Pieter Brueghel the Elder (1525-1569) (Currie & Allart, 2012). It is probably based on his composition, which is now lost. Nonetheless, the picture that has been part of the collection of the Royal Museum of Fine Arts in Brussels for nearly a century was most likely painted by someone else.

Icarus' story is well-known. He and his father tried to make their escape from the palace of Knossos by fashioning wings of feather and wax. The flight in itself was a relatively successful affair, as both men managed to take off. However, in spite of his father's warnings, Icarus flew too close to the sun. The wax that held his wings together melted and Icarus fell.

This story is a popular illustration of studies of technology and innovation. For instance, Peter-Paul Verbeek's latest book (2011), which deals with the limits of the human condition, has Matisse's painting of the Icarus myth on its cover. The story symbolises the recklessness that characterises mankind in its quest for progress. The progress that Icarus and his father try to accomplish concerns the transcendence of the natural limitations of being human. The particular example of flight as a means of leaving earth – for other planets – formed the inspiration for Hannah Arendt's book *the Human Condition* (1959).

Nevertheless, technology does not seem to be the complicating factor in the story of Icarus and his father. After all, the first part of the flight was successful. His father did stay away from the sun. The fall of Icaurs seems to be due to his recklessness, which is very human indeed. However, his daredevilry was to some extent induced by the enticements that the technology of flight offered. It is the combination of human nature and a technological artefact that caused his fall.

Brueghel gave a peculiar twist to the story of Icarus in his composition, assuming it is his indeed. Contrary to what one might expect, the main elements of the mythical story are hardly central to the painting. In fact, a careless spectator may easily fail to notice Icarus' legs sticking out of the water, at the right bottom. It is one of the points of Breughel's craft as a composer. This twist is well captured by William Carlos Williams in his 1960 matter-of-factly poem about the painting.

Landscape With The Fall of Icarus

According to Brueghel
when Icarus fell
it was spring

a farmer was ploughing
his field
the whole pageantry

of the year was
awake tingling
near

the edge of the sea
concerned
with itself

sweating in the sun
that melted
the wings' wax

unsignificantly
off the coast
there was

a splash quite unnoticed
this was
Icarus drowning

Instead of focusing on Icarus and the wing-artefact that enabled him to fly and fall, the poem is about the painting. This is curious given the recent scholarly debates about the artist that composed it and the artist that painted it. The discussion about the origin of the painting is particularly interesting from the point of view of technology, and even more so of innovation. Innovation is often juxtaposed with imitation. It is ironic that a much-loved painting, which was long attributed to one of the major innovators of the Flemish renaissance, is in fact an imitation. It is telling that art historians stress that the *composition* of the painting was still the master's. Apparently, innovation is to a great extent related to the making of *blueprints*, of visionary examples.

Few of Leonardo da Vinci's 'dream machines' materialised in his time, but he is still considered one of the giants of innovation.

To return to Brueghel's composition and the poetic transcription by William Carlos Williams, we could wonder what this tells us about the interpretation of the relation between Icarus and his wings. The picture seems to suggest that attempts to transcend the human condition are only a small detail in the 'bigger picture'. Man's hopes and tragedies are what happen while we are busy making other plans, to speak with John Lennon. The artist seems to give us a warning: the success of the innovation of flight is not part of the scene, only the failure. And even that is not big news.

It is good to know that there is another copy of this painting, in the collection of the Museum van Buuren, also in Brussels. Also this seems to be a copy of Breughel's lost original. A crucial difference with the more famous copy is that Icarus' father, Daedalus, *is* portrayed here. We see him flying above the (future) Icarian Sea, while his son tragically drowns. The Van Buuren image is probably less strong, considering that it emphasises the mythical story, which is so nicely delegated to the background in the other painting. On the other hand, it does help to explain the posture of the peasant at the centre of both paintings. In the more famous copy, we just see him stare at the sky. In the Van Buuren copy, it is clear that his gaze is fixed on the amazing achievement of Daedalus' flight. No one is looking at poor Icarus. This might suggest a rather important feature of the relation between man and innovation: we tend to look at the sky, hoping for triumph, rather than trying to learn from failures.

These are themes we need to bear in mind. The enticements of technological advances. The shady border between innovation and imitation. The fact that technologies and humans are different when they come together. The notion that innovation and attempts to transcend the human condition are just breadcrumbs compared to the whole of affairs on earth. The idea that we think of innovation in terms of blueprints, rather than in terms of engineering actual 'things'. And, perhaps most of all, that innovation is something very, very old.

At this point, we must abandon Icarus for more recent tales of innovation. This study is to a great extent concerned with the development of an Electronic Health Record (EHR) in the Netherlands. Nevertheless, there are reoccurring themes. These are well captured by Richard Freeman, in his analysis of policy statements about the French and British Electronic Health Record:

> 'Some of the policy statements analysed here have something of the quality of science fiction. They describe a technology which even until recently would have been thought incredible, or literally fantastic, and use it to invoke a vision of a better world. It is of course a truism of studies of science fiction that it reveals more about the contemporary mind than future reality, and so it is here. But what is interesting about many of these documents is their traditionally modern cast: they are concerned with the provision of welfare according to industrial standards of efficiency as well as the standardization and surveillance they entail. The application of new information technology in healthcare frequently appears as a totalizing project [,which] is much more akin to the electrification of the Soviet Union than travels in hyper-reality' (2002, p. 53).

With this last sentence, Freeman might refer to Nigel Osborne's 1987 opera that carries the title *Electrification of the Soviet Union.* The title is allegedly a reference to Lenin's dictum 'Communism is Soviet power plus the electrification of the whole country' (Evans, 2002). Technology is not necessarily the product of rocket science. In the case of Icarus, it was a well-crafted construct of feathers and wax. Nevertheless, its spread may involve great determination and long planning.

This image of technology is all the more interesting if it is presented as innovation, which still has the connotation of 'something new'. In the Netherlands, as in many other countries, a debate on the development of a better world with an Electronic Health Record in it was repackaged as an instrument to enhance innovation.

We may wonder how such developments relate to those who end up working with it. In the case of the EHR we may think of patients, doctors, insurance agents, to name a few. It is clear that there is often a political dimension to the making of technologies, but it is not always clear what it does to those who use it. In his book on *Political Machines*, Andrew Barry formulates it well:

> 'techniques and devices can become political – not just in the sense that they are used as instruments in conflicts between political parties or interests [..], or the sense that the deployment of expertise offers a way of resolving political controversy [..] but in the sense that technical designs and devices are bound up with the constitution of the human and the social' (2001, p. 9).

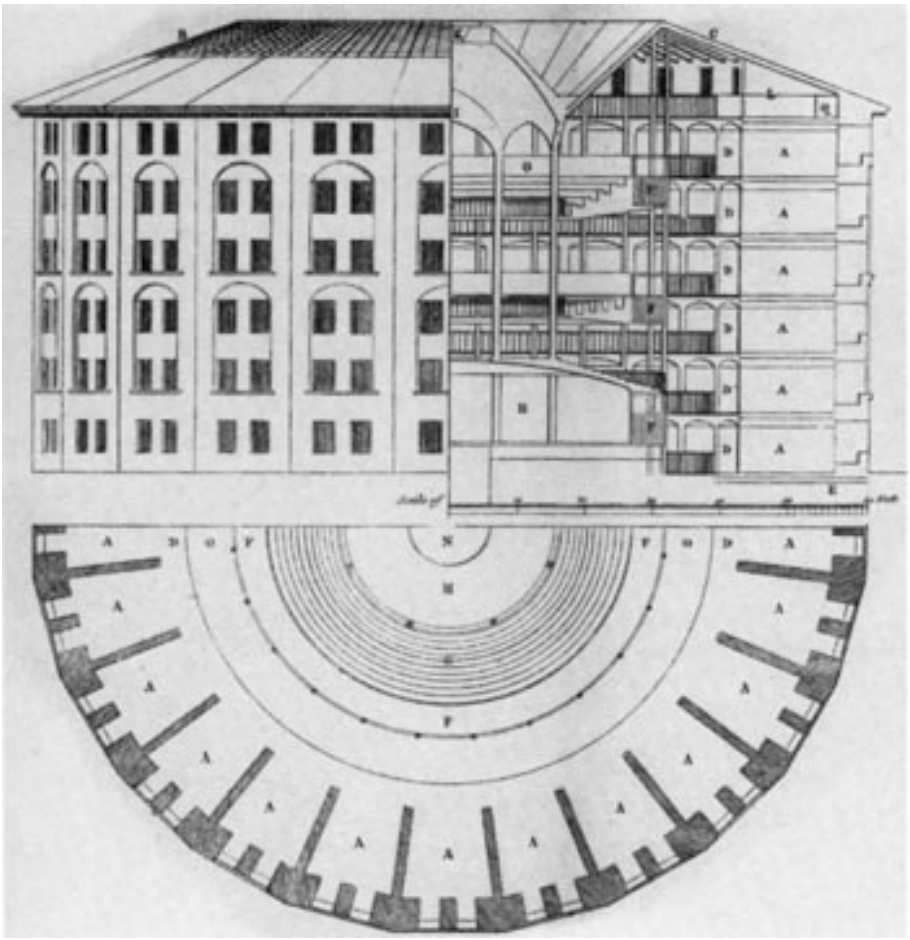
This leads to issues that the French philosopher Michel Foucault (1926-1984), on whose work Barry draws, discusses as questions concerning 'subjectivation'. Particularly the 'constitution of the human' implies the construction of the human subject, according to Foucault. This issue has motivated his life's work. He has shown that we are not only 'subject' to our own endeavours of self-development, but that we are simultaneously created by engaging in power relations with science, politics, modern institutions, and potentially, with technology. Understanding the tension between self-constitution and constitution-of-the-self-in-relation-to-others will probably never seize to be important. While we know a good deal of this tension through the work of Foucault, the role of technology is still unexplored territory.

In this study, I am concerned with the relation that is established between healthcare innovation and the recipient of care. The central question is how the 'subjectivity' of the care receiver is shaped in this relation. Part of the contribution is to develop an approach to questioning technology-related subjectivation. In a broader sense, this questions the relation between technology and politics. Before going into this question further, I explain the importance of examining technology and innovation in the light of Foucault's work. I hope this will reflect the paradox that I started off with.

Postpanopticism: Foucault in the 21st century

What is at stake in this study is the theoretical challenge to assess the importance of Foucault's work for the 21st century. This is the reason for selecting a case in the field of technology and innovation.

Since the 1990s, social scientists have struggled with the question of how to approach Foucault's legacy in the light of societal developments of the past two decades. Foucault is typically associated with notions like discipline and surveillance. This is largely based on his most popular work, *Discipline and Punish* (Foucault, 1977). It gives a philosophical reading of the history of our way of dealing with criminals and other 'dangerous individuals'. The book is subtitled *the birth of the prison*. The form that is discussed as the epiphany of disciplinary punishment is Jeremy Bentham's model of the panopticon, a very particular type of prison:



'at the periphery, an annular building; at the centre, a tower; this tower is pierced with wide windows that open onto the inner side of the ring; the peripheric building is divided into cells, each of which extends the whole width of the building; they have *two* windows, one on the inside, corresponding to the windows of the tower; the other, on the outside, allows the light to cross the cell from one end to the other. All that is needed, then, is to place a supervisor in a central tower and to shut up in each cell a madman, a patient, a condemned man, a worker or a schoolboy. By the effect of backlighting, one can observe from the tower, standing out precisely against the light, the small captive shadows in the cells of the periphery. They are like so many cages, so many small theatres, in which each actor is alone, perfectly individualized and constantly visible. The panoptic mechanism arranges spatial unities that make

> it possible to see constantly and to recognize immediately. In short, it reverses the principle of the dungeon; or rather of its three functions – to enclose, to deprive of light and to hide – it preserves only the first and eliminates the other two. Full lighting and the eye of a supervisor capture better than darkness, which ultimately protected. Visibility is a trap' (1977, p. 200).

As the multiplicity of 'inhabitants' of the cells already indicates: the panopticon is more than just a prison for Foucault. It is a metaphor for a general approach to questions of surveillance, punishment, discipline and control in modern Western society. A few years after this book was published, Foucault called the panopticon the 'very formula of liberal government' (Foucault, 2008, p. 67). He described this principle as panopticism.

Coming back to the question of the relevance of Foucault's work for the 21st century: the panoptical model is often considered dated by now. Under the banner of what some call 'postpanopticism', different scholars have proposed ways of apprehending the legacy of Foucault's work. Postpanoptical approaches are generally alternatives to, or updates of his model. Contrary to critiques, Roy Boyne argues that Foucault's later work is, in fact:

> '[t]he logic of Foucault's advocacy is precisely post-Panoptical. Faced with mounting evidence that the authoritarian absolutism underpinning the Christian concept of the self, for which Bentham's Panopticon was a precise model, is subject in the late twentieth century to increasing opposition, he was trying to learn from the past what the possibilities for the future of the self might include. As Mitchell Dean points out, this same logic is at work in his notion of governmentality' (2000, p. 302).

It is generally acknowledged that Foucault's late work implies a change of focus in one way or another. This focus on the development of personal ethics seems to be at odds with the focus on power and domination of his 1970s work. Even though it is clear that Foucault shifted his attention to other topics, and to another way of reasoning, I do not consider this as a complete break with his earlier work. I believe that the notion of 'governmentality', which Boyne refers to, is important in understanding the transition that took place in his thought. This notion was the focus point of Foucault's research at the end of the 1970s. It never led to a major publication. After his work on the history of the prison, he turned his attention to the role of state government in society. Obviously, his analysis differs from that of others. Governmental-

ity, for Foucault, is not about the practice of government, but about the 'reasoned way of governing best and, at the same time, reflection on the best possible way of governing' (Foucault, 2008, p. 2). One of the areas he studied was the rise of neoliberalism. It is the topic of a series of lectures at the College the France, which was recently translated into English under the title *The Birth of Biopolitics* (Foucault, 2008). In order to understand the connection to his later work, I pose that it is crucial to acknowledge the postpanoptical nature of this work. Most importantly, this is shown in the way the role of control in conceptualised. Foucault makes clear that this is fundamentally different from his earlier model by arguing that in neoliberalism, 'control is no longer just the necessary counterweight to freedom, as in the case of panopticism: it becomes its mainspring' (2008, p. 67).

One aim of this study if to show that Foucault's own vision of the postpanoptical society addresses a good part of the criticism he would receive after his death. What I hope to make clear is how a study of technology and innovation can add to this.

Post-Fordism

Over the past decade, Foucault has been presented as the philosopher of the Fordist era, the observer of conveyor belts, classroom order and military discipline. Given trends such as neoliberalism (Fraser, 2003; De Giorgi, 2007), globalisation (Fraser, 2003) and the rise of the information and network age (Munro, 2000), Foucault's rendering of Bentham's panoptical prison as a model of society is deemed dated, or even defunct. Zygmunt Bauman has argued that the model of spatial confinement – of labour, education, medicine, etc. – was typical for the industrial era. Now that people work at home, students do educational activities online, and patients are preferably not hospitalised, he argues that the 'trap' of visibility is less an issue than before. This would imply the end of mutual engagement between supervisors and supervised. He contends Foucault's views by pronouncing our phase of modernity 'liquid' (Bauman, 2000a). In a similar fashion, Bruno Latour (in Boyne, 2000) has argued that, even though many things in our society are visible – think of video surveillance – these are only segments of a larger whole, which could never be combined to produce a 'total gaze' as in Orwell's *1984.* Others add to this that visibility is much more problematic in modern networked organisations than in traditional hierarchic, or bureaucratic ones (Munro, 2000); that the disciplinary gaze has evaded because of decentralisation, desocialisation, privatisation (De Giorgi, 2007; Fraser, 2003);

and that Foucault's staging of the disciplinary society in the nation state is less valid because of globalisation (Fraser, 2003).

Different ways have been presented to categorise the different approaches of postpanopticism. Some have grouped them around their *relation* to Foucault's model: displacing, supplementing, reducing it, or declaring it redundant (Boyne, 2000; Ajana, 2005). Others have categorised the *type* of criticism that has been formulated. I focus on distinctions in the view of the *postpanoptical subject*. The subject of panopticism was controlled to provide against the perceived dangers that excessive freedom was thought to imply. Some maintain this view of the subject in postpanopticism, and argue for an 'update' of the mechanisms that are put forward to maintain it. Others have rejected this view of the subject, in favour of one that is controlled to be as free as possible, in a certain sense of the term. This view seems to be in line with Foucault's own view.

The panoptical subject updated

Even though some have reported a *reduction* in the need for panoptical measures, this does not necessarily do away with the subject of panopticism. Boyne (2000), for instance, names anticipation techniques, such as simulation, prediction and foresight, as means of *reducing* the need for panopticism. Creating virtual models has allegedly reduced the need for continuous surveillance of problems in the real world. He quotes Bogard in saying that '[e]ventually this will lead, by its means of perfection, to the elimination of the Panopticon itself' (2000, p. 300). Even thought such mechanisms of control sound somewhat more friendly that perpetual surveillance, they are still postulated to prohibit freedom, rather than to promote it. On the other hand, one might argue that such anticipatory measures provide a framework for allowing subjects a certain sense of freedom. This, however, does not seem to be Boyne's argument.

An argument that is similar to the thesis of reduction can be found in the idea that panopticism has become *redundant* in our phase of modernity, considering that its goal might have been reached: the creation of the 'normal' Western subject. In this case, the seized relevance of Foucault's framework is not due to the rise of new mechanisms, but due to its success. This thesis, however, is not taken very seriously, even by Boyne (2000), who coined the argument. Another 'redundancy argument', which proved to be more influential, is based on an extrapolation of Foucault's views on biopolitics. Some

quote Rabinow's work on genetic engineering as a mechanism that will create subjects that do not require discipline (Munro, 2000).

Munro's (2000) article on 'non-disciplinary power in the network society' is somewhat ambiguous when it comes to the view on the subject. On the one hand, he shows many examples of alternative power relations, in which disciplinary mechanisms are resisted, based on the use of information technology. This, however, does not seem to lead to a new view of the subject, even though it could. Such an active conception of the subject would be in sharp contrast with Foucault's views of the panoptical subject. On the other hand, the notion of resistance is far from foreign to a Foucauldian analysis. Already in *Discipline in Punish* (1977), Foucault pointed at the relevance of resistance. Interestingly, however, Munro immediately places his focus on the restriction of the control of the new forms of resistance that he discusses. His argument then should rather be regarded as an 'update' of the disciplinary toolbox that information technology offers. Subjects are no longer confined to non-communicative cells, but operate in 'connected nodes'. Governance of such a system turns into 'governing at a distance' (see also Fraser, 2003; Rose & Miller, 2008). In relation to that, IT enables the surveillance of data flows between these nodes, rather than visually monitoring every subject individually. It makes it possible to extend surveillance beyond the time and space limitation of a factory, classroom or army base. Munro points at concepts like Zuboff's 'Information Panopticon', or De Landa's 'Panspectron' to illustrate augmented views on control in the information society. In view of authors that provide the exact opposite argument (Yar, 2003), i.e. that the move away from confined spaces makes surveillance impossible, the definition of surveillance and the consequences of different forms become significant in the debate.

The new postpanoptical subject

The major factor distinguishing certain authors in the post-panoptical debate is the question of how new forms of freedom that the subject experiences relate to updated forms of normalisation and control.

Bauman's understanding of 'liquid modernity' departs from the panoptical subject, in the sense that he proposes that surveillance mechanisms have been dis*placed* by mechanisms of seduction. This argument is similar to what Frans Birrer has called 'systems of subliminal enticement' (2000). This concept implies a systemic analysis of relations, in order to uncover how actors' conduct is impacted by enticements that are not always outspoken. Of-

ten, such seduction or enticement is not beneficial to other actors within the system. Bauman argues that Foucault reflected on producer society, whereas our society is characterised by consumption. Deleuze (1995, p. 181) adds to this that capitalism these days is no longer about production, but about marketing. Such views portray consumers as being conditioned by continuous enticements, but as 'free' in the negative sense of the term. De Giorgio summarises the argument as follows:

> 'Whereas the reproduction of a work ethic could be assured through a net of disciplinary strategies aimed at normalising individuals, the instillation of a consumerist aesthetic requires something different: perhaps a system of control that leaves the individual as free—to choose what and how to consume—as possible' (2007, p. 251).

Bauman refers, amongst others, to Mathiesen's (1997a) concept of the *Synopticon* for building his case of the 'liquidity' of modernity. In his article, Mathiesen *supplements* the analysis of panopticism, by arguing that our society is just as much a 'viewer society' as it is a 'surveillance society'. The synopticon is about the 'many watching the few', referring mainly to the impact of mass media. Bauman (incorrectly) interprets the synopticon as a replacement of the Panopticon (2000a, p. 85-86), in line with his view on consumer society. He presents such societies as 'disengaged', not only in terms of the lack of contact between subjects, but more importantly in terms of the relation between supervisor and supervised. Bauman attributes the mutual engagement between supervisor and supervised to the Panopticon, which is lost in postpanopticism, according to him. With respect to postpanopticism, a term that he explicitly uses, he argues:

> 'We have moved now, as Mathiesen suggests, from a Panopticon-style to a *Synopticon*-style society: the tables have been reversed, and it is now the many who watch the few. Spectacles take the place of surveillance without losing any of the disciplining power of their predecessor. Obedience to standards (a pliable and exquisitely adjustable obedience to eminently flexible standards, let me add) tends to be achieved nowadays through enticement and seduction rather than coercion – and it appears in the disguise of the exercise of the free will, rather than revealing itself as an external force' (Bauman, 2000a, p. 85-86)

Others have put more emphasis on freedom in the sense of resistance, as we have already seen in the case of Munro (2000), based on the relaxation of panoptical control. In contrast to Munro, others have argued that this leads to a new subject, stating that 'the social individual is in no sense a passive object of a normalising gaze (on the way to becoming 'docile'), but is a creative and active subject in the management of his own visibility' (Yar, 2003, p. 264). Even though it seems clear that the juxtaposition between a sense of freedom and mechanisms of control is a core issue in postpanopticism, there is little agreement on the outcome of this.

The final point relating to a new type of subject relates to the alleged shift from a disciplinary society to a 'control society', which Deleuze has argued for. When arguing that '[i]ndividuals have become *'dividuals,'* and masses, samples, data, markets, or *'banks'*(1995, p. 180), he actually calls the existence of a single postpanoptical subjectivity into question. Nikolas Rose explains this argument by saying that 'we are dealing [..] not with subjects with a unique personality that is the expression of some inner fixed quality, but with elements, capacities, potentialities' (1999, p. 234). He does, however, add a cautionary remark here:

> 'Of course, these metaphors function more as hypotheses than conclusions. And they are framed in terms that are far too epochal: Foucault's disciplinary societies were not 'disciplined societies', but those where strategies and tactics of discipline were active; likewise, Deleuze's control societies should not be understood sociologically, but in terms of the emergence of new possibilities and the complexification of the old' (1999, p. 234-235).

The latter remark makes it clear that the question of what the postpanoptical subject is, is yet to be answered. In this sense, I provide an exposition of Foucault's own ideas in this area. This is mainly the topic of chapter two, but, in a sense, the whole thesis may be regarded as such.

I hope to have made clear that technology plays an important role in the conceptualisation of Foucault's work in the 21ste century. A particularly relevant way of connecting technology to questions of subject-formation is to look at discussions on innovation. Innovation connects questions of technology to an economic way of reasoning, at least for a majority of the community that deals with the topic.

Approach of the study

In the remainder of this introduction, I give an overview of how I approach the topic that I outlined so far. This implies that I provide two outlines of the study, a set of bifocals if you will. One is based on my background in public administration and political philosophy. The other is based on the notion that the work for this research was carried out in close proximity to more practice-oriented research in the technology and innovation group of a computer science institute, and a 'Living Lab'. The combination of these two lenses is probably best described by what is often called science and technology studies (STS), social studies of technology (STS), or science, technology and society (STS). Nevertheless, they can also be read as separate angles to the research.

The two lenses lead to two different ways of reading this study, two different outlines. First, a 'Foucauldian outline', in which I present the core theoretical issues in relation to subjectivation. The focus on technology and innovation requires that I draw on the work of other scholars, mainly from the philosophy and sociology of technology. Second is a 'healthcare innovation outline', in which I explain the empirical case on which I draw: the introduction of innovation in Dutch healthcare. In particular, I examine a large number of different policies and technologies: the so-called 'Diagnosis Treatment Combinations', the 'function-oriented description' technique in health insurance, the 'Quality-Adjusted Life Years' (QALY) calculation, a national infrastructure for an Electronic Health Record, a Personal Healthcare Budget, medical chat rooms and user-centred innovation projects.

These two lenses are structurally reinforced, in the sense that all parts and chapters of the study are given a title that reflects the dual focus. These can be found on the top of each page. Before going into the two lenses: a few more words about the approach in general.

The notion that I have both a theoretical and a practical focus does not imply that I merely 'apply' Foucault's work to technology and innovation. The approach is not exclusively to deduce concepts from his work to study empirical material. This is impossible in some of the cases that, because his work only offers a bare foundation for inquiring postpanopticism. Nevertheless, some chapters are structured this way. In other cases, I evoke a discussion of particular practices in relation to pro-innovation policy in Dutch healthcare to further a theoretical discussion. This is particularly at stake if Foucault's concepts seem inadequate to facilitate this. In the remainder of this introduction, I indicate where this is the case.

A Foucauldian outline

Theoretically, this study deals with the question of how people are 'subjectivated' in relation to technology and innovation. Michel Foucault's work forms the theoretical backbone. In a reflection on his efforts of the 1960s to the early 1980s, he argued that his goal had always been to study 'the different modes by which, in our culture, human beings are made subjects' (1982, p. 777). Foucault himself researched three of such modes throughout his work: turning people into objects of inquiry (early work), dividing people into social or political categories (middle work), and self-constitution (late work). I will slightly adapt his scheme, and add one 'mode', as I explain later.

The goal of this research is largely the same: I study how our 'postpanoptical' subjectivity is shaped in relation to technology and innovation in healthcare. Foucault distinguished between a number of ways in which subjectivation can occur. In this section, I explain to what extent I follow his approach. To some extent, I follow the types of subjectivation that he identified, but also add to this. Part of my theoretical objective is to re-assess Foucault's classification.

Apart from the theme of subjectivation, this study does not have a unitary theoretical framework that is applied consistently throughout. I take an incremental approach, in the sense that I add layers of theory along the way. This is necessary to unfold the complexity of the issue. In every chapter, I take another angle at probing the question of subjectivation. One way of looking at it is to say that I try to get 'deeper' into the matter by adding complexity. This creates a purposeful tension between some of the chapters, in the sense that the increased complexity of one chapter implies a reflection on the previous. Another way of looking at it is to say that I try to 'broaden' the scope, by including an entirely different way of examining subjectivation.

The chapters are grouped in four parts. They consist of two chapters each, with the exception of Part 1, which has one chapter only. The parts relate to the different 'modes of subjectivation' and to the different ways of examining innovation in healthcare. Within the 'Parts', the chapters touch on particular theoretical issues, applied to a particular case. In the remainder of this section, I introduce the overall logic for the different parts of the study.

Part 1: Modes of inquiry

The first type of subjectivation that Foucault distinguishes is to subject people to 'the modes of inquiry which try to give themselves the status of sci-

ences' (Foucault, 1982, p. 777). Inquiry is typically thought to relate to a specific object. This object, however, is not stable. As an example, Foucault discusses how modern economic theory contributed to the constitution of people as 'productive subjects' (Foucault, 2002). Before the 19th century, people were considered very differently when studies of the development of wealth were considered. Inquiry 'forms' the subject.

Particularly in his older work, from which the issue of object formation stems (Foucault, 1972), Foucault mainly examined scientific developments. Particularly considering that he later re-presented this work from the point of view of subjectivation, it seems that Foucault assumed a causal relation between scientific discourse and every day practice. To put it simply: scientific developments shape the world. One way of opening this rather rigid assumption to some extent, is to point our 'gaze' to types of inquiries that are not exclusively scientific. Governments make inquiries for instance. Just think of statistics of criminal behaviour, or local studies of citizen participation. Such inquiries also have their object, which may also develop over time. Are such 'practical' studies influenced by scientific developments? Did they form autonomously or perhaps in the interaction of science and practice? The relation between science and politics is a field with a considerable history. It is addressed by authors in various domains, ranging from science studies (e.g. Latour, 1993b) to political history (e.g. Amadae, 2003).

Part 2: Blueprinting power relations

Secondly, Foucault argues that people can be subjected to what he calls 'dividing practices'. In his historical studies, Foucault showed how we came to distinguish between people that are healthy or sick, or normal and abnormal, to name a few. At a first sight, this does not seem to be all that different from what I explained under the header of 'modes of inquiry'. Also inquiries have the potential of creating divides, by introducing categories and classifications. The difference here is that this second mode of subjectivation draws attention to 'practice'. In a sense, this relates to my earlier point about the exclusive focus on academia in the first 'mode'. The difference is, however, that the focus is not on inquiry here. 'To divide' seem to apply to the practice of societal and political institutions. Foucault refers to examples like the 'mad and the sane', the 'sick and the healthy', the 'criminals and the good boys'. What was called a 'madman' in the 19th, for instance, was entirely different than in the 18th century. The same applies to contemporary examples of conditions like ADHD. A much-heard statement is that a child that would have

been described as 'energetic' a few decades ago is now considered as medically deficient. If we take the medication that comes with such a label into consideration, it may be clear that children are subjectivised very differently now than before.

I want to broaden this useful idea of dividing practices, by broadening it to the more general notion of relations. Foucault's work has to a great extent focused on this. In *Discipline and Punish* (1977), the relation between the prison supervisor and the inmate plays a crucial role. It is the assumption of the prisoner that he might be observed which makes him exercise self-control. This notion of the potential of a surveillance relation in extrapolated to the model of 'panopticism'. Also power, one of his central concepts in examining subjectivation, is defined in relational terms. In Foucault's words: '[p]ower exists only when it is put into action' (1982, p. 788). He does not want to analyse power as something that some have, and others don't. Power is not an attribute, or property that individuals or institutions may 'own'. In this respect, institutions are rather the effect of power plays over time, than what causes them. He argues that

> 'the analysis of power relations within a society cannot be reduced to the study of a series of institutions, not even to the study all those institutions which would merit the name 'political.' Power relations are rooted in the system of social networks' (1982, p. 792-793).

The study of power relations, in the sense of what we call politics, is also central to Foucault's governmentality work (Foucault, 1991). In a sense, however, he takes a step back from the analysis of practice. As the definition that I used above suggests: governmentality is rather about the reflection on the practices of government than about the actual study of these practices. In terms of the focus on power relations, this implies that Foucault is interested in the reasoning and reflection about the types of relations that are considered to be beneficial from a governing point of view. They are not (yet) put into action and, therefore, are not to be considered as power relations as such.

This brings us back to a question that already appeared in relation to the discussion of the modes of inquiry. May we assume that discourses, in the sense of a set of statements over time, have a structuring effect on societal practice? May we assume that what scholars and politicians discuss in their plans, writings and other interactions affect the way our relations develop?

Do they indeed influence our subjectivity? Part 2 of this study will evoke questions like these, even though they will only be developed in Part 3.

The same opposition between a discursive and a practice-based notion of governmentality runs through the history of the use of the concept. Foucault started to reflect on the practices of government after his sabbatical, and dedicated himself to the topic during the period between 1977 and 1979. As I said before, he never published a major work on the topic. The concept was popularised in the 1990s by British scholars such as Nicholas Rose and Peter Miller (for a collection of articles see e.g. Rose & Miller, 2008). In the impressive range of studies that emerged from this school, the focus was mainly on the practice of government. Over the past years, however, Foucault's lectures on the topic were published, and translated into English (Foucault, 2007a; 2008). This re-established the understanding of governmentality as a reflection on governmental practice, rather than as practice itself. I do consider dividing practices, such as distinguishing categories like patient/consumer, ill/healthy, normal patient/expert patient, etc. However, I discuss these as part of a process of reasoning about governing healthcare.

An important concept in studies of governmentality is the notion of 'technologies of government' (Foucault, 2008). These technologies denote the practices that governments apply to steer the conducts of their subjects. Foucault refers to this as the 'conduct of conduct'. In this conception, technologies refer to techniques, tools or methods, rather than to 'hardware' or physical artefacts. Nevertheless, artefacts can be applied as a technology of government. To a great extent, this is the prime proposal of Part 2. Even though Foucault was accustomed to using terms like 'techniques' and 'technologies' in earlier work already, the term technology of government belongs to his governmentality period. He connects this to the modern concept of civil society, which is an aggregate of individuals and population. He argues that it is 'the correlate of a technology of government the rational measure of which must be juridically pegged to an economy understood as process of production and exchange' (Foucault, 2008, p. 296).

To consider civil society as a unit of governance is important in the light of my earlier remarks on subjectivation in societal relations. The fact that civil society is an assumed aggregate of individuals and the collective implies a set of assumed relations. Foucault is interested in the history of ideas about the relation between the individual and the collective. Even though it never developed into a major line of his work, it is of some importance in understanding his conception of governmentality. Foucault argues that, throughout history, different assumptions about the reciprocal relation between the whole and its parts have existed (Foucault, 2008). The most important development,

in this respect, has been the transition from social contract theory to liberalism, and later neoliberalism. While social contract theory assumed reciprocity between individuals and the collective to be based on a contractual agreement, neoliberalism believes it to be the outcome of a process of what I will call 'orchestrated synthesis'. The latter is related to what might be called the 'neoliberal subject': the *homo economicus.* This is one instance of discussing postpanoptical subjectivation. This shift in political perception forms the basis for chapter two. Because I position the notion of reciprocity as such a central concept in this study, it will play a role in the other parts as well. Both the theoretical and the practical lens will focus on this notion throughout.

What does all of this have to do with technology, if we do not look at it as tools or methods, but as artefacts? As things, as 'stuff'? What does technology have to do with societal relations, with governmentality and with the constitution of the subject? Even though we might interpret Foucault's work by looking at some of the physical constructions that he discussed, Foucault was not a philosopher of technology. In this respect, the work of Bruno Latour can help to provide a more detailed discussion. One of the main contributions of his work has been to overcome the idea that only human subjects can act. Like Foucault, he claims that human-centeredness is one of the main constituents of modern thought. However, contrary to many thinkers in the last decades of the twentieth century, he does not suggest to overcome the flaws of modernity by pronouncing ourselves and our societies 'postmodern'. Instead, Latour claims that 'we have never been modern' (Latour, 1993b). By claiming that 'objects too have agency' (2005b, p. 63), he overcomes the artificial divide between humans and 'nonhumans', which has influenced our thinking for centuries. Instead, he claims that also nonhumans have the capacity to act. An actor is 'what is made to act by others' (Latour, 2005b, p. 46).

Then, how to relate Latour's work to Foucault's in the sense of what I have discussed above? As I said, Foucault always had a good eye for techniques in which a particular power relation is embedded. Already in an early methodological statement, in 1969 (Foucault, 1972), he drew attention to the importance of analysing the role of systematic 'grids of specification', which often involve techniques for categorisation, classification and normalisation. Nevertheless, Latour claims that Foucault is one-sided for not labelling the acting role that concrete artefacts play (Crawford, 1993). In a later essay, Latour (1991) explicitly stated that it is technology that makes society 'durable', arguing that technological artefacts are used to make networks or associations more stable. The most stable ones, Callon and Latour argue, are those that no longer need to be considered. This is what they call black boxes. For

instance, we could imagine technologies, or other artefacts, which perform a certain repeated task that is likely to succeed every time. He uses the example of a door closer to illustrate this point (1988). Later, in a Heideggerian move, Latour also pointed out that the value of black-boxes often appears only when they break, when they need to be reconsidered (Latour, 1994; 1999).

Latour does not say much about subject formation. In fact, he is generally not very supportive of the term subject, considering that it evokes the subject-object dichotomy that he opposes. In this sense, it is probably not surprising that his remarks about the human subject are somewhat unorthodox. Referring to technology and other artefacts, he argues that '[h]umans are no longer by themselves' (Latour, 1999, p. 190). Subject formation is no longer an exclusively human affair. In fact, one might go further by posing that it probably never was. Then what do technologies do with respect to the human subject? According to Latour, they operate much like what you would call 'plug-ins' on the internet, as 'vehicles that transport individuality, subjectivity, personhood, and interiority' (2005b, p. 207). He continues by arguing that 'to obtain 'complete' human actors, you have to *compose* them out of many successive *layers*, each of which is empirically distinct from the next'. The term 'plug-in' may suggest a human-directedness that you would not expect of Latour. It is clear, however, that he does in fact point at technologies that have the capacity to act. In reference to this, the argues that, '[w]hile none of the plug-ins have the power to determine, they can simply *make* someone *do* something' (2005b, p. 214-215). I argue that the electronic health record is one of such plug-ins, one of such layers that give shape to the human subject.

Important to note here is Latour's assertion that a technology – like the above-mentioned door closer – functions according to a 'script'. A script of a technology is something else than its functionality. While functionality simply refers to the 'ability to reach the end to which [technologies] were designed', scripts refer to the type of behaviour that the technology is meant to evoke, as it is summarised by Verbeek (2006, p. 362). Often, the notion of function and script cannot be separated entirely. For instance, adding new functionality to an existing technology is likely to change its scripts.

Apart from evoking behaviour, the script of a technology can also contain morality. Latour uses the earlier-mentioned example of the automatic door closer to illustrate this. Such artefacts come in a number of different forms. The hydraulic door closer that Latour seems to admire, for instance, has the advantage of not banging the door in your face after releasing it, but it has the disadvantage of being very hard to open. As such, such artefacts 'discriminate against very little and very old persons' (1992, p. 159).

How can we consider the notion of scripts and the behaviour and morality that they evoke in connection with questions of subject constitution? We might turn to Foucault's most famous example, the panopticon, as an illustration. Bentham's prison was constructed in such a way that it evoked a particular behaviour and morality. By assuming that they *might* be subjected to surveillance, inmates are probed to continuously examine their own conduct in order to avoid additional punishment. The subject of panopticism (Foucault, 1977, p. 195) is self-disciplined. This indicates that the type of behaviour – monitoring of one's own conduct – and the morality – laid down in a code of conduct – that is evoked by the panopticon's script is intricately tied up with the type of subject that is created. Therefore, the script concept forms a good addition to make the connection between technology and the subject, even if Latour does not formulate it as such himself.

A second logical step is to consider the notion that technologies are typically designed. I will not dwell on this too long, considering that my focus is not on the design process, but on the projected design itself. If it is acknowledged that techniques and technologies can have scripts, it makes sense that designers can try to purposefully embed them. To further this argument, Latour builds on the work of Madeleine Akrich, who states that 'a large part of the work of innovators is that of 'inscribing' [their] vision of (or prediction about) the world in the technical content of the new object' (1992, p. 208). The notion of inscribing a particular moral norm has given rise to what Peter-Paul Verbeek calls 'materialising morality' (2006).

Another important addition of Latour's work is the notion of 'macro-actors'. This is at stake in chapter three. In the early 1980s Latour co-authored a paper (Callon & Latour, 1981), in which Hobbes' Leviathan, the epiphany of the modern institution that is the result of power games, is described as a very large network of human and nonhuman actors and actants. A similar approach could be taken at analysing Foucault's studies of discourse and formation of technologies of government. The discourse of neoliberalism, for instance, could be conceptualised as an attempt to construct macro-actors that would further the goals and expectations of a political program. To go back to the very beginning of this introduction: the electrification of the Soviet Union could be regarded as an attempt to construct a macro-actor that would represent the power of communism.

With respect to the role that artefacts and other nonhumans play in such macro-actor networks, a number of points ought to be made. First of all, Latour claims that 'technology is society made durable' (Latour, 1991). Large networks, for which the Leviathan is the ultimate metaphor, are stabilised by the actors that hold them together. You can consider them as the bolts and

screws in a construction. Just imagine what would happen if all telephones, buildings, internet cables and bridges would suddenly dissolve in thin air. A second point is that nonhumans 'do' things in such a network. They are more than mere stabilisers, they are actors as well. They make us do things. As in Foucault's work, the notion of relations is of great importance here. On the one hand, we need to conceptualise how humans relate to nonhumans. On the other hand, there are also many cases in which nonhumans play a role in the relations between humans. The third point is that the things that nonhumans do often come with a particular morality. A last point to be mentioned here is that humans often attempt to control what these nonhuman technologies do, for example by 'making' them. One of the major debates in contemporary philosophy of technology, after its 'empirical turn' (Achterhuis, 2001), is that, if we start considering nonhumans as actors, they might also play part in the morality of our lives (Verbeek, 2005; 2006). It is argued that, instead of waiting for artefacts to influence our lives in a certain way, we may also attempt to 'materialise morality': we could make electronic health records in such a way that patients and doctors are more likely to interact in a manner that we find desirable.

Then, let's think back to the relation with Foucault's work. Now we are faced with political attempts to delegate norms, desired forms of behaviour and possibly ethics to nonhumans, which stabilise macro-actors that support the ideas of a particular governmentality discourse. These macro-actors are, in fact, networks of relations that are stabilised to a certain degree. The way these relations are stabilised is of great importance from the point of view of subjectivation.

This leaves me with one more issue that is important for this part of the study. An important question is to assess the 'level' where politics takes place. One of the major contributions of Social Studies of Technology (SST) is the argument that politics is not an affair that is limited to the ministerial council. In this community, particularly the role of technical experts has received a great deal of attention. Authors like Bruno Latour have even positioned nonhumans as political actors in the 'parliament of things' (Latour, 1993b). The notion of alternative spaces of politics adds up to what Ulrich Beck has called 'sub-politics' (De Vries, 2007). This does not imply that the parliament and the ministerial council have no relation with politics anymore. The question is what happens at different levels, and how this relates to subjectivation.

Part 3: The shadow of the dominant discourse

In Part 3 of the study, I elaborate an angle of subjectivation that I have not found explicated in Foucault's work. I argue that people's subjectivity can also be influenced by what is *not* heard in a discourse. In my introduction of Part 2, I discussed subjectivation in relation to the way societal relations are conceptualised in a particular discourse, and how there are subsequent ideas about how to materialise these relations. All statements that reflect such ideas voice certain assumptions and expectations. To a certain degree, I connect to those who study the role of expectations in the development of technology (e.g. Van Lente, 1993; Borup et al., 2006). It is *expected* that there are certain governance techniques that will enable the free competition that neoliberals favour. It is *assumed* that people can be constituted as a *homo economicus*. What happens, however, if these expectations and assumptions don't hold? What if it turns out that we don't have the capacity or inclination to make the rational choices that free competition requires? What does that mean for our subjectivity?

Obviously, we can just wait and see. An alternative would be to examine political discourses when they occur, before the ideas have reached a certain level of completion. Foucault's historical studies all look at developments that lasted hundreds of years, *in retrospect*. The fact that they are 'histories of the present' (Foucault, 1977) implies that they relate the story of what *did* happen. Historical writing has the logical tendency to omit stories that *did not* happen, but that *could have* happened. Authors such as Andrew Feenberg (e.g. 1999; 2001) warn us that the course of historical developments might seem pre-determined with the benefit of hindsight, but that they aren't when they are still in process. This is his 'indeterminism' thesis. I use this awareness as a motivation to study discourses that are not yet done, that have not yet stabilised.

This relates to what I said about the things that are not heard in a discourse. Statements that relate to stories that 'do not happen' are often not heard. This is particularly the case in historical accounts. However, there are also many examples of statements that are not heard in the present. This might be because they criticise the expectations or assumptions that I mentioned, or simply because they are not said by the right people, at the right place and time. There can be many reasons. I believe such statements generally need to be heard. Very practically, they may contain alternatives that are well worth considering. More importantly, perhaps, is the risk that unheard statements, and the people who voice them, run the risk of subjugation, of being silenced.

I leave the question whether such statements have a 'right to be heard' to other political philosophers, or to activists perhaps. This applies in particular to the question whether *all* statements have such a right. This is obviously a question for normative accounts of freedom of speech and other human rights.

What I suggest here is that researchers ought to make such statements heard. Many researchers do so already. However, they often fail to account for their normative motivation for doing so. Such a starting-point does not imply a normative evaluation of the claims that particular statements make. Such evaluation typically takes place in the discourse. This does not imply that researchers are outsiders. Their statements are statements like any other. Frans Birrer (1993), for instance, has plead for something like 'evaluating the evaluator', in what he calls counter analysis.

In one way of looking at it, such a normative starting-point sets this study apart from the approach that Foucault has taken. I believe, however, that this is a useful addition. Foucault was criticised by Jürgen Habermas for being a 'cryptonormativist' (Habermas, 1994). Similar concerns were raised by Nancy Fraser, who, already in 1981, argued that '[c]learly what Foucault needs and needs desperately are normative criteria for distinguishing acceptable from unacceptable forms cf power' (Fraser, 1981). Even though Foucault claimed that his methods were purely descriptive, there is an undeniable feeling of a normative undertow. Habermas argued that Foucault never accounted for the grounds on which he could base this alleged normativity. The normative starting-point that I describe, which is certainly rather minimal, is an attempt to reduce the feeling of implicit normativity.

In another way of looking at it, this normative starting-point seems to be in line with Foucault's intentions. Resistance became increasingly important in his later work. For him, enlightenment meant to adopt a critical attitude to the present (Foucault, 1984b). In part 4 of the study, I pay more attention to the question of what constitutes a critical attitude, on what it is based. In part 3, I don't focus on the attitude, but merely on critical statements in the discourses I study. This mainly applies to statements that relate to expectations and assumptions that underpin the 'dominant discourse'. I suggest that expectations that are maintained in spite of serious criticism may be considered 'immoderate'. I want to stress that this is not a normative claim of external evaluation of the statements that are criticised.

Many statements remain in the shadow of the dominant discourse. One way of assessing how this occurs, is by examining the argumentation mechanisms that such statements encounter. I was convinced of the importance of studying argumentation in relation to questioning technology on the basis of

Frans Birrer's work (Birrer & Pranger, 1995; Birrer, 2007). The study of argumentation is another field that Foucault did not explicitly expand on. Argumentation is a complicated field. Many scholars who deal with these questions attempt an external evaluation of the 'quality' of a discussion (e.g. Van Eemeren, 2010). The distinction between rhetoric and rational argumentation is important in this respect. Habermas' (1985; 1987) ideal of a power-free sphere of undistorted communication had a strong influence on this way of thinking. Foucault (1997) considered this idea as utopian. He opposed domination, but considered power as 'force', not as something that was inherently undesirable. I follow the Foucauldian line. Nevertheless, I do believe there is sense in analysing how argumentation occurs, but in a similar way to Foucault's analysis of power relations.

Particularly with respect to the types of issues that Foucault analysed under the banner of governmentality, it is common to find argumentation that draws on a large number of interconnected premises. We might refer to this notion as 'clusters of argumentation'. Such clusters seem to be accepted as a whole, rather than on the basis of their specific premises. Therefore, such premises are hard to criticise, as they are bound up with others. Effectively, criticism is often met by 'evading mechanisms'. This does not necessarily imply that actors that support the dominant discourse intentionally mislead critics. I argue that evasion is simply often found around such types of discursive formations.

The fundamental question that remains is what it means if the expectations on which the constitution of a particular subject is based are criticised for being incorrect or unrealistic. This is particularly interesting if this criticism is evaded, as I described above. What is the impact of clustering in a discourse on our subjectivity?

Part 4: Shaping the self

The last mode of subjectivation relates to 'the way a human being turns himself into a subject' (Foucault, 1982). In his later work, Foucault admitted he had focused too much on how people are created by others, mainly by scientific disciplines, religion and governments. I examine the question how people shape *themselves* in relation with technology.

As I said before, Foucault's work of the 1980s is often considered as a break with the themes that he had dealt with up to the mid-1970s. Indeed, he moved away from the history of modernity, to go even further back, to antiquity. On the other hand, he did provide a motivation for this shift of focus

in interviews. It seems that his work on governmentality, which I introduced before, is an important link between the first part of his 1976 *History of Sexuality* and the subsequent two volumes that came out in 1984. There were no major publications in between. In a lecture in 1980 at Dartmouth College, he said: 'When I was studying asylums, prisons, and so on, I insisted, I think, too much on the techniques of domination' (1993, p. 204). Instead of this, he became aware of the relevance of practices of the self. In the same lecture, he argued that, in contrast to his earlier work on domination-centred government, he would like to 'study government [..] starting from the techniques of the self' (1993, p. 204). Even though he never performed this project entirely, we can have some ideas as to how this work might have developed.

One of the main points in this respect is that Foucault positions the self-constituting subject as an ethical and political subject. The influence of his thinking about enlightenment, as a 'critical attitude toward the present' (Foucault, 1984b), seems to have influenced his reading of the texts from antiquity. One of the modes of expression of a critical subject should be to 'speak courageously', which is denoted by the term *parrhesia* (Foucault, 2004). Around the same time, Foucault developed political ideas about *confronting government* (Foucault, 1984a). This seems to voice a right to decide how one wants to be governed, or even, not to be governed at all (see also Pavlich, 1998; Cadman, 2010).

Foucault claimed to have found practices in classic Greek and Roman times that were not subjected to technologies of government, or that were free of normalisation as he put it (1997, p. 254). These practices were part of a broader phenomenon that was described as the care of the self. Self-constitution is hard work, which is often described as a set of ascetic practices. Writing, listening, reading and speaking – in particular ways – are examples (Foucault, 2005). In Greek and Roman times, people were motivated to develop themselves by keeping notes on their daily achievements, by discussing their personal developments with friends or tutors, and by more of such practices. One's physical health was considered as 'one of the crucial forms of the care of the self' (2005, p. 59). Generally, care of the self adds up to adopting a critical attitude toward the self, and toward activities with which the self engages. At the same time, a view on the 'care of others' is a crucial part of such practices. Nevertheless, on the basis of Foucault's discussion, it is not clear *why* people would take care of themselves and others.

Foucault suggested that examples from antiquity can further our thinking about subjects in our own time, even though he stressed that we should not attempt to transfer historical models to the present. Particularly the no-

tion of the care of others is an interesting alternative to the neoliberal perception of reciprocity, a line that runs throughout the study.

I connect this part of Foucault's work to the theme of technology and innovation. I argue that technology may be regarded as an element of the institutionalisation of the care of the self. As I said in my introduction to Part 2, different authors have claimed that we may consider to purposefully embed certain norms in the technologies that we use. One such approach could be to create such technologies that would 'invite' people to work on themselves. In addition to this, there are obviously many examples of technologies that have this effect unintentionally. Others, like Peter-Paul Verbeek (2008) have done interesting work in this area. I take a different approach, however. I do not examine technologies as instances that 'make' people perform ethical reflection. Instead, I examine technologies as mediators in performing the type of practices that are considered in relation to self-constitution. What is clear, however, is that self-constitution always occurs against the background of other power relations. The question is what this implies for self-constitution.

We could also imagine that people could attempt to constitute themselves by getting involved in the design of the technologies that will use in the future. This notion is referred to as the democratisation of technology, or of innovation (respectively Feenberg, 2001; Von Hippel, 2005). In this respect, technology still operates as a mediator, but in a different sense than before. The involvement of people in the creation of technology is no recent development. Since the 1960s, different advocates have taken up the political objective of making design processes more democratic. As before, however, also here we need to acknowledge the complex of power relations in which self-constitution is cast.

A healthcare innovation outline

In this second outline, I provide the second 'view' on postpanopticism, i.e. the practice-oriented one. Before going into the four parts of the study, I provide some general comments on the approach to the empirical material.

Approach to the empirical material

The empirical topic of the study is innovation in Dutch healthcare. To put it very simply, this is narrowed down by studying the line from setting a political definition of what innovation means in the context of healthcare, to a

number of pro-innovation policies and the interaction of people with concrete technologies. This does not imply that I organise the empirics according to a linear model of policy making and implementation. First of all, the presentation of the practice of healthcare corresponds to the theoretical structure that I outlined above. Second, I do not consider the different parts of the case that I study as separate entities. I try to present a holistic perspective of healthcare innovation, but take different angles at it in the different parts.

This approach requires a combination of different methods. Following Foucault's approach of focusing on written discourse, a good deal of the policy-related discussions relies on an analysis of documents. This important for another reason. When trying to grasp the impact of a particular way of reasoning, it is often more convincing to be able to refer to written statements than to quotations in an interview. On the other hand, certain aspects of a discussion are simply not captured in documents. Particular in order to assess the role of non-politician experts, I do rely on interviews. Scholarly publications are a third source of information. In some cases, it is used as a way to discusses cases for which I did not gather primary data. In other cases, I use such publications as primary statements that are contrasted with statements in documents that constitute political discussions.

Then, a last word about the relation between technology and innovation. I use a broad understanding of technology in this study. In keeping with work in the STS community, and with Foucault's work, I do not limit technology to the colloquial understanding of 'that which is made by engineers', or 'things that have a power chord', to name a few. I also include techniques, architectures, forms, procedures or methods of organisation. Barry explains this by making a distinction between 'technical devices', which can both be material and immaterial, and 'technology', which 'refers not just to a device in isolation but also to the forms of knowledge, skill, diagrams, charts, calculations and energy which make its use possible' (Barry, 2001, p. 9). Particularly considering the way in which Foucault used the word technology, such a broad scope seems important in discussing questions of subjectivation. Nevertheless, it is important to distinguish between different types of technology in order to get a better grip on the case of healthcare innovation. First of all, innovation does not necessarily involve the type of tangible substance that is often associated with technology. Also processes can be innovated, for instance. From a broad perspective, this can still be understood as a technology, however. Secondly, I also discuss innovation-related subjectivation without discussions *innovations.* In the first part, I argue that the shaping of a subject is related to the way innovation is conceptualised and measured. Further on, I discuss policies that are supposed to enhance innovation by creat-

ing certain incentives. Also these policies shape people in a certain manner. Even though there are certainly techniques involved in doing this, which I will comment on, they are not technologies like an electronic health record. I would argue that the innovation discourse implies a particular way of thinking about, and dealing with, technology. It may use or produce hardware or software, but also involves a set of techniques that form the subject in a particular way. The way in which this subjectivation occurs is likely to be different when we consider technology in a non-innovation context.

Part 1: Measuring healthcare innovation

In the first part of the study, I focus on 'modes of inquiry' surrounding innovation and healthcare. In line with the above, I do not exclusively focus on the ways in which innovation and healthcare studies 'try to give themselves the status of sciences'. Part 1 partly has an introductory character. In order to grasp the notion of subjectivation in relation to innovation, it is important to provide at least a short overview of the (economic) discourse on innovation, now about a century old. Following work by Benoit Godin (2006; 2008; 2009b; 2009a; 2010a; 2010b), we can distinguish between two traditions of thinking about innovation. The reason for bringing this up is to assess to which tradition the discussion on innovation in healthcare policy seems to belong. Just like Foucault pointed out in his work, history is applied here as a 'history of the present' (Foucault, 1977). My goal is not to cover the entire history of innovation, but one that suits to understand the background of a topical political discussion.

The political discussion on innovation in the framework of healthcare policy cannot be separated from the discourse on the economisation of Dutch healthcare since the late 1980s. The main question here is how these two threads come together, i.e. how did innovation become an object in healthcare policy that required inquiry? The constitution of this object in the interplay between academia and policy practice is particularly clear in the way in which approaches to perform measurements on healthcare innovation are devised. Particularly in the 1970s, there was much interaction between academics and practitioners about approaches to express medical results in financial terms. The notion of productivity is important here. Such financial 'expressions' typically involved measurement. The emerging topic of innovation entailed the re-conceptualisation of these measurements in the light of the parameters of this discussion. Framing measurements this way has a strong impact on the constitution of the subject.

This is only a first step. Obviously, there is more to subjectivation than merely relating it to how the object of healthcare innovation is defined and measured. Throughout the study, I focus on two particular policy instruments that are supposed to enhance innovation: the infrastructure for a national Electronic Health Record (EHR) and a Personal Healthcare Budget. Development of electronic health records goes back to the 1950s (Kaplan, 1995). I mainly focus on attempts to create an infrastructure with national coverage. In the Netherlands, this discussion started mid-1990s. I regard the foundational study of the Public Health Council as the starting-point (RVZ, 1996). The first experiments with the personal budget started around the same time (TK, 1997/1998a). They were based on activism of the movement of people with a disability in the 1980s (TK, 1987/1988). The notion that both these policy measures took shape around the same time is important, considering that they are part of a broader discussion to restructure Dutch healthcare. I will pay most attention to the electronic health record, considering that it is a richer case from the point of view of technology as artefacts. In political discussions, these policy schemes are generally not considered as innovations themselves, but as framework conditions to stimulate others to innovate.

The topic of innovation is also interesting for sociologists of technology. An important question is how innovation scholars think about technology. Is it considered an instrument that will just respond to market needs, or is there some sort of innate dynamic of technology that will determine societal and economic progress (Williams & Edge, 1996)?

Part 2: Planning the electronic health record

The stake of analysing empirical material in Part 2 is to give practical accounts of governmentality at two different levels. These may be called the 'political' and the 'subpolitical' (De Vries, 2007). Both these 'levels' are in line with the reflective understanding of governmentality that I unfolded before. Different technologies of government are considered from the point of view of 'how to govern best'. The question is, however, how differently we regard the question of subjectivation, depending on the level at which it is analysed.

Rather than discussing how innovation is conceptualised in health policy relates to subjectivation, as in Part 1, I examine attempts to produce a new patient-subject by concrete policy measures. The policy for creating an infrastructure for an electronic health record aims at re-establishing the power position of the patient in his/her relations to other players, such as care providers and insurance companies. The health record is supposed to supply the

patient with a richer body of information concerning his/her own care situation. In a near-Foucauldian move, knowledge is assumed to equal power. The personal budget, which only appears in Part 3, is supposed to grant patients the 'power of choice'. If one is in control of one's own expenditures, rather than leaving this to a governmental agency, one is assumed to be in charge of one's health. Both these ways of thinking are often related to what is called 'patient empowerment' (for the electronic health record, see, e.g. Munir & Boaden, 2001; Beun, 2003; Ueckert et al., 2003; for the personal budget, see, e.g. Anderson et al., 1991; Ungerson, 1997; 2004; Morris, 2002; Anderson & Funnell, 2005).

Chapter two is in line with the discursive formation of postpanoptical governmentality that Foucault describes. In fact, I draw on his analysis of the rise of neoliberalism (Foucault, 2008). I connect the issues of innovation, productivity and civil society to the political discussions surrounding the introduction of the infrastructure for an electronic health record. I argue that reciprocity is an important concept in understanding how all these issues relate to each other. More in particular, the chapter deals with *neoliberal perceptions of reciprocity*, and the question of how these perceptions influence this particular political debate. I show how the content of the EHR 'innovation policy' adds to the earlier discussion on subjectivation in relation to productivity, but I add an element. By introducing the notion of reciprocity in the ideas behind this new infrastructure, people are regarded to have particular relations – to civil society, to other citizens and to government – that shape their subjectivity.

Particularly the question of technical standardisation is important here. In order to enable the different actors in the healthcare sector to interact on the technical infrastructure, standard ways of communicating need to be enacted. By enforcing a particular standard, rather than another, government can control the types of systems that are eligible to connect to the infrastructure (King et al., 1994). This is more than just a technical issue: the choice for a particular standard is a highly political matter. At the same, it is clear that technological trends have a strong influence on political decision-making about the type of standard that should be adopted.

Chapter three moves this analysis to the subpolitical level. In a sense, it 'unpacks' the discursive analysis of chapter two, by showing that reality is significantly more complex. An analysis of postpanoptic forms of control needs to bring this complexity forward. On the basis of an analysis of the process of defining technical standards for the electronic health record, it turns out that not one, but multiple EHR's could be defined. All of them have a certain potential of being realised. I use Bruno Latour's (1994) work on

macro-actors, 'inscription' and delegation to study the different ways in which standard-makers construct models of their visions of a future electronic health record. Just like in chapter two, these different models are to some extent imaginary. In this sense, they fit with the view of governmentality that I described. They are reflections on how to govern, making use of the EHR infrastructure. Nevertheless, the models, if realised, would have strongly differing implications for the subjectivity of the imagined patient-users.

Part 3: The reality effects of pro-innovation policies

As I explained in my outline of Foucault's work, the stake of this part is to analyse subjectivation from the point of view of what is not heard in a discourse. I analyse the role of critique in practice. First, I examine the electronic health record, in order to 'unpack' the discussion that was started in Part 2 even more. Second, I introduce the case of the personal healthcare budget.

Large-scale innovation projects often come with wide-ranging expectations, particularly with respect to the positive impact on the systems in which they are placed. To some extent, these may even be described as having utopian traits. Such expectations and their underlying assumptions are accepted relatively uncritically. The consequences are that innovation processes are frustrated, and that downsides and ethical issues are downplayed.

In chapter four, I discuss the role of expectations surrounding the infrastructure for the electronic health record. Major expectations are that the record will contribute to cost efficiency, quality of care and the transition from supply-oriented to demand-oriented healthcare. On top of that, it is expected that data from the record could be used for secondary, 'macro-level' purposes. The point of the chapter is to assess how realistic these expectations are, and to see what this implies for the subject. I do this by examining critical statements in the discourse, which question or contradict these particular expectations. These critical statements, however, mostly stem from academic literature, which remains largely unheard in political discussions. This even applies when attempts are made to translate this literature to the Dutch political context (Berg et al., 1998).

The discussion on the second line of 'innovation policy' that I highlighted earlier on, the notion of a Personal Healthcare Budget, provides another good case to address this issue. I introduce this case for the sake of offering a different perspective on subjectivation in relation to healthcare innovation, but one that is well-aligned with all the major themes that also turn up in the discussion of the electronic health record: productivity, civil society,

and most importantly, a new power position of the patient. Also here, we see the notion of reciprocity appear again, as a practical way of organising the personal budget policy instrument. In contrast to the EHR, the personal budget *was* introduced in the healthcare system.

The second chapter of this part (chapter five) will focus on this question of what happens to the subject if the expectations of the dominant discourse turn out to be faulty. I articulate how the dominant image of the 'good patient' (RVZ, 2007) is constructed in a 'cluster of argumentation'. Unravelling this cluster is a difficult affair, which makes the possibility of effective criticism problematic. This relates to my earlier statements about the 'evading mechanisms' that can be found around the particular discursive formation of clustered argumentation. If, however, we examine the image of the patient that critics put forward, an entirely different type of subject appears. This subject stands in the shadow of the dominant discourse.

Part 4: Interacting with technology

In the last part of the study, I examine self-constitution in interaction with technology from different angles. This is connected to the general line of the research, on the basis of the argument that innovation policies in healthcare are not neutral in terms of the *types* of innovation they are supposed to generate. The postpanoptical subject is 'made to be free', but in a very particular way. Therefore, we have to take into consideration that that the technologies we may interact with, for reasons of self-development, are often part of a political network. Nevertheless, the impact of concrete policies is less direct here, as it also depends on the types of applications that technology providers design.

At the same time, trends in the types of innovations that are being generated influence policy. The way in which the EHR 'infrastructure' is constructed will enable or disable particular applications. Also the personal budget is likely to create particular types of innovations. Applications are expected in the 'bordering areas between living and care and care and well-being' (TK, 2001/2002a, p. 3).

The notion of self-constitution provides an entirely different way of looking at the Electronic Health Record than the angles that I outlined in Part 2. Many EHR applications provide functionalities like keeping an electronic diary of one's health developments. Unfortunately, this has not been researched much so far. Instead, I draw on literature on chat rooms for particular medical conditions to evoke relevant questions. Also here, we can ques-

tion the opposition between neoliberal notions of expected reciprocity and the notion of a care for others. One of the most important observations in studies that deal with self-constitution is that there is always a certain ambiguity about the subjectivation that takes place. Practices that are considered as empowering, or as a way for people to offer resistance to dominant discourses, usually imply an element of control as well. This adds up to Foucault's idea that the subject is fundamentally constituted in the interplay between 'technologies of government' and 'technologies of the self'.

The second way in which I discuss self-constitution in relation with technology, is by examining how citizens are involved in the design of new technologies and innovation. The recent European 'movement' of Living Labs forms an interesting case in point. Living Labs are local or regional platforms in which people are in some way involved in innovation processes. Unsurprisingly, there are about as many definitions as there are labs. This movement is interesting in the framework of this study for various reasons. First of all, it has gained serious momentum in European policy circles over the past few years. Apart from that, healthcare is one of the most pursued areas of innovation in these labs (Katzy et al., 2007; e.g. Almirall, 2008; Kanstrup, 2008; Pitse-Boshomane et al., 2008; Mulder et al., 2008). To be more particular, some of them focus on the development of electronic health records and the standards that I discussed before (Jara et al., 2009). Even though Living Labs are not necessarily aimed at furthering democratisation, many authors have suggested they could, and should fulfil this role. I take this point of view as a starting-point for discussing how self-constitution takes place in Living Labs, and how this relates to attempts of other stakeholders to enforce their ideas onto the citizen-participants. This voices the same ambiguity as I highlighted before. After discussing Living Lab practice, I investigate different proponents of democratisation to evoke alternatives to the way the labs operate now.

Part 1

Modes of inquiry
Measuring healthcare innovation

1 Object formation
Innovation as an object of inquiry

In this first chapter, I examine the first mode of subjectivation that I introduced before: the notion of forming people in relation to different forms of inquiry. This may sound somewhat vague at first, but I will attempt to clarify matters. The stake of this chapter is to examine how the 'object' of inquiry is related to the formation of a particular subject. In his earlier work, in which objects of inquiry are discussed, Foucault did not explicate this relation to subjectivation. As I said in the introduction, he did discuss this earlier work in such a light toward the end of his life. In this chapter, I try to give more body to this.

One of the questions that Foucault asked in his book *The Archaeology of Knowledge* (1972) is how an object of inquiry is 'formed'. As I said in the introduction, it seems that there are modes of inquiry that would probably not be considered as part of the scientific field, such as governmental gathering of data on public health. Nevertheless such 'practical' inquiries are often closely related to the development of related sciences. With respect to innovation, for instance, it is clear that it is an object of study within a wide range of scientific disciplines – from engineering to business studies, from economics to sociology. More recently, innovation studies is positioned as a discipline of its own (Fagerberg & Verspagen, 2009). At the same time, it is an object for different public institutions, such as the European Commission and the OECD, but also the Dutch Public Health Council and the Ministry of Healthcare.

Foucault always took a historical approach to his studies, but has changed his angle considerably over time. I will not describe all the features of abandoning his 'archaeological' method for a 'genealogical' one, but do want to stress again that his histories are 'histories of the present' (Foucault, 1977, p. 29), rather than histories of the past (see also his essay 'What is Enlightenment?' in Foucault, 2007b). They are histories that aim to contribute to our understanding of how a phenomenon in our time was constituted. For this chapter, this implies that I am interested in the constitution of innovation as an object of inquiry in Dutch healthcare.

Foucault argues that such objects are discursively formed, even though he would later probably have argued that they are constituted in power relations. In order to study how this formation takes place, there are a number of

points to consider (Foucault, 1972). First, we must study the *surfaces of emergence*, the places where objects are delineated, where boundaries are set. In the context of this chapter, this mostly implies whether the object of innovation was given shape within businesses, academia or in government. The place where formation takes place tells us something. Second, we must study *authorities of delineation*, the institutions that support a particular understanding and demarcation of the object. We could think of influential journals, but also organisations, or broader institutions like the law. Finally, there are the *grids of specification*, the systems according to which the different aspects that relate to an object are classified. Foucault uses the different kinds of madness as an example. In addition to the latter, French sociologist Pierre Bourdieu (1991) stipulated that also the methods that we use for our inquiries will inevitably form the object. Even the use of random sampling for a survey frames the object in a particular way. I use the combined focus of Foucault and Bourdieu to examine how the object of innovation in healthcare was formed, and how this relates to the subjectivity of the care recipient.

In the framework of this study, it makes sense to look at the interrelation of object formation and subject formation from the point of view of technology. In this respect, there is an interesting parallel between Pierre Bourdieu's and Bruno Latour's work. Latour started off as an anthropologist of science (Latour & Woolgar, 1986; Latour, 1987). Just like Bourdieu, he paid attention to the role that instruments play in researchers' work. In Latour's excavations, however, such instruments and tools are treated as artefacts that act on the research work, much like the human analyst who is also part of the team (Latour, 1999). This implies that we may regard them as techniques or technologies, in the broad sense that I outlined in the introduction. As such, they may be considered as being endowed with a script, which *may have been* purposefully inscribed. It is not my intention to provide a Latourian anthropological account of the role of specific forms, tools or other instruments that play a role in measuring healthcare innovation. Nevertheless, I do consider them as techniques with a particular script in my discussion. This will come up at the end of the chapter.

I perform the analysis in a number of steps. I start by a short overview of the different traditions of thinking about innovation, examining where they emerged, what authorities support them and what methods they use in their inquiries. I also discuss the impact of neoliberalism on the innovation discourse. The discussion of these traditions in relation to neoliberalism will be important from the point of view of postpanopticism, as I try to show. Second, I assess which of these traditions can be recognised in the way innovation was adopted in Dutch healthcare policy. Third, I examine concrete inquiries of healthcare innovation in the Dutch context. Particularly in this last

part, I relate the formation of the object to the formation of the subject. Due to the scope of this chapter, I use secondary material for my discussion of the traditions of innovation research. The situation of Dutch healthcare is based on a study of policy documents.

Forming the object of innovation

Joseph Schumpeter (1883-1950) is usually credited as the founder of innovation studies, even though he was certainly not the first to use the term (Sundbo, 1998). Nevertheless, his work was an exception in a period in which studies of technological change were mainly associated with invention (Godin, 2010a). In fact, it was Schumpeter who delineated what innovation is, by juxtaposing it with invention. The creation of such demarcation lines is an important way of forming the object.

If we want to discuss innovation studies as a discipline, it makes sense to take the 1960s as a starting-point (Fagerberg & Verspagen, 2009). Nevertheless, the pre-history of the formation of innovation as an object of inquiry is strongly dependent on the earlier work on invention. Retrospectively, these studies are often shared under the umbrella of innovation studies (Godin, 2010a). The object emerged at various 'surfaces': it was constituted across disciplinary borders, particularly when applications of innovation are taken into consideration. However, the majority of theorising seems to stem from economic science. This particularly holds for the point of view of this chapter: the formation of the object of innovation in Dutch healthcare. A more general history of innovation studies should obviously include other contributions as well. Much of this overview is based on the emergent 'intellectual history of innovation' that Benoît Godin is composing (e.g. Godin, 2006; 2008; 2009a; 2009b; 2010a; 2010b).

Godin provides one of the most comprehensive categorisations of traditions in the innovation studies field, which is suitable for this discussion, despite its (purposeful) high level of generality. There would be the following traditions: 'that of mainstream economists concentrating on (the adoption or **introduction** of new) processes in industry (technological change), and that looking at (the invention and **commercialization** of new) products (technological innovation)' (2010a, p. 29, original emphasis).

The first tradition: mainstream economics

For understanding the first tradition, mainstream economics, we have to examine how innovation was adopted in the historical current of thought of the discipline. In *The Order of Things*, Foucault (2002) examines this history. His claim is that modern economics started around the turn of the 18th and 19th century by making labour its prime object. Up to then, the predecessors of what would become political economy were primarily concerned with measuring the exchange of wealth. Foucault claims David Ricardo (1772-1823) to be the first to turn to the study of labour as it would be done in modern economy. Adam Smith had acknowledged before him that labour is 'analysable into days of subsistence [*and*] can be used as a unit common to all other merchandise' (Foucault, 2002, p. 254). Ricardo, however, added to this that labour is not just a unit for calculating value, but that it is 'the source of all value'. Value had become a product that has its origin in labour.

Godin argues that before Schumpeter 'economic thoughts [*had*] existed for over a century on 'machines' and their effects on employment (Ricardo, Sismondi, Marx). It is in line with this tradition that technological 'invention' began to be studied in the 1920-30s' (Godin, 2010a, p. 10). The prime characteristic of such studies, which would develop into the way innovation would be conceptualised in mainstream, neoclassical economics, was that it was connected to labour productivity. It had long been acknowledged that technologies could play a role in the production function of a company. By adopting new technologies in the production process, labour could be partially replaced, or be made more efficient. This implies that innovation was defined as *input*, and labour productivity as *output.* Godin argues that '[f]from the 1960s, technological change, defined as substitution of labour for capital as factors in industrial production, became the economists' category rather than invention' (2010a, p. 20). Godin considers two think tanks to be important *surfaces of emergence* for this tradition: the National Bureau of Economic Research (NBER), founded in 1920, and the RAND corporation, founded in 1946. Particularly the 1960 NBER conference was an important place for such ideas to develop. Still, the way innovation has been treated in mainstream economics is often interchangeable with what used to be called invention (Godin, 2010a). The term innovation was often considered to be too subjective and sociological for economic science, considering that a good deal of perception is involved. This shows a main difference between mainstream economics and Schumpeter, who argued that '[t]o the economist, the study of invention is of interest to the historian only: invention is an act of intellectual creativity and 'is without importance to economic analysis' (Schumpeter quoted in Godin, 2010a, p. 14).

The use of neoclassical models in mainstream economic thought about technology and innovation has often been challenged by scholars from the Social Studies of Technology (SST) discipline. Williams and Edge argue that 'neo-classical economics has an 'instrumental' approach - tending to assume that technologies will just 'appear to order', in response to the demands of the market at any one time' (1996, p. 871). The notion of 'technological instrumentalism', which is sometimes also denoted as 'social determinism', implies that technology has no essence. As such, it can be used by humans as they please. This approach is often juxtaposed with the notion of 'technological determinism', the idea that technology is characterised by an innate dynamic that pushes social processes (see also Achterhuis, 2001; Verbeek, 2005).

The second tradition: evolutionary economics

The second tradition of innovation studies, to which Godin refers, developed outside of mainstream, neoclassical economics. In a sense, it is particularly the distinction between invention and innovation that makes the difference. Innovation was now conceived as the (first) commercialisation of inventions. Rather than being considered as *input* to a production function, it was to be considered as its *output*. The development of this way of thinking can be observed in the gradual construction of what would later be called the 'linear model of innovation'. Godin (2006) argues that the notion of a four/five-stage process (basic research → applied research → development → (production) → diffusion) is unjustly attributed to Vannevar Bush, the author of the blueprint for post-war US science policy (Bush, 1945). In fact, the model does not even appear in his report. Instead, the model was iterated over time by several disciplines. Again, the *surfaces of emergence* play an important role in the way this object was formed. Natural scientists linked basic and applied research, researchers in business schools added the notion of development and economists, finally, added production and diffusion to the equation. Rather than Bush, Godin (2008) considers W. Rupert Maclaurin as the first to introduce the model as a whole, in 1953. It is interesting to note, however, that Maclaurin was an economic advisor to Bush. Nevertheless, in terms of object formation it is still relevant to observe that policy followed research in this respect.

Even though the 'second tradition' started off from the notion that innovation is the commercialisation of the inventions that come out of the research sector, it turned against the idea of the linear model (Sharif, 2006). Along with scholars in the Social Studies of Technology (SST) tradition, the

linear model was judged to reflect a form of 'technological determinism' (Williams & Edge, 1996).

Non-mainstream, evolutionary economists like Richard Nelson, Sidney Winter and Christopher Freeman firmly placed innovation on the agenda. Their work caused the reappraisal of Schumpeter's work, particularly considering the abandonment of studies of invention. Some even go as far as labelling the second tradition neo-Schumpeterian (Verspagen, 1992). Nevertheless, there are important differences between Schumpeter and these more recent economists. Godin (2010b) argues, for instance, that Freeman 'put words in Schumpeter's mouth' when saying that the latter had defined innovation as commercialisation. Again, Maclaurin ought to be given this credit (Godin, 2008).

Apart from the focus on innovation as an *output*, evolutionary economists re-formed the object by the idea of studying the system *behind* the innovation, by their National Innovation System concept. Freeman studied the development of such systems over time. He focused on 'its growing complexity, the increased scale of processes, and the specialization of research work' (Godin, 2010b, p. 9). The idea of focusing on systems is a way to overcome 'linear-model type thinking' (Sharif, 2006, p. 762). Innovation diffusion is studied as an 'inter-related whole', rather than as a 'passive, mechanical process in which a given technology is gradually spread to a population of potential adopters' (Fagerberg, 2003, p. 139). This is another way of distinguishing a particular understanding of the object from others. Particularly Bachelard (2002) is known for studying the impact of using metaphors or holistic conceptions. The second tradition sets itself apart by covering more ground, by stressing the complexity of the object and by criticising the mechanistic approach of the other tradition.

One of the most important differences between the two traditions lies in the question of how innovation is measured. This relates to Bourdieu's work on the formational impact of different methods. First, there is the question of *how* measurements were constructed. Apart from the argument that technical change was largely rejected by economists before WWII because of a 'preoccupation [..] with employment and business cycle problems', Freeman gives the lack of quantitative data as a reason (1994, p. 463). Before the 1960s, statistics regarding invention and innovation were mostly non-standardised (Godin, 2010a). In such cases, inquiries necessarily followed what was available in practice. Afterwards, there have been different ways of standardising such measurements. Godin (2006) claims, for instance, that the linear model remained so influential, due to the fact that it was translated into statistics, by the OECD for instance. At the same time, however, the OECD developed into the main *authority of delineation* to propagate the gathering of data that were

deemed valuable in the second tradition (Godin, 2009a; Mytelka & Smith, 2002). A number of the scholars from the second tradition obtained positions in the organisation. Interestingly, the OECD institutionalised both strands of thinking (Sharif, 2006).

This brings us to the second question, which regards the *type* of measurements that would be performed. In terms of the first tradition, that of mainstream economics, it will not come as a surprise that productivity indicators were of prime importance. Godin shows that

> '[b]y the 1960s, productivity, which was considered a measure (proxy) of technological change in the 1930s, came to be seen as an effect of invention: research and development (R&D) as input gives rise to productivity and profitability. Economists began to correlate R&D with productivity measures' (2010a, p. 21).

The type of statistics that were gathered in evolutionary economics, and by the OECD were of a different nature. Freeman's note that mainstream economists were too occupied with employment (Freeman, 1994) gave way to measurements that were not focused on labour productivity. Instead, indicators were proposed that would measure the functioning and evolution of innovation systems. We might think of 'indicators of output like papers, patents and high technology trade; and indicators of impacts like the technological balance of payment' (Godin, 2010a, p. 24). The second tradition turned to descriptive statistics, rather than to the econometric ones that dominated mainstream economics. Such statistics have significant reproductive power: these indicators were not only used for measuring innovativeness, but also for stimulating it.

SST scholars have acknowledged the attempts of evolutionary economists to 'open up the black-box' of technology, in order to reflect the complexity of its construction. The idea that technologies are essentially constructed is posited as an idea that aims to overcome the deterministic views I mentioned earlier. Nevertheless, some evolutionary concepts are still judged to be overtly deterministic in terms of their focus on the autonomous development of technology. Williams & Edge (1996) particularly refer to (early) work by Christopher Freeman and Giovanni Dosi on technological paradigms and trajectories to illustrate this. Particularly because of the near-autonomous role they attribute to technology, however, their work differs strongly from the instrumentalism of neoclassical economics that I referred to earlier.

Innovation and neoliberalism

A final point that I want to make in terms of thinking about innovation is the influence of neoliberalism. This is not to suggest that innovation is a central point to neoliberal analysis, or that neoliberalism falls together neatly with one of the two traditions that I have outlined. However, there are certain relations between innovation theory and neoliberalism that will be an important factor in this study.

Foucault did not live to see the influence of politicians like Margaret Thatcher and Ronal Reagan, who are now often associated with the rise of neoliberalism in the 1980s (see e.g. Rabinowitz & Holm, 2009; McNay, 2009). In his study of this development, Foucault (2008) looked at the ideas of particular schools of economic thought, which preceded this development. In particular, he examined the Freiburg, Austrian and Chicago school.

In this work, he pointed at the relations between the entrepreneurial tenets of innovation theory and the rise of neoliberalism. He argues that 'the series of works on the enterprise by Weber, Sombart, and Schumpeter actually support the neo-liberal analysis or project' (2008, p. 147). It is questionable, however, whether Schumpeter was an influence on neoliberal thought, as Foucault claims. Rather, he seems to be a contemporary who deals with similar questions. Foucault's assertion is that Schumpeter's establishment of the entrepreneur in economic theory provided the argument for neoliberal economists to apply the model of entrepreneurship to nearly everything. Jones and Spicer argue that 'entrepreneurship has bled out of its heartland in small business fantasies and motivational seminars and has stained nearly every aspect of public life' (2006, p. 179). Their claim is that the birth of the figure of the entrepreneur should in fact be considered as a next stage of the development that Foucault described in economic though, after renaissance, the classical and modern period.

If we look at the neoliberal schools that Foucault discusses – Freiburg, Austria and Chicago – there are certainly relevant parallels with the innovation discourse. Competition and entrepreneurship are key characteristics, particularly for the Austrian school, to which Schumpeter belonged (Jacobson, 1992; Bianchi & Henrekson, 2005). It would be too easy to conflate neoliberalism and the type of neoclassical economic theory that I have describe here under the mainstream tradition, as some do (e.g. Sharif, 2006). Particularly the Austrian school did not adopt the idea that economics is to be studied from the point of view of an equilibrium situation (Jacobson, 1992; Van Horn & Mirowski, 2009). Nevertheless, the notions of price competition and the assumptions of perfect knowledge and rational agents are shared features

of both strands of thought. As such, neoliberalism is much closer to the tradition of innovation in mainstream economics.

The place of neoliberalism in the innovation debate will become clearer when the differences with the second tradition are explained. Particularly evolutionary economists have voiced their long-standing 'fight' against neoliberalism (Sharif, 2006, p. 753). Apart from the focus on price competition and rational choice, other differences of opinion lie in the way in which economic developments can be measured, and in the role that is attributed to public policy. Already Schumpeter had conceived capitalist competition as technological competition, rather than as price competition (Fagerberg, 2003). For Schumpeter, competition between entrepreneurs was not merely something that ought to be considered as part of the production function. He argued that entrepreneurship could not be measured quantitatively, in order to compare it to a particular output (Bianchi & Henrekson, 2005).

This is strongly related to the second point: the refusal of theories of perfect information and rational choice by evolutionary economists (Godin, 2010b). Some in fact consider Schumpeter as the father of 'irrational choice' (Prisching, 1995). Evolutionary economics introduced the notion of bounded rationality in their thinking about innovation (Verspagen, 1992; Fagerberg, 2003).

This is related to a third difference between the 'second tradition' and neoliberal thought: the question of measurement. Considering the assumptions of rationality and perfect information, different neoliberal schools applied econometric models to analyse the profit-maximising behaviour of innovative entrepreneurs (Jacobson, 1992). The Chicago school, with influential thinkers like Milton Friedman, in fact turned the principle of studying entrepreneurial competition into a 'mathematical science' based on modelling (Sharif, 2006). Partly because of the refusal of the assumptions that neoliberal thinkers take, evolutionary economists stuck to descriptive (non-econometric) statistics of inputs and outputs of innovation. This opposition in methodology is important to understand the different ways in which the object is formed.

A fourth, and final, difference that I want to highlight here is somewhat ambiguous, i.e. the role that is attributed to public policy. The basic argument is that the evolutionary tradition places greater emphasis on policy intervention in innovation than the mainstream tradition (Godin, 2010b; Freeman, 1994) and neoliberalism (Sally, 1996; Sharif, 2006). This goes back to a dispute between Schumpeter and Eucken, a representative of the Freiburg school, which Foucault discusses in his study of neoliberalism. Schumpeter argued that socialism was to a great extent inevitable, considering that he observed that society developed increasingly in this direction (Foucault, 2008). Innova-

tion would be the only way to safeguard capitalism, by means of his famous thesis of 'creative destruction'. Unless innovative sectors destroyed less productive sectors in society, institutionalisation and the formation of monopolies would continue. Nevertheless, Schumpeter thought that socialism and democracy could go together to some extent (Meyer, 2005). For the Freiburg school, by contrast, this was unthinkable. The notion of direct state intervention was considered to be fundamentally incompatible with its ideal of individual freedom (Sally, 1996). The same applies to the libertarianism of the Chicago school (Sharif, 2006). Foucault refers to this as 'state-phobia' (2008, p. 76). From this point of view, the focus on governmental intervention in innovation that evolutionary economists propose is rather at odds with these neoliberal views. Nevertheless, Foucault presents a convincing alternative. Even though he notes the resistance against direct political intervention in economic life, he particularly positions the notion of an active state as a key feature of the neoliberal schools he discusses. This is based on a difference of opinion with classical liberalism with regard to the question of freedom. Neoliberals no longer belief in Adam Smith's 'invisible hand' that will steer the market to equilibrium. Foucault summarises the neoliberal argument as follows:

> 'Clearly innovation will not come from the laws of the market, it will not take place in the market itself since economic theory shows that, by definition, the market must function in such a way that its pure mechanisms are in themselves regulative of the whole. So we do not touch the laws of the market but act so that institutions are such that these laws, and only these laws, really are the principle of general economic regulation and, as a consequence, of social regulation. The consequence of this is no economic interventionism, or a minimum of economic interventionism, and maximum legal interventionism' (2008, p. 167).

This leads to the seemingly contradictory idea that control is needed to assure freedom. This is one of quintessential features of postpanopticism, as I explain in the next chapter. Foucault says that '[l]iberalism must produce freedom, but this very act entails the establishment of limitations, controls, forms of coercion, and obligations relying on threats, etcetera' (2008, p. 64). In fact, Foucault regards the libertarian views of the Chicago school as the most extreme in this respect, arguing that they propose the 'strategic programming of individuals' activity' (Foucault, 2008, p. 223). He moves on to suggest that innovation is connected to a general view of investing in 'human capital'. He argues that

> '[i]f there is innovation, that is to say, if we find new things, discover new forms of productivity, and make technological innovations, this is nothing other than the income of a certain capital, of human capital, that is to say, of the set of investments we have made at the level of man himself' (2008, p. 231).

What we see here is a connection of innovation to the general topic of productivity, but as the result of a new 'paradigm': the investment in human capital. This will be of some importance for the discussion of subjectivation, below.

Innovation in healthcare

Having given a brief overview of the thinking about innovation, I now proceed to examine how this notion was adopted in political discussions about Dutch healthcare. Innovation policy in healthcare was first labelled as such around the turn of the 21st century, even though it already existed in practice before. This policy is part of a longer discussion on the economisation of this policy domain. I briefly introduce this (for a more thorough discussion, see e.g. Grit & Dolfsma, 2002; Helderman et al., 2005), before turning to the topic of innovation. For the economisation discussion, the issue of pricing is a returning point of debate. Even though it would certainly be possible to discuss the general formation of healthcare economics in relation to scientific developments in that area, I only do this for the more specific topic of economic thought and healthcare innovation. After providing a general overview of innovation policy in healthcare, I discuss the constitution of a number of particular measures that show how innovation in healthcare is framed.

Introducing the economisation of healthcare policy

The Dutch healthcare system developed gradually since the early nineteenth century (Grit & Dolfsma, 2002). It generally fitted within the social insurance-based 'Bismarck' system of healthcare financing, which was practiced in most continental Western European countries. The major alternative was the tax-based 'Beveridge' model that was introduced in the UK and in Northern and Southern Europe (Grielen et al., 2004). The Dutch system was known for its organisation in ideological and confessional 'pillars'. This lasted up to the

1960s (Helderman et al., 2005). In contrast to the introduction of National Health Systems in countries that followed the Beveridge approach, the Dutch health system developed incrementally. The main exception was the introduction of a general sickness fund in 1941 (Helderman et al., 2005).

While the first decades after WWII are considered 'corporatists', aiming at expanding universal access, the 1970s and early 1980s were characterised by 'etatism' that aimed at cost containment (Helderman et al., 2005; Mur-Veeman et al., 2003). The increase of state involvement also implied that the influence of ministries such as finance, social affairs and economic affairs increased. One of the main measures of the mid-1980s was the replacement of an open-ended reimbursement system for hospitals by global budgeting systems. Hospitals were financially encouraged to reduce the number of beds occupied. Dissatisfaction with the effectiveness of the state-driven approach led to calls for a more market-oriented approach.

The 'economisation' (Grit & Dolfsma, 2002) of Dutch healthcare is generally said to have started with the 1987 report of the Dekker committee. Using quantitative instruments as a measure of control, particularly by means of price setting and financial 'incentives', was an important angle of the proposal. Helderman and others argue that 'The fact that Dekker, former chief executive of Philips, led the committee was [..] a signal of the new times: businessmen instead of politicians or medical professionals had authority' (Helderman et al., 2005, p. 391). Others argue that, in contrast to the UK for instance, 'in the Netherlands it is the government, which is seen as the 'wicked man'' (Mur-Veeman et al., 2003, p. 239). The Dekker proposal suggested an approach that was more in line with the neoliberal current of politics that was common at the time. As Grit and Dolfsma put it: 'Markets, management, entrepreneurship and consumers became the prominent concepts and terminology in the domain of health service' (2002, p. 390). The main conception was to have a mandatory health insurance scheme, in combination with regulated competition in order to increase efficiency. The Dutch approach of introducing a regulated market is often contrasted with attempts to introduce an 'internal market' in an otherwise public system, as it happened in the UK, Finland, Italy and Sweden (Oliver & Mossialos, 2005). The previous system of cost-based reimbursement of sickness funds would be replaced by a prospective risk-adjusted system. Similar to the innovation discourse, the notion of entrepreneurial competition is introduced here. This would be enhanced by allowing citizens to switch between sickness funds. This system implied that health insurance companies would gain influence in steering the healthcare economy. They would be left free to negotiate contracts with healthcare providers of their liking. Price control was less and less considered a governmental affair.

In the early 1990s, the not-yet-executed Dekker plan was refurnished in the Simons plan, which was commissioned by the new centre-left government. Simons was the then-vice minister of healthcare. Even though the Simons plan was largely similar to the Dekker plan, more emphasis was placed on equity and the option of a national health insurance scheme. Helderman and others argue that, '[p]aradoxically, the Social Democrat Simons had become the defender of market-oriented solutions against the employer associations that promoted even tougher supply-side regulation' (2005, p. 198). In the end, Simons resigned. Nevertheless, some of the proposals of the originals plans were introduced. The subsequent 'purple' cabinets (social-liberal-conservative) were somewhat reluctant to try their hands on radical reforms after the failure of the Dekker and Simons proposals (Mur-Veeman et al., 2003). Nevertheless, pricing was reorganised. Most importantly, the fee-for-service for medical specialists was replaced by a lump-sum payment to hospitals. In terms of the earlier discussion on using competition for enhancing productivity, this measure was considered to work in the opposite direction. In relation to the ongoing debate on the productivity and quality of care, the Dutch liberal-conservative magazine *Elsevier* started rating the quality of hospitals in order to stimulate quality increase (Grit & Dolfsma, 2002). By then, performance measurement already had somewhat of a tradition in healthcare (Smith, 2005).

The opposition that this measure received was an argument to revert the lump-sum pricing approach, by introducing a standardised payment model called Diagnosis Treatment Combinations (DBC) in 2003. This implied that a price-tag was put on 'all activities and services in a hospital associated with a patient's demand for care' (Helderman et al., 2005, p. 204). Such DBCs are framed in a model oriented towards entrepreneurship and competition, and are subject to negotiation between care providers and insurance companies. This was predated by a new competition law in 1998. Grit and Dolfsma argue that

> ''[s]ocietal entrepreneurship' was a concept that sprung from the economic discourse, an (attempted) translation of the economic discourse into another context. The concept implies a particular attitude and work method for the care sector. The National Council for Public Health (RVZ 1996) started to promote the hospital as an enterprise, albeit working on a regulated market' (2002, p. 392).

The first decade of the 21st century was characterised by major reforms again. In fact, many proposals that were finally implemented were very similar to the original Dekker report (Helderman et al., 2005). Apart from the DTC (DBC)

pricing system, the main principle was the strengthening of the economic influence that patient demand could exert. The introduction of an experiment with personal budgets in the 1990s was an important factor that stimulated further change. For particular chronic conditions, patients could apply for a prospective budget that would be allocated to them directly, rather than receiving care 'in kind' (Grit & Dolfsma, 2002; Kremer, 2006). This system was expanded considerably, to include other types of eligible conditions, and was promoted to extend its reach. The introduction of a new Social Support Act (Wmo) in 2007 established part of this scheme as an element in municipal care provision. The year before that, a new health insurance act was introduced, which effectively implied privatisation. Even though health insurance remained mandatory, the traditional public 'sickness funds' were abolished. Also this reform aimed to enhance competition, public choice and consumerism, by promoting patients to switch between insurance providers and policies more than before (Maarse & Ter Meulen, 2006; Mur-Veeman et al., 2003).

The political formation of innovation in healthcare

Finally, I can turn to the question of the formation of the object of innovation in Dutch healthcare policy. I illustrate how this occurs at the interplay of academic studies of healthcare and innovation, and healthcare policy. I particularly explain this in relation to the two traditions of innovation research I describe earlier, with the additional influence of neoliberal economic thought. I argue here that ideas about *innovation in healthcare policy* generally correspond to the tradition of mainstream economics (Godin, 2010a), with additional neoliberal elements. On the other hand, there are also ideas about the *effects of general innovation policy on healthcare*. These ideas often fit better in the second tradition of evolutionary economics. In this study, however, I mainly focus on the former. Only in chapter seven, I touch upon elements of the latter.

Innovation, as an object in healthcare policy, was introduced at the beginning of the 21st century. Considering the strict limits of my focus, the *surface of emergence* is the small network of public or political institutions that influence Dutch healthcare policy. Over the past decade, a number of reports have appeared in political discussions that have placed their mark on the formation of this object. First, there was the foundational study *Technological Innovation in the Healthcare Sector* by the Public Health Council (RVZ, 2001). After that, particularly the report *Care for Better! Faster better, Innovation and*

ICT in curative care[1] by Ad Scheepbouwer, the CEO of Dutch telecommunications corporate KPN, was highly influential and on-topic (Scheepbouwer, 2006). The letter to parliament by then-minister of healthcare, Ab Klink (Christian-democrat), on *Innovation in Prevention and Care* (Ministerie van VWS, 2008) provides a further framing of the issue.

The 2002-report by the Advisory Council on Health Research, *Squeaking Links: Technological Innovation and Healthcare* (Raad voor Gezondheidsonderzoek, 2002), deserves particular attention. It is an example of a report that discusses the effects of 'general' innovation policy on healthcare. Indeed, it fits better in the evolutionary tradition of innovation studies (Godin, 2010b). The reason for this seems to be that the study was commissioned by three ministries: economic affairs; public health, wellbeing and sports; education, culture and science. This different angle is also acknowledged within the discourse. The Public Health Council clearly demarcates its approach *vis-à-vis* this report:

> 'The [Advisory Council on Health Research]-advice will mainly aim at advancing innovation in the Netherlands from the points of view of health research and economic activities. The [Public Health Council] focuses on the care sector as user and/or customer of innovation' (RVZ, 2001, p. 15).

This angle, of focusing on innovation as *input* rather than as *output*, is central to the 'technical change perspective' (first tradition) that is generally taken in the discourse I am studying.

A first logical step in terms of examining which tradition of innovation studies is followed here is to look at references to theory. From this point of view, the foundational study by the Public Health Council is particularly important. First, Rogers' diffusion of innovations-model is discussed. Second is the notion of technological determinism. Technologies are considered deterministic in the sense that they are often developed abroad. However, it is added that 'it is possible to steer a development when one is part of the innovation process' (RVZ, 2001, p. 23). On the other hand, it does not seem to be the same as the neoclassical idea that technologies just ''appear to order', in response to the demands of the market at any one time' (Williams & Edge, 1996, p. 871). Also Schumpeter's notion of creative destruction is referred to,

[1] There are a number of puns in this title. The word 'care' can both refer to healthcare, and to the notion of 'taking care' that things improve in a more general sense. The word 'better' can both refer to improvements in healthcare and to 'better health'.

but it seems that the opposite is imagined to apply to healthcare. The council argues that:

> '[t]he care sector absorbs technological innovations selectively. If they form a threat to the position of care providers, they are less likely to embrace the innovation. But if they strengthen this position, they are more likely to be in demand. In that respect, it may be argued that the care sector has exchanged Schumpeter's creative destruction for creative conservation' (RVZ, 2001, p. 57).

We can learn more about the way of thinking by examining what is expected of innovation. The entire Public Health Council report (RVZ, 2001) can be read as a lecture on the benefits of innovation. Costs are also acknowledged, but not focused on, because this is what commonly happens, according to the council. This is an important demarcation. I can distinguish roughly three areas in which benefits are expected: care provision, public health and the economy at large (RVZ, 2001; Scheepbouwer, 2006; Ministerie van VWS, 2007a). This shows how an otherwise economic way of reasoning is embraced in a healthcare context. Even though 'health' and 'care provision' are closely related, it seems important to note how they are set apart in policy documents. With respect to care provision, it is expected that quality will improve, that it will be more efficient, that work conditions will improve and that it will be more accessible. With respect to health, life expectancy would increase, as well as general wellbeing. It is the improvement in care provision that influences the improvements in public health. When it comes to economic benefits, cheaper products are mentioned, general increase of welfare in the sense of economic growth, increased labour productivity and decreasing costs of labour. There is a presumed causal link: innovation in healthcare causes improvement of care provision, which causes better public health, which in turn boosts the economy. In reference to the tradition of mainstream economics, it is important to note that the themes of labour and productivity form a red thread through the benefits of innovation discussion. There is an interesting relation with human capital, but not in the same way that Foucault describes it for his analysis of neoliberalism. In this case, innovation is regarded as an investment in human capital, rather than the other way around.

There seems to be agreement on the question of what prohibits innovation. Different factors are distinguished (RVZ, 2001; Scheepbouwer, 2006). Most of them relate to the structure of the healthcare sector. First, the sector is considered to be too fragmented. The Public Health Council speaks of 'partitions' within and between sectors. Care providers are considered to have too

much power, both compared to patients and to technology providers. On top of that, there are incentives that prohibit innovation, e.g. relating to the way physicians' rates are constructed. Particularly when financing was still arranged by lump-sum budgets for hospitals, the benefits of investments in innovation were often not considered. This has been a long-standing discussion, as I showed in the section on economisation. All of this contributes to a conservative culture, which is also observed among politicians.

There is general agreement that government does not innovate, but that it has an active role nevertheless. Government does not consider its policies as innovations, nor are they described as innovative. Government's view on its role can be summarised by saying that it should create the framework in which innovation can happen. In 2008, the then-minister of healthcare (Christian-democrat) argued that 'the field innovates, government sets boundary conditions' (Ministerie van VWS, 2008, p. 4). Government sets up the 'rules of the game' (RVZ, 2001, p. 9), creates infrastructures and, most importantly, restructures the system in such a way that innovation is no longer prohibited by the barriers I described before. This way of approaching the role of government is exactly in line with my earlier description of neoliberalism: governing-at-a-distance.

Unsurprisingly, concrete policy measures are mainly dedicated to overcoming the earlier-mentioned prohibitions. The main angle is to restructure healthcare financing in such a way that pro-innovation incentives are instated (Scheepbouwer, 2006; Ministerie van VWS, 2001a; 2008). What happens here is that the general debate on the economisation of care is connected to innovation. Health insurance reform is directly linked to the 'innovative capacity' of the healthcare sector (Ministerie van VWS, 2001a). Personal budgets do not only grant more power to patient demand, but can also lead to improved market operation, which may 'imply an impulse for product innovations on the bordering areas of living and care and care and wellbeing' (TK, 2001/2002a, p. 3). Other than that, long-term care was de-institutionalised and the standardised Diagnosis Treatment Combinations structure was instated. This is supposed to enhance competition and entrepreneurship for care providers, and to create a proper regulated market based on critical consumption (Scheepbouwer, 2006). The fragmentation of the sector should be overcome by integrating supply chains and networking in general (Ministerie van VWS, 2008). Technical infrastructures with open standards are supposed to spur innovation, such as the Electronic Health Record (Scheepbouwer, 2006; Squarewise, 2006). A healthcare innovation platform is installed as a coordinatory body (Ministerie van VWS, 2008). Finally, a cultural shift should be made from 'sickness management' to 'health management', even though it is not clear how that should be done (Scheepbouwer, 2006).

Three techniques that 'measure' healthcare innovation

In my discussion of the innovation studies discipline, I have tried to show that the establishment and institutionalisation of statistics and other indicators played a major role in giving shape to the different traditions. The same applies to the way the object of innovation is formed within the context of Dutch healthcare policy. Particularly at this level of concrete indicators, it is possible to show the interconnectedness of scientific and political developments.

Since the inception of the innovation discussion in healthcare policy, only indicators for measuring the *economic* output that is generated by innovation are discussed. In line with the tradition of mainstream economics, these measurements are exclusively aimed at understanding the effect of innovation on labour productivity. Despite the expectations with respect to improvement in public health and care provision, no indicators are proposed for non-economic measurement. Improvements in care provision are expressed as improved productivity of medical workers, and improvements in public health are measured as 'health profit' in terms of additional productive years. In the remainder of this section, I discuss three concrete measurements.

A first indicator is used to assess the productivity of care provision as a result of innovation. It is important to note that this is still a measurement of the output *of* innovation, rather than measuring innovation *as* output (Godin, 2010a). The Diagnosis Treatment Combination (DBC) system is rather important here: in order for an innovation to be eligible in the 'healthcare market', it needs to be allocated a DBC (RVZ, 2002a; Scheepbouwer, 2006; Ministerie van VWS, 2008). This is an interesting combination of healthcare and innovation discourse. The DBC system is based on the existing notion of 'Diagnosis Related Groups' (DRG). This prospective financing system was developed in the United States in the late 1970s (Horn & Schumacher, 1979; Fetter et al., 1980). It was adopted by Medicare in 1983. The development of a Dutch version of this system started mid-1990s and was implemented in 2005 (Oostenbrink & Rutten, 2006). A main difference is that, in the Netherlands, there are around 30.000 DBCs, whereas there is usually a maximum of a few hundred DRGs. This makes DRGs and DBCs rather different tools, if we examine it from the angle of Bourdieu's work. On top of that, the DBC measure has a rather different meaning if it is set in the context of an innovation discussion. Such approaches are in principle set up to connect the patient to resources. In the Dutch innovation context, what is added is that innovative treatments can only be funded if they are allocated a 'combination' (DBC). In order for this to occur, the added value of the treatment needs to be *authorized* by the Dutch

Healthcare Authority (NZa). An organisation called DBC Onderhoud is developing a system of indicators to assess such performance. They argue on their website that 'innovations have to be included in a DBC system, otherwise these will have a problem with funding' (DBC Onderhoud, 2011).This shows how a measurement of innovativeness and of medical performance can be united through a construct that indicates productivity. The way this occurs in practice shows the use of techniques in greater detail:

> 'An innovation is roughly characterized by Cost Effectiveness Ethics Patient preferences and System [Kosten Effectiviteit Ethiek Patiënt preferenties en Systeem] (= Keeps). When evaluating an innovation application, these characteristics are tested using the KEEPS test. A committee of specialists carries out the KEEPS test and, on the basis of its findings, it formulates an advice regarding your application for the Board of DBC-Onderhoud' (DBC Onderhoud, 2011).

This KEEPS test is a particularly designed technique for measuring innovation from a health economy point of view. Apart from that, the organisation mentions other instruments, such as a 'quick scan', 'multi-criteria analysis' and a 'test protocol'. From the description of these methods, it is clear that all of them are performed by means of questionnaires, tables, systems of codes and other forms of classification that are inscribed with a particular view on assessing the productivity of healthcare innovations. As such, I consider them as techniques with a script that push healthcare practice in a particular direction.

The second technique is not so much a measurement, as a form of classification. It introduces consumption, but not in the sense of consuming innovation as a product. Innovation is positioned as a way to introduce competition, which would change the basis for the consumption of the output of innovative care services. This is one of the places where we see the impact of neoliberalism. The Public Health Council argues that:

> '[c]ompetition that aims at quality and efficiency requires the development of a structure in which care providers are stimulated to show that their innovative ways of work enable them to reach better results than average. Objective information can support the consumer in choosing the best and most efficient care provider' (RVZ, 2006, p. 63)

Important to note is that the proposal implies the productivity of certain functions, rather than that of a particular profession. This refers to the notion of 'Function-oriented description', a technique that has its roots in the Dekker plan (RVZ, 2006). Even though this is not a clear measurement or inquiry, it is still meaningful if it is regarded as a method of applying classifications within the healthcare sector. 'Functional budgeting' was introduced in 1988 (Maarse, 1989). In particular, however, the Public Health Council refers to the notion of a functional description of the care to which people are entitled on the basis of their health insurance policy. This was introduced with the recent reform that privatised health insurance, with the objective of enhancing entrepreneurship and consumerism. The Council argues that '[t]he aim of the function-oriented description technique is [..] to take patient demand into account, to enable more competition between care providers, to make space for innovation and, in general, to enhance efficient care provision' (RVZ, 2006, p. 87). The neoliberal assumption of a free and rational choice is strongly reflected in this way of thinking. However, as we can see, this free choice is somewhat staged. In the next chapter, I return to this postpantopic way of thinking. This description technique is not supported by a similarly wide range of tools and instruments as we saw for the DBC system. Nevertheless, we may consider an insurance policy that is inscribed with a 'functional logic' as a technology that is expected to evoke a particular behaviour of the patient-subject. It shows that indicators are not only a measurement of the output of innovation, but a stimulator at the same time.

The third, and final, measurement I discuss here relates to the enhanced productivity of the population. Due to the assumed improvements in care delivery, public health is expected to improve as well. Even though no indicators are mentioned in the political discussion that measure health improvement directly, there is a broad discussion of a way to measure the economic impact that it has. The point is to find a way to juxtapose the financial cost of an innovative treatment and its benefits:

> 'For innovations that (partially) increase the quality of care, an issue is to map out all the relevant costs and benefits of a particular treatment or provision of care. For costs, next to financial costs, one can also consider the pressure on the patient, the burden of the intervention, adverse reactions, etc. With respect to benefits, apart from possible financial benefits, such as the decrease of absenteeism, mainly improvements of the patient's health are concerned. Quantifying health profit is not easy. Usually, this is expressed in so-called Quality Adjusted Life Years (QALY): the number of life years that are gained by the treatment, multiplied by a factor that

> expresses the average quality of these gained life years [..] Another problem is how to compare the QALY-value with the financial costs and benefits. A 'straightforward'-approach is to connect a price tag to a QALY, a gained life year (RVZ, 2001, p. 57-58)

The QALY technique has been around in academia since the 1970s. The term is based on earlier measurements (Zeckhauser & Shepard, 1976). It is often performed by applying a scale, ranging for '0' for death to '1' for a completely healthy year. Here, again, we can see the notion of investing in human capital appear. As I said before, unlike in Foucault's analysis of neoliberalism, innovation is seen as the investment, rather than as the output of it.

On the basis of Bourdieu's and Latour's work, we can argue that even such a basic method has implications for the way in which an object is formed. Also this very basic calculation is a technique, an artefact. A similar measurement, entitled 'disability-adjusted life years (DALY)' was popularised by the World Bank in its 1993 World Development Report (RVZ, 2001). Just as for the Diagnosis Treatment Combinations and functionally described insurance policies, we see an example of a measurement that was common in health economics, which was later appropriated for purposes of serving the innovation discourse. Again, the innovation context changed the meaning of this measurement. Even though it was always a means of evaluating the performance of particular treatments, now it is presented as an indicator of the innovativeness of medical professionals. This shows again how the object of innovation was embedded in a long-standing discussion on healthcare productivity. At the same time, the case of healthcare fits rather well in the way mainstream economists approach innovation. The addition here is based on the question of how the formation of the object of innovation relates to the constitution of the patient as a particular subject.

Discussion and conclusions

If I sum up the above, I would argue that innovation is linked to healthcare through a shared focus on productivity. A linear logic seems to be applied to the relation between innovation, health and the economy. Innovation is expected to increase the productivity of health delivery, as a result of which public health would improve. As a result of that, people are expected to become more productive.

I have tried to show that there is more to this than just a way of reasoning. A number of techniques are installed to realise a way of approaching

innovation in healthcare according to the tradition of mainstream economics, with neoliberal elements. With Latour, we can question if such efforts will indeed manage to create a 'durable' configuration. I return to this question in Part 3 of this study, even though this will rather apply to the reality-effects of concrete pro-innovation policies than to these inquiries.

The linear logic that I outlined leads to a twofold subjectivation of the patient. Just like it remains to be seen if the 'innovation configuration' that was outline here will prove durable, we can ask the same about the subjectivation of the care receiver. In following chapters, I present a number of layers to develop this question.

The twofold subjectivation that I present here forms the starting-point for further excavations. On the one hand, the patient is expected to assume the role of *critical consumer*, spurring on the productivity of care providers by his/her critical gaze. This is mainly based on the assumption that the 'function-oriented description' technique will probe people to adopt such a role. The influence of neoliberalism is clearly observable here. We could call this way of conceptualising the care receiver the 'principal subject', in the sense that (s)he is expected to operate in a principal-agent relation with his or her care providers. On the other hand, the patient is subjected to an economic discourse that aims to constitute him/her as a *productive member of society*. This is mainly based on calculation techniques of economic value, such as the Quality-Adjusted Life Years. I will call this way of framing the care receiver the 'human capital subject'. In order to understand this subjectivation properly, I had to invert Foucault's relation between innovation and investing in human capital. In a sense, innovation *is* the investment, rather than the output of it.

There is an awkward discrepancy between these roles, these subjectivities. In both cases, the discourse voices strong expectations of the patient: to survey the productivity of others, in the first case, and to be productive, in the second. There is an importance difference, however. The patient as a critical consumer is placed in a power relation with healthcare providers, which is not the case if (s)he is merely a productive member of the population. Question is if this split subjectivity will develop as a split personality.

We have reached the end of Part 1. In terms of the 'Foucauldian outline', I questioned subjectivation from the point of view of different 'modes of inquiry'. With the twofold subjectivation of the subject, we have a good starting-point to examine other types of subjectivation. In Part 2, I continue by analysing subjectivation in attempts to re-shuffle societal power relations, and materialising these in technology. An important line in the discussion

will be the way in which neoliberal ideas about 'staged freedom' define postpanopticism.

In terms of the 'healthcare innovation outline', I have so far examined the way in which innovation entered political discussions on healthcare. Some of the techniques that I have described as modes of inquiry in this chapter have in fact implied rather substantial policy changes over the past decade. In Part 2, I continue this line of discussing pro-innovation policies. However, I will take an example that is potentially 'closer' to the personal life of care receivers: the electronic health record.

Part 2

Blueprinting power relations
Planning the electronic health record

2 Encoding neoliberal reciprocity
Connecting patient, government and society

In Part 1, I indicated the importance of neoliberalism for understanding Dutch healthcare innovation. In this chapter, I continue this line of the discussion. With respect to the practical 'lens' of this chapter, this denotes a study of neoliberal elements in the planning of an infrastructure for a Dutch electronic health record. We will see that similar mechanisms are at work as what I showed for the tools to measure innovation.

Theoretically, I start the discussion of the second 'mode of subjectivation' that is central to Part 2 of the study: re-establishing power relations in society. An understanding of the manner in which neoliberalism attempts to re-create such relations is essential for grasping subjectivation in postpanopticism. I pose that neoliberalism is a type of postpanoptical political and economic thought. In the previous chapter I already indicated that 'staged freedom' is central to such a way of thinking. In this chapter, I develop this notion.

The framework for this chapter is based on the scattered remarks that Foucault made about reciprocity in a neoliberal context. I am particularly interested in the manner in which ideas about reciprocity are used in creating 'blueprints' for a new governmentality. I use this concept to indicate that I refer to the policy planning stage here. Just like in Foucault's work on neoliberalism, the focus is on conceptualisation, rather than on implementation. However, by connecting the notion of blueprints to the design of technology – the electronic health record – I study attempts to make the conceptualisation 'durable', to use Latour's term again. In terms of the title: I study attempts to 'encode' neoliberal perceptions of reciprocity in the technical infrastructure of the electronic health record. In this chapter, I mainly rely on documents that have 'passed through parliament'. In following chapters, I broaden this scope.

With respect to the broader understanding of postpanopticism, my argument here is that *attempts* are made to use new types of information technology to enforce a governmentality that is different than panopticism. In this respect, technological developments are intertwined with the shift from one type of governmentality to another. This is not to say that a different orientation in political thought *caused* the development of different technologies,

or the other way around. Such shifts typically co-occur. In the next chapter, I will be able to come back to the impact of such long-term developments. We also have to be careful not to imagine such shifts as 'breaks'.

Caution is warranted here. The idea of materialising human conceptions evokes the subject-object dichotomy that thinkers like Latour have rightfully resisted. It recalls much-criticised social determinist views of technology, or views of materialised discourse. This is particularly the reason for stressing the notion of blueprints: these necessarily have the status of plans. In the following chapters, these attempts at human construction are questioned step by step. Another cautionary note is that there is a danger in focusing on technology as an infrastructure (Barry, 2001). It quite easily evokes a Marxist image of a technological base on which 'social' superstructures are built. I do not share such a view of technology. Nevertheless, such an approach does seem to underpin political discussions to a great extent. As such, it would be a shame to ignore it. Also here, the logic is that I focus on *attempts* to create infrastructures. In later chapters, I question the feasibility of such attempts, in relation to subjectivation.

Reciprocity is a central topic in social theory, and is typically hard to define (Gouldner, 1960). It is not my aim to define it here, even though a few 'minimal' comments are necessarily to place the following into context. A long history of research has shown that it is dangerous to simply regard a reciprocal exchange as a set of mutually beneficial acts of generosity. Particularly the anthropological study of gift-exchange has brought forward that in some societies 'a present is a misfortune because, in the final analysis, it must be reciprocated' (Bourdieu, 1998, p. 94). On the other hand, it is particularly this notion that makes the perception of value of great importance in the understanding of reciprocity. In order to know how to reciprocate, in such a society, the value of the present has to be assessed rather precisely. In this sense, an exchange is only reciprocal if it is mutually appreciated as reasonable.

In this chapter, I follow Michel Foucault's account of the history of the reciprocity concept in political thought. This is interesting for different reasons. Theoretically, reciprocity is hardly recognised as a theme in Foucault's work, probably because he deals with it somewhat implicitly. Only with regard to his dismissal of humanism we can find some discussion. Hooke (1987), for instance, argues that Foucault maintains basic human values, such as reciprocity, while rejecting modern humanism. He furthermore states that:

> 'Foucault does more than mention the theme of reciprocity. He is often critical when it is distorted because individuals are placed in circumstances whereby their chances of understanding what is happening to them or choosing their actions within the circumstances are decreased' (1987, p. 41).

I agree with such a point of view, and argue that reciprocity is generally important in Foucault's work. It sheds light on how reciprocity is constituted within a network, or 'topology' of power relations (Collier, 2009). As with most of Foucault's analyses, such an approach can serve as a 'counter history' to the humanist reading of modernity that he opposes.

Practically, Foucault's ideas on reciprocity are relevant as a reflection on recent policy developments, particularly neoliberalism. He juxtaposes mid-20th century forms of neoliberalism – mainly German Ordoliberalism and the American Chicago School – to the classical liberalism of the 17th and 18th century (Gane, 2008). Nevertheless, there is clearly a great continuity of earlier liberal thought. This is easily overlooked. Despite a few points of criticism (Tribe, 2009), or remarks about omitted parts of relevance (Lazzarato, 2009), the reception by economists of Foucault's work in this area seems to be generally positive.

From the point of view of reciprocity, it is particularly interesting that Foucault argues that neoliberalism abandoned the notion of 'exchange' as the central denominator of economic thought. In *The Order of things* (Foucault, 2002), which I referred to in the previous chapter, the importance of exchange in modern thought is explained in relation to the question of labour. In neoliberalism, competition became the new paradigm. An important question for this chapter is how reciprocity is conceptualised if the focus on exchange is abandoned.

The approach of this chapter is to provide a more systematic account of a topic that Foucault deals with somewhat implicitly. I do this by distinguishing four forms of reciprocity: between individuals, between individuals and the population – in 'civil society' – between civil society and government and between individuals and government. These four types are subsequently applied to the planning of the infrastructure for a Dutch electronic health record. Concretely, this implies that I study how attempts are made to translate a particular conception of reciprocity into a script that the record would carry out. Such an approach of studying the inscription of values, interests or visions has some history in the study of electronic health records (Hanseth & Monteiro, 1997). Clearly, the same cautionary remark applies here: human

inscriptions often fail. This, however, is the topic of Part 3. Throughout my discussion, I relate reciprocity to the question of the 'neoliberal subject' that Foucault evokes (Read, 2009) and make the connection with the two subject-types that I discussed in the previous chapter.

Towards a neoliberal view of reciprocity

A crucial point for understanding changes in the political understanding of reciprocity, according to Foucault, is when political scholars ceased to think in terms of a social contract, as developed by thinkers like Hobbes, Locke and Rousseau in the 17th and 18th century. Depending on which contract theorists were followed, this implied a voluntary agreement based on the will of individuals to constitute a society or a sovereign ruler. It has been recognised that the notion of the social contract played a fundamental role in Foucault's thinking about reciprocity. Hooke argues that:

> '[w]e need to understand how Foucault sees humanism participating in the rupture of possible reciprocal relations among humans. Fundamental to Foucault's view is seeing that what is distinctive in humanism's interpretation of the human values is the mediation of the social contract' (1987, p. 42).

It was the social contract that changed both the ideas about the relations between individuals, between individuals and the population, and between 'civil society' and government. The idea of this mediation is that reciprocity does not only exist between individuals, but also between individuals and society. While crime, for instance, was previously considered as an attack against the sovereign, with the introduction of the social contract construct it was conceptualised as an attack against society and all its members. In other words, an institutionalised form of reciprocity was assumed between individuals and society. In what follows, I show that Foucault noted that one of the most fundamental innovations of neoliberalism was to abandon the notion of a social contract.

I explain how we can understand both the continuity and discontinuity in the development from social contract theory to classical liberalism and neoliberalism. As said, I subdivide this by looking at developments in thinking about a number of different relations of reciprocity. Sometimes, however,

these different types are interrelated. This particularly relates to the involvement of government. I note when this is the case.

Reciprocity between individuals

The first transition from contract thinking to neoliberalism is that reciprocity was no longer thought of as being grounded in law, but as being driven by interest. An early debate on liberal views of contract-theory dealt with the question of why individuals would be inclined to respect a contract once it was instated. Even though there was general agreement that individuals enter the contract because of their personal interests, there was a difference of opinion on respecting it afterwards. Foucault refers to Blackstone's argument of respecting the contract for the sake of it being a contract, and mentions Hume's argument of respecting the contract because of the interest in maintaining the level of security that it offers (2008, p. 273). Foucault explains this distinction by pointing at the different model of man that this implies: the former being a 'subject of right' (*homo juridicus)* and the latter being a 'subject of interest' (*homo œconomicus)*. The subject of interest could break the contract if it was no longer in his or her interest. This is clearly a more liberal view of contract theory, but one that pertains to a classical form of liberalism. Later forms, including neoliberalism, reject social contract theory altogether. Obviously, this does not imply that there are no contracts or other forms of juridical agreements in neoliberalism. Abandoning social contract theory effectively implies that the idea of a purposeful bond between individuals is replaced by an implicit one, which is the unintended outcome of the interplay of individual interests. This structure is essentially egoistic (McNay, 2009), but is still considered reciprocal.

Another development that has probably been important in terms of idea about reciprocity is the historical development in thinking about the central organising principle of economic life. Over time, this shifted from 'exchange' to 'competition'. This does not imply that there was no competition in the 'exchange era', and vice versa. It is rather that the way of thinking about these concepts changed over time. Foucault, however, contradicts himself when discussing the time at which this shift occurred. On the one hand, he refers to the competition paradigm as one of the three defining characteristic that sets neoliberalism apart from classical liberalism (2008, p. 118). On the other hand, he particularly traces back these changing perceptions to classical economists like Adam Smith and Adam Ferguson. It seems to me that the

correct interpretation is that the principle was developed around the mid-18th century, but that it would develop into an omnipresent paradigm only later. This is to a great extent due to connecting the theme of competition to entrepreneurship. The German incarnation of this way of thinking was to regard the family as the ideal small-scale entrepreneurial unit. This conception is largely due to its links to Christian politics. The American form, by contrast, believed the individual to be an 'entrepreneur of the self'. This implies an outlook at all aspects of one's life, as if it were an entrepreneurial venture. One's education, one's relations require a form of management similar to that of a business enterprise. This strongly echoes the theory of investing in human capital, which I explained in the previous chapter. Good education for one's children becomes an investment, which will lead to future pay-offs.

Then, what does this changed perception of competition imply? Up to mid 18th, the influence of mercantilism implied a way of thinking that entailed that 'competition [could] only be conceived in the form of a zero sum game and so of the enrichment of some at the expense of others' (Foucault, 2008, p. 53). After that, a way of thinking was introduced that made competition compatible with the idea of reciprocity. Foucault argues that:

> 'for the physiocrats, but also for Adam Smith, the freedom of the market can and must function in such a way that what they call the natural price or the good price will be established through and thanks to this freedom. [This] will be profitable to the seller, but also to the buyer' (2008, p. 53).

What we see here is a way of thinking in which reciprocity is no longer based on the object that was exchanged, as in the examples of gift exchange that I noted in the introduction. Instead, it is based on the way in which the *relation* of exchange is shaped by competition.

In liberal thought that preceded neoliberalism, it was acknowledged that the focus on self-interestedness would collide with other values that a person may have, such as feelings of benevolence for others. There was still a distinction between the economic subject and the 'individual'. For neoliberal thinkers, however, particularly for an economist like Gary Becker, this distinction disappeared. Even interpersonal values could be explained in an economic manner. For instance, in his discussion of the 'economics of marriage' he argued that the reciprocal relations between husband and wife may well be explained on the exclusive basis of the principles of self-interestedness and rationality (Becker, 1976).

Reciprocity between individuals and the population

Foucault relates the rise of the population as an unit of governance to the development of statistics and political economy around the half of the 18th century (Foucault, 1991). He defines population as a 'group of beings living in a given area' (Foucault, 1979, p. 252). In the model that was to replace the traditional conception of sovereignty and its 'art of government', the welfare of the population became the highest end, which was to be achieved by means of political science. Some have argued that Foucault approaches populations more and more through its individual elements (Tellmann, 2009). However, when it comes to generating knowledge in relation to the building of power, the individual and the population get separate attention. He distinguishes knowledge that is 'globalizing and quantitative' when the population is concerned and an 'analytical' type of knowledge of individuals (Foucault, 1982).

In order to understand how individuals relate to the larger whole of the population, or community, Foucault describes the ideas of different authors on 'civil society'. Contrary to contemporary civil society scholars, Foucault stresses the way in which early thinkers regarded civil society as the 'playground' of economic relations. He explains how this concept changed meanings over time. Up to the mid-18th century, it was connected to the juridical setup that I outlined before, for thinkers like John Locke, for example. Afterwards, authors like Adam Ferguson and Adam Smith regarded it as an aggregate concept that fixed the spontaneous relations between individuals and the population. Adam Smith's 'invisible hand' is probably the best known description of this way of thinking. Rather than relying on formal agreements, there would be a 'spontaneous synthesis', or a 'de facto economic bond between men' (McNay, 2009, p. 69) in society as a result of the interplay of individual and collective interests. The assumption is that the natural development of power relations 'plays the spontaneous role of the social contract' (Foucault, 2008, p. 303). He continues by saying that:

> 'there is no need of a *pactum unionis* to join individuals together in civil society, so for political power to emerge and function within civil society there is no need of a *pactum subjectionis*, of the surrender of certain rights and the acceptance of someone else's sovereignty. There is a spontaneous synthesis of power. How does this come about? It is brought about quite simply by a de facto bond which links different concrete individuals to each other' (Foucault, 2008, p. 303).

As I said before, there was a belief in an automatic forming of competitive, but reciprocal relations by which individuals would find their position in civil society. This reciprocity, however, would extend beyond the relation between individuals. Foucault stresses that there is an assumption of

> 'reciprocity between the whole and its components [..W]e cannot imagine or conceive an individual to be happy if the whole to which he belongs is not happy. Better, we cannot even assess exactly an individual's quality, value, and virtue [..] unless we think of it on the basis of the place he occupies, the role he performs, and the effects he produces within the whole. Every element of civil society is assessed by the good it will produce or bring about for the whole. We can say that a man is good, that he is fine only insofar as he is right for the place he occupies and, Ferguson says, 'produce the effect it must produce,' But conversely, the value of the whole is not an absolute and is not to be attributed to the whole and only the whole, but to each member of this whole: 'it is likewise true, that the happiness of individuals is the great end of civil society' (2008, p. 301).

We see a way of framing that is very similar to one of the two subjectivations that I discussed in the previous chapter: the 'human capital subject'. However, by reconceptualising it in the framework of a relation of reciprocity, the image changes to some extent. Suddenly, there is a rationale for why people should accept their role as cog in the wheel of the economy: the idea that civil society treats them well in return. Nevertheless, we have to note that it is hardly clear how this is expected to work in practice. We have to keep the option of rhetoric open.

To a great extent, this way of thinking was adopted in neoliberalism as well. The difference is mainly that the assumption that power relations and reciprocity would occur spontaneously was dropped. This, however, relates to yet another way of thinking about reciprocity, i.e. in the relation between government and civil society. I return to that below. First, I attempt to finish my discussion of reciprocity between individual and population.

If all conduct is exclusively based on individual interest, as is imagined by several neoliberal thinkers, then collective goods must never be an objective for individual citizens. These are left to the State. As a result of this, collective values are said to have been lost in neoliberalism (McNay, 2009). Still,

it is assumed that by pursuing their own interests, individuals unintentionally create benefits for society as well. Reciprocity takes an implicit form. This is a rather awkward notion, particularly considering the description that I gave of reciprocity in the introduction to this chapter. If reciprocity is so implicit, it cannot really be assessed by individuals anymore, as was the case in the example of gift exchange. Obviously, we can imagine speaking in general terms about the mutual benefits that individuals and society receive in their engagements. However, if we follow such a calculative mode of thinking, for both parties it is hard to decide whether their benefits seem to be in balance.

The final development I want to highlight here is that neoliberal thinkers claim that bonds between individuals and collectives are mediated by the rules of an economic game. This is largely intertwined with the development of game theory, which developed in close proximity to neoliberalism. Think tanks like the RAND corporation had a substantialimpact on this (Amadae, 2003). More in general, it is connected to the adoption of rational choice theory, which could be applied to anything in the wide range from crime, to wages in the workplace and married life, as I said before. The importance of this is that in both contract theory and in the neoliberal conception of reciprocity there is a notion of rules that govern the relation. In the case of the social contract, however, these are rules that were imagined to have been purposefully set between individuals. In the neoliberal conception, by contrast, the rules of the game are external to civil society. In classical liberalism, it was still expected that such rules were given by nature, recalling the faith in a spontaneous synthesis. For neoliberals, it is the state that needs to set the rules of the game.

Reciprocity between government and civil society

The shift from reciprocity based on a juridical agreement to one based on interests also impacted the thinking about the relation between government and civil society. Foucault's description of the development in ideas on what he calls the 'internal limitation of government' clearly captures this phenomenon. In the era of juridical conceptions of government, states were considered to be limited by extrinsic laws – both natural and positive ones – in their sphere of influence. There were certain areas in which no influence could be exerted. The particular theory of the social contract even assumed that such laws were formed in agreement between the population and government. The reciprocal relation that is implied here is that citizens transfer

some of their rights to government, in order to receive the protection of these and other rights in return.

With the abandonment of such juridical ways of thinking, in favour of ones characterised by interest, the thought arose that governments ought to be limited intrinsically, rather than by an outside source. This development coincided with the rise of utilitarianism. It led to think that the welfare, condition, longevity and health of the population ought to be the main objective of government. Governmental actions had to be justified by means of 'the utility of individuals and the general utility' (Foucault, 2008, p. 44). Foucault claims that this principle has turned into an all-compassing element of our age, replacing the notion of natural rights of citizens. The internal limitation of government in this framework means that governmental action is only thought to be justifiable from a utilitarian perspective. Foucault connects this to the rise of political economy, which created models to 'measure' the functioning of government. The reciprocal relation in this respect changes into allowing government to exert power as long as it is in the interest of the population and its citizens. In order to understand how government and civil society can 'assess' the reciprocity of such a relation, we need to understand the relation between government and individual first. This is discussed under the following heading.

The coming of neoliberalism, finally, implied that the notion of the state and the economy as separate domains was completely annulled. Foucault argues that:

> 'There will not be the market game, which must be left free, and then the domain in which the state begins to intervene, since the market, or rather pure competition, which is the essence of the market, can only appear if it is produced, and if it is produced by an active governmentality' (Foucault, 2008, p. 121).

This provides a good link to the last form of reciprocity that I discuss here: that between government and individual.

Reciprocity between government and individual

What we see appear here, is the constitution of an active, disciplinary subject. This is exactly in line with what I described in the previous chapter: one of the ways in which innovation policy subjectivates care recipients, is by making them monitor the conduct of physicians. An important question in the

line of the discussion that I have added in this chapter is why people would accept such a role.

In contrast to Foucault's work on panopticism, he focuses less on centralised forms of subjection. In a lecture in 1980 at Dartmouth College, not long after the lectures that I refer to here mainly, he remarked that: 'When I was studying asylums, prisons, and so on, I insisted, I think, too much on the techniques of domination' (Foucault, 1993, p. 204). Instead, he became aware of the relevance of practices of the self. In the 1980 lecture, he argued that, in contrast to such earlier work on domination-centred government, he would like to 'study government [..] starting from the techniques of the self' (1993, p. 204). His lectures that constitute *The Birth of Biopolitics* may be regarded as a first step in this direction. Foucault argues here, albeit somewhat implicitly, that liberal government takes place through the agency of self-interested actors. Subjects are, as it were, asked to assume a different role. Unsurprisingly, this way of thinking has its roots in the second half of the 18th century. Foucault argued that what we call '*homo œconomicus'* started to be regarded 'as the partner, the vis-à-vis, and the basic element of the new governmental reason formulated in the eighteenth century' (2008, p. 271). Liberal governmentality is not reserved to state practices, but is acted out by individual subjects as well. Subjects are, in a sense, 'self-producing' (Binkley, 2009).

The notion that Foucault uncovered practices of the self does not imply that he finds no disciplinary power in neoliberal society. It is rather that it is more dispersed. Some commentators have argued that neoliberalism would involve minimal state interference (McNay, 2009). I would argue that the point is rather that the function of control changes, not that it diminishes. The distinction between two types of neoliberalism is helpful in this respect (Peck & Tickell, 2002). The 1980s are often characterised by a 'rollback' of public institutions, while the 1990s are known for a 'rollout' of new neoliberal institutions. The latter is more in line with Foucault's line of reasoning. Particularly with respect to the way the *homo œconomicus* was regarded in classical liberalism and neoliberalism, we can see how the thinking about control changed. In the 18th century:

> 'From the point of view of a theory of government, *homo œconomicus* is the person who must be let alone. With regard to *homo œconomicus*, one must *laisser-faire*, he is the subject or object of *laisez-faire*. And now, in Becker's [neoliberal] definition [..] *homo œconomicus* [..] appears precisely as someone manageable, someone who responds systematically to systematic modification artificially

> introduced into the environment. *Homo œconomicus* is someone who is eminently governable'(2008, p. 270).

I would argue that the classical liberal position of 'spontaneous synthesis' is replaced by what we may call 'orchestrated synthesis' in neoliberalism. This will become even clearer when this is connected to the focus on competition. For German neoliberals 'competition is not the result of a natural interplay of appetites, instincts, behaviour, and so on. In reality, the effects of competition are due only to the essence that characterizes and constitutes it' (Foucault, 2008, p. 120). In other words: if we want people to compete, we have to make them.

In a sense, neoliberal government can be called 'governing by freedom', albeit a rather particular, economised conception of freedom. Foucault articulated this most clearly by saying that, in neoliberalism, 'control is no longer just the necessary counterweight to freedom, as in the case of panopticism: it becomes its mainspring' (2008, p. 67). Foucault's main argument seems to be that the point of control under panopticism was to protect society, or certain (elite) groups from the dangers that the freedom of others may impose (Foucault, 1978a). This is related to my earlier comment that there was still an assumption that there were domains in which government could interfere, and domains in which it couldn't. Under neoliberalism – as a postpanoptical philosophy – by contrast, control is needed not to prohibit freedom, but particularly to assure freedom of all, in the sense of the earlier mentioned economic game. Both ways of thinking assume advantages to the exercise of control, but different ones. One of the core features that distinguishes 20th century forms of neoliberalism from classical liberalism is the idea that freedom is not a given. There is no invisible hand that will lead markets to equilibrium. Therefore, *laissez faire* types of governance will not do. Instead, when it comes to freedom, governments need to 'manufacture it constantly, to arouse it and produce it' (Foucault, 2008, p. 65). He states that '[l]iberalism must produce freedom, but this very act entails the establishment of limitations, controls, forms of coercion, and obligations relying on threats, etcetera' (2008, p. 64).

When it comes to the subject, freedom should not be considered as a form of autonomy, as some authors do (McNay, 2009), nor is it antithetical to (state) power (Patton, 1989). In neoliberal thought, the distinction between public and private (Hamann, 2009), and the 'citizen' and the 'economic subject' is lost. Because the neoliberal subject is fundamentally staged, this form of governmentality no longer has an 'outside' (Read, 2009).

If the challenge of neoliberalism is indeed to stage a disciplinary subject, the question is how to make individuals adopt such a role. After all, neoliberalism is still a paradigm in which the 'fear of the state' is widespread. How can the notions of an active policy to shape individuals be combined with the principle of not interfering in their (economic) lives directly? How can governments monitor whether subjects indeed assume the role that they are expected to take? How can governments steer, while releasing discipline in the sense of directly interfering in people's lives? How to make sure that resistance will be limited?

The line that I want to highlight in coping with this question is the change in thinking about the application of disciplinary techniques, again in the light of reciprocity. An early, pre-neoliberal (17th-18th century) example is what he calls the 'paradox of the police': 'The police [..] is what enables the state to increase its power and exert its strength to the full. On the other hand, the police has to keep the citizens happy – happiness being understood as survival, life, and improved living' (1979, p. 251-252). Two aspects are important: first, it was still acceptable to interfere in citizens' lives directly, and second, state power may increase if it keeps citizens happy. The police was there to prohibit the freedom of some in favour for the freedom of others. It was meant to control (potentially) criminal elements.

The notion that neoliberal thinking about reciprocity in the exertion of governmental power has clearly departed from contract-based forms can be seen in its reaction to what Foucault calls the 'pacts of war' that were proposed around WWII:

> 'pacts in terms of which governments – basically the English, and to a certain extent the American government – said to people who had just been through a very serious economic and social crisis: Now we are asking you to get yourselves killed, but we promise you that when you have done this, you will keep your jobs until the end of your lives' (2008, p. 216).

Neoliberal thinkers reacted strongly against such social-contractual setups that were the foundation of post-war welfare states. Foucault further develops the example of social insurance to explain how thinking about reciprocity in state intervention has changed. Rather than saying that society as a whole is asked to protect individuals against risks, as is the case in socialist thought, he argues that neoliberals claim that:

> '[s]ociety, or rather the economy, will merely be asked to see to it that every individual has sufficient income to be able, either directly and as an individual, or through the collective means of mutual benefit organizations, to insure himself against existing risks' (Foucault, 2008, p. 144).

This refers to the model of the individual as a player, the primary decision-maker of an economic game, in which he functions as a micro-enterprise. The provision of basic social insurance is based on the idea of ensuring that no player drops out of the game, as to make sure that the settings for competition remain intact. Foucault claims that, in contrast to socialist conceptions of social security, the neoliberal paradigm is not to reduce 'relative poverty' – i.e. to change the relative gap between different incomes – but mere 'absolute' poverty, below a certain threshold. State intervention is not regarded as the enforcement of an agreement between individuals and the population to sustain principles like equality. Rather, it is meant to enforce the basic boundaries of economic life, which are expected to enable reciprocity.

Moving over to the American neoliberalism of the Chicago school, Foucault stresses the 'strategic programming of individuals' activity' (Foucault, 2008, p. 223). This refers to the human capital theory that I discussed in the previous chapter already. By stressing the projection of individual enrichment, American neoliberalism justifies governmental intervention in education in order to argue for investment in the human capital of the 'enterprise of the self'. Even though this signals direct intervention in individuals' lives, it should be argued that this is presented as a mere change in boundary conditions. It is questionable, however, if there is such a thing as a 'non-intervening condition' (Dix, 2010). Considering the focus on 'investment' in the human enterprise, such interference of governments is accepted. Citizens get to further their personal entrepreneurship and governments receive productivity in return.

The last point I want to stress here is the change in thinking about the use of perception in applying governmental power in the mentioned reciprocal relations. Foucault's argument is that individuals are made to believe that they get something in return for their role in society. First, in German Ordoliberalism, there was an attempt to construct 'a set of what could be called 'warm' moral and cultural values which are presented precisely as antithetical to the 'cold' mechanisms of competition' (2008, p. 242). More importantly, Foucault regards security as a core concept (Tellmann, 2009) in reference to perception, one that was turned into a principle of calculation: '[t]he problem

of security is the protection of the collective interest against individual interests. Conversely, individual interests have to be protected against everything that could be seen as an encroachment of the collective interest' (Foucault, 2008, p. 65). He claims that there is a mechanism to condition individuals to continuously experience the endangerment of their security position, which is what he calls a 'culture of danger'. This notion of endangered security is used in neoliberalism as a justification for state intervention. By allowing government to play around with boundary conditions, you assure a certain level of security in your lives.

Possibilities of criticism and its limits

'If individual autonomy is not the opposite of or limit to neoliberal governance, but rather lies at the heart of disciplinary control through responsible self-management, what are the possible grounds upon which political resistance can be based?', as McNay (2009, p. 56) asks rightfully. The overview of neoliberal thinking on reciprocity that was given above is ambiguous, in the sense that it is emphasised, on the one hand, that citizens ought to experience benefit from their relation to the population and to government, but on the other hand, that this benefit might be indirect and non-exclusive.

Foucault proceeds to show the liberal argument for how individuals or the population can 'claim' their reciprocal relation. Referring to the internal limitation of government, Foucault formulates the neoliberal theorem that 'a government that ignores this limitation will not be an illegitimate, usurping government [*as was the case in the judicial model - WM*], but simply a clumsy, inadequate government that does not do the proper thing' (2008, p. 10). This implies that citizens who want to secure their position should no longer refer to their natural rights, but to the laws of political economy, in order to explain that government has not acted in their interest. Foucault explains this, albeit somewhat cryptically, by referring to the type of criticism that *homo economicus* might employ:

> '*Homo economicus* is someone who can say to the juridical sovereign [..]: You must not. But he does not say: You must not, because I have rights and you must not touch them. This is what the man of rights, *homo juridicus*, says [..] *Homo economicus* does not say this. He also tells the sovereign: You must not. But why must he not? You must not because you cannot. And you cannot in the sense

> that 'you are powerless.' [..] You cannot because you do not know, and you do not know because you cannot know [..] [P]olitical economy has told the sovereign: Not even you can know the totality of the economic process. There is no sovereign in economics.' (Foucault, 2008, p. 282-283).

What is most interesting in this respect is that we have seen before that citizens are purposefully kept in the dark about macro-level issues. Here we see that they are expected to function as a knowledgeable *homo economicus* when it comes to telling governments what not to do. And, equally importantly, government is also limited in its possibilities to know, and probably to set boundaries. Nevertheless, on the basis of the above, governments seem to be in a favourable position compared to citizens, when it comes to getting a grasp on reality. Particularly when we keep in mind that such governments apply mechanisms of perception to create warm values on the one hand, and a culture of danger on the other, there seems to be a good deal of purposeful ambiguity around the neoliberal subject, which implies certain limits to critical agency. This provides an interesting reflection on Mckee's optimistic statement that 'subjects are reflexive and can accommodate, adapt, contest or resist top-down endeavours to govern them if they so wish' (2009b, p. 479). The question is to what extent this holds in a situation that is characterised by fundamental asymmetries.

The electronic health record[2]

What I have tried to unfold in the first part of this chapter, is how subjectivation occurs in a number of expected reciprocal relations. One aspect that became apparent, is that the two distinct 'subject types' that I concluded the previous chapter with are re-conceptualised in these relations. In a sense, they are given a rationale. Ideas about reciprocity provide some sense of an argumentation of why people are expected to accept such roles. However, I have tried to indicate to what extent the role of control and perception plays a part in 'staging' this acceptance. In the remainder of the chapter, I apply this way of thinking to one example of a Dutch pro-innovation policy: the creation of an infrastructure for a national electronic health record.

[2] Part of this section is taken from an earlier publication (Mensink & Birrer, 2010), the remains of this text are published in chapter four of this thesis

Information technology is generally a popular topic for a Foucauldian analysis (see e.g. Munro, 2000; Henman & Adler, 2003). Often, however, they focus exclusively on the possibilities for surveillance that it offers. Even though I believe this to be an important element, in this case, I show that technology can also illustrate questions of neoliberal subjectivity, and more specifically, reciprocity.

The first minister (liberal-democrat) who started the process of moving towards a national electronic health record argued to intend not to interfere in the sector directly (Ministerie van VWS, 1997), in proper neoliberal fashion. In 1999, however, this claim was found not realistic (TK, 2000/2001a); her successor (conservative-liberal) subsequently proceeded to set out clear lines for the development of this platform. Still, the electronic health record is regarded as a framework condition, or 'infrastructure', and particularly one that is supposed to re-arrange streams of information (see e.g. RVZ, 1996; 1998a; 2002a; Ministerie van VWS, 1997; TK, 2000/2001a; NICTIZ, 2002a). The assumption is that unequal access to information stands in the way of free competition (RVZ, 1996).

The idea of using data from Electronic Health Records goes back to the mid-1950s; since then it has gone through many stages of development. Bonnie Kaplan (1995) has shown how medical computing was linked to subsequent policies to develop a basic research infrastructure, to improve the access to and quality of care, and to achieve cost containment and prospective payments. After her article, however, Electronic Health Records entered a new stage of development, by being positioned as a tool for integrating (inter)national health systems.

In line with international trends, the Dutch debate around the formation of an Electronic Health Record with national coverage arose mid 1990s. Main actors in this respect have been the second chamber of parliament (here referred to by the Dutch term Tweede Kamer (TK)), subsequent ministers of health care, the Public Health Council (RVZ) and the National IT Institute for Healthcare (NICTIZ). Nonetheless, many more actors may be identified, including standardisation bodies, the standards themselves, medical journals, numerous individuals, researchers, research institutes, consultancies, etc. Where relevant, I attempt to highlight who acted where. The goal of this paper is not, however, to perform a process study of the manner in which the EHR discourse has unfolded.

Before starting the analysis, a few more introductory remarks about the way I use the script concept in this chapter. In chapter two, I discussed scripts in relation to artefacts that were devised in order to materialise par-

ticular measurements of the productivity of innovation. What I tried to show is attempts of policy-makers to inscribe a particular type of 'desired behaviour' of doctors and patients into certain tools and methods. In this chapter, I examine similar inscription attempts, but now in relation to efforts to make the electronic health record infrastructure 'do' something. What it has to do, is to enforce particular relations of reciprocity. This approach is rather common to the study of electronic health records and technical infrastructures in general (Hanseth & Monteiro, 1997; Hanseth et al., 2006; Lee & Oh, 2006; Sahay, 2003). As I said in the introduction to this chapter, this way of examining inscription is one-sided in different respects: it suggests social determinism, the notion of materialising discourses, and structuralist readings of infrastructures. The reason for adopting this approach despite this lack of sophistication is that it is very suitable for describing the type of thinking that is voiced in the political documents that constitute the electronic health record discussion. I.e. these criticisms could be applied to the views of numerous stakeholders that are involved. In following chapters, I 'unpack' this way of thinking about inscriptions and scripts. For now, however, a more sophisticated view would only make matters more complicated.

Reciprocity between individuals

In the previous chapter, I already highlighted that the relation between doctor and patient is fundamentally re-assessed in the innovation discussion. As we saw, a principle-agent relation was introduced. On the basis of the Foucauldian angle that I unfolded in this chapter, however, we can improve our understanding of this relation.

Following the Foucauldian analysis of neoliberalism, we would regard both care providers and receivers as entrepreneurs. Care receivers in particular would be regarded as 'entrepreneurs of the self'. The policy discussion around the electronic health record never uses such a formulation. However, in the line of the role that we saw being attributed to the patient in the previous chapter, such a point of view seems to make sense. The patient is considered a party in the healthcare market, maximising its health advantage at minimal costs. Patient demand is supposed to set in motion a sense of 'creative destruction' in the supply of healthcare services. Innovative providers, offering high quality products or treatments, are expected to be selected. This way of reasoning can also be recognised in the Public Health Council's *From patient to consumer* report (RVZ, 2003b). Nevertheless, we must not imagine a

passive consumer, in the sense of the traditional notion of a producer-driven 'consumer society'. The future healthcare consumers are more entrepreneurial than that.

In terms of the reciprocity discussion, this evokes the image of a mutually beneficial relation between a buyer and a seller of a service. As said, the stress is no longer on assessing reciprocity by the perception of the value of an object of exchange. Instead, the focus is on the benefits that a relation of competition would imply for both parties. For neoliberalism, however, it is not expected that a competitive attitude and proper circumstance for competition come naturally. The state needs to create a framework within which this can occur.

In case of the electronic health record, the prime motivator is to attempt to balance out the information asymmetry between doctor and patient. Even though the EHR discussion was restrictive at first, when it came to the access of the patient to his/her record. This gradually changed over the past decade, however, largely due to the advocacy of the Public Health Council. For now, care providers are regarded to have too much power over their care recipients. This makes it hard for patients to further their 'health entrepreneurship'. The notion of the 'entrepreneur of the self' is strongly echoed in the way health consumers are described as managers of their own health, and their own health information. If we consider this from the point of view of the 'script' of the electronic health record, we have to imagine that the record is programmed in such a way that the additional information that it will make available will trigger a different type of patient behaviour. This evokes the image of the 'principal subject' that I outlined before. However, now that we imagine the patient in a reciprocal relation with his/her care provider, this picture gains nuance. I.e. we have to imagine that both patient and doctor gain from their position as respectively principal and agent. By the addition of the electronic health record, the balance of power is expected to shift.

Reciprocity between individual and population

From the mid 1990s onward, different topical macro-problems have dominated the discourse on the necessity of restructuration, ranging from waiting lists (RVZ, 1996) and waiting times for getting medical treatment in the 1990s (TK, 2000/2001a), to the threat of the ageing population (Scheepbouwer, 2006) and medical mistakes as a result of poor information exchange in the previous decade (NICTIZ, 2003; TNS NIPO, 2003; 2004a; Ministerie van VWS, 2005e).

Cost reduction seems to be the prime challenge (TK, 1995/1996; RVZ, 1996; 1998a; TNS NIPO, 2004a), which is also echoed in academic studies (Walker et al., 2005).

There is a strong belief in the impact of entrepreneurial interactions between doctors and patients on issues at the level of public health, as it is argued in a report that advocates entrepreneurial consumerism for patients (RVZ, 2003a). We should keep in mind that this is largely based on the expectation of different 'scripts'. In the previous chapter, I pointed at the inscription of measurement tools. With respect to the doctor-patient relation, the notion of 'function-oriented description' turned out to be the most relevant. In this chapter, we see a similar expectation of the electronic health record.

In an advice to government by the Public Health Council, entitled *Between market and government* (RVZ, 1998b), the council addresses the 'paradox' of the patient's situation: 'The tension between autonomy and dependency, between individual and general interest is translated as a tension between market and supply regulation' (RVZ, 1998b, p. 3). The patient as a critical consumer was considered the most promising scenario to address macro-level issues. This reliance on individual interests to solve macro-level issues recalls the manner in which collective issues are thought to be solved by means of an 'orchestrated synthesis'. All that is needed is to set the framework parameters right: on the basis of inscribing transparency and the right information, health consumers will hold their doctors accountable for bad work (RVZ, 2003a), and will rationally select insurances or hospitals that offer the best package in terms of cost and quality (RVZ, 1998a). Doctors will be more innovative, and more successful because of this. Similar expectations are acknowledged internationally as well (Gregory, 2000a).

The Public Health Council noted that the record could be used to calculate the chance that patients suffer from particular illnesses, which could in turn be used for calculating the cost effectiveness of particular treatments (RVZ, 2001). The notion that an EHR system 'could be used for something' implies that no concrete scripts have been developed for this. We could imagine, however, that there might be software packages that probe doctors to perform these types of measurements.

The same report mentions the earlier-mentioned Quality Adjusted Life Years (QALY) calculation. A similar calculative mindset can be recognised in a report on the financial costs of medical information mistakes for society (TNS NIPO, 2004a). The health record is positioned as a tool to prohibit such costs. The 'inscription' that takes place here is very basic: by making doctors use computers, sloppy handwriting is omitted. Paper-based and electronic health

records are both technologies, but with different scripts. Paper makes doctors use a pen, whereas computers make them use the keyboard. This may sound trivial, but clearly, the expectations of this change in script are considerable. Here, we hear echoes of the other subject-type that I outlined before, the 'human capital subject'. The logic is that by investing in an electronic health record, and prohibiting medical mistakes, we invest in people. This was the logic that I unfolded in the previous chapter. Given the additional framework of reciprocity, however, we may wonder what benefits individuals may receive from civil society 'in return for' the new role that they are expected to adopt. The basic logic seems to be that individuals will also benefit from solving macro-level problems: they wouldn't need to wait for treatment as long, they would be warned earlier about epidemics, etc.

Reciprocity in between government and civil society

The notion of focusing on macro-level problems is strongly related to a conception of governing civil society. The EHR infrastructure 'does' more than merely connecting patients and doctors. It is also a tool for institutions that govern healthcare. The Public Health Council argue that '[t]he primary goal of the patient record is the support in care provision to the individual patient. Apart from that, it can serve for informing the patient, monitoring quality, business coordination, management support, research and statistics and education and policy' (1996, p. 70). The council proposes to use the record to produce 'ultimate strategic management information'. The use of such data for policy-making purposes is generally acknowledged (Henman & Adler, 2003; Jones et al., 2005). Macro-level applications that have been distinguished over the past decade are: the signalling of epidemics and large-scale poisoning (TK, 2000/2001a), automated administration (TK, 2007/2008b), benchmarking of the quality of care, scientific research, decision-support (RVZ, 2005b), replacing human labour (RVZ, 2002b), increased labour productivity (Ministerie van VWS, 2007a), transferring healthcare tasks to the patient (RVZ, 2002a), automated cost calculations and a generally healthier population and labour market (TNS NIPO, 2004a). Such expectations are also recognised in the literature (see e.g. Gregory, 2000a). Once data is made anonymous, patient privacy is thought to be an issue no longer, allowing information to be re-used for broader purposes. Generally, they make fairly clear that individual interests, such as privacy protection, should not outweigh general

interests, thereby relating exactly to what Foucault has named the 'problem of security' (Foucault, 2008, p. 65).

While individuals patients are needed to compile the data for addressing population-level problems, the same is true the other way around as well. Large datasets are suggested to be used to influence patients' lives. The council refers to the capability of intelligent systems to recognise patterns in massive data sets, which can be applied to calculate averages, and to set norms (RVZ, 1996; 2005b). These norms can be used in physician's decision-support systems, to give an automatic signal if a measurement exceeds such norms.

This brings the discussion to the question of how to set up this new framework for information provision exactly. Here, it is likely that concrete scripts are imagined. The formulation is not yet very precise, but the conception seems to be to develop systems in such a way that they make medical professionals gather data in a particular manner. First of all, the council points out that certain measures are required to enable population-level applications on top of individual ones, mainly when it comes to data processing. What they refer to as ''classic obtaining of data' – 'putting in order, selecting, presenting, etc.' (RVZ, 1996, p. 12) – is considered inadequate for this purpose. A future-proof system should be capable of data interpretation, which concerns 'issues like knowledge systems, pattern recognition, etc.' They stress that, '[u]p to recently, data interpretation was reserved for human intellectual capacities. New technologies enable that also information systems, be it to a restricted extent, are able to do this' (RVZ, 1996, p. 12). Basically, they argue for structured input of data, i.e. not making use of free text fields, in order to allow for computerised analysis. Even though the then-minister acknowledged the need for free text fields for capturing the richness of the medical context, he argued for greater objectivity through structured input (TK, 2004/2005b). This discussion is still an issue in the ongoing 'standards war' between two camps that each favour a different approach to managing data storage and exchange between parts of the system (Eichelberg et al., 2005). This will largely be the practical angle for the next chapter. The suggestion of structuring information relates to the 'globalizing and quantitative' type of knowledge that Foucault (1982) describes as a necessity for governing populations. On the individual level, the public health council proposes the storage of information in the range of everything from diagnostic acts, 'such as the making of a röntgen photo, up to a patient's meal' (RVZ, 1996, p. 86). The institute that is supposed to prepare the Dutch electronic health record has proposed to store patient information in natural language,

and to translate this to coded data for secondary use (NICTIZ, 2002a). What is not yet clear, however, is how this is to be implemented. On the one hand, governments could simply create rules that tell medical staff which data is needed. However, it is also possible that software systems would be designed in such a way that it is the technologies that 'make' them do their work in a particular way. We could imagine that a doctor could not move on to the next screen of his/her EHR application, before completing all required data fields.

Secondly, the question of how to exchange data is a relevant point. From the mid-1990s onward, the idea of a personal chip card that would carry medical data was a serious option. However, the Public Health Council argued that:

> 'In using a patient-managed chip card, different data can only be linked on the basis of patient approval (in the form of physical presence of a chip card). This is of great importance for patient privacy, but for anonimised epidemiological research this is a major restriction, which can damage general interests' (RVZ, 1996, p. 84).

An electronic health record with national coverage would not have these shortcomings.

Third, there is the question of what the proper unit is to 'connect data to'. Also here, the Public Health Council advices an individualised setup in a collective arrangement: rather than storing data in relation to medical acts, data should be connected to the patient as (s)he is the 'only constant factor' (RVZ, 2005b, p. 5). Practically, this means to connect medical data to the so-called Citizen Service Number, which was previously judged to be inadequate from the point of view of privacy and fraud.

Reciprocity between government and individual

The informational letter and brochure that were sent to all adult citizens in November 2008 provides an interesting illustration of Foucault's thinking on governmental techniques to stage the neoliberal patient. I mention a number of aspects particularly: (i) the brochure does not provide any information on the collective goals of the record, just on a few advantages for individual patients, (ii) the brochure conveys the 'warm' type of values that Foucault refers to when discussing German Ordoliberalism (Foucault, 2008, p. 242): using

the visually illustrated example of a typical Dutch woman, with a typical medical issue, the reader is shown a bright image of her future with the record, (iii) the message stresses that attention was paid to issues that might prohibit personal freedom, such as safety, ease of use and security, (iv) the brochure appeals to the feeling of threatened security in terms of the risk of medical errors, which could be overcome by using the record. Also the brochure seems to have been 'inscribed'. This communication shows an attempt to construct a particular perception that should be seen in the light of a reciprocal power relation: citizens are asked to trust their data to be processed electronically, in return for a general feeling of security about their personal health.

The limits to the critical patient

This brings me to a final point: The letter offers citizens the possibility of denying the electronic processing of their health information. This brings us back to the ambiguous position concerning the type of criticism that neoliberal subjects may deploy. How should we interpret the possibility to refuse state interference in the light of this case, however? First of all, citizens are given an opt-out option: they are allowed to refuse the use of their data, instead of being asked to confirm this (opt-in). It is known that this approach lowers the degree of refusal. Up to March 2009, 438.000 citizens had in fact refused (NRC Handelsblad, 2010). Secondly, because of the creation of perceptions, the information that is provided to citizens to use as a basis for possible criticism is limited. A third, and more important element that I would like to raise, however, is that the letter to citizens could be regarded as a request to legitimise the introduction of a new framework for healthcare. Despite the serious macro-level implications, the request is made to individuals, which is in line with the assumptions of neoliberal thought. Because of the information asymmetry between government and these citizens, however, individu-

als are asked to commit to an implicit reciprocal relationship with the population of which they are part.

Governmentality scholars propose to focus on strategies of resistance (Mckee, 2009b), but these have been virtually nonexistent in the electronic health record case. The only relevant exception perhaps is a group of 800 concerned general practitioners (Committee Wake-Up) that, amongst other actions, participated in expert meetings organised by the Dutch senate (Mckee, 2009a). This, however, did not lead to any forms of resistance by citizens.

Discussion and conclusions

We left Part 1 with an understanding that reframing healthcare policy from the point of view of innovation implies a twofold subjectivation of the care receiver. On the one hand, (s)he is given the role of 'principal', which effectively implies to monitor the productivity of care providers. On the other hand, (s)he is subject to investment in 'human capital', being given a role in societal productivity. I tried to show that these different roles of the care receiver are expected to be 'evocable' by the scripts that are given to particular measuring tools and description systems. To put it simply: they are expected to make people do something in a particular way.

A practical lesson of this chapter as that both the same logic of reasoning and the same subject types can be recognised in the discussion about planning an electronic health record infrastructure, as in the general discussion about innovation in healthcare. Also the EHR is expected to carry certain scripts that would change behaviour of healthcare actors. First of all, giving more information to patient is expected to change their behaviour vis-à-vis their care providers. This adds up to the role of the patient as a 'principal subject'. Secondly, the fact that health record-keeping will be done with a different technology – 'computers instead of paper' – also implies a change of scripts. Making doctors use computers is a material way of saying: 'you are no longer allowed to use your sloppy handwriting'. There are other digital scripts that are expected to contribute to overcoming medical mistakes, which I will not discuss here. The point is that such scripts are expected to keep patients healthier and, therefore, more productive. This way, the electronic also contributes to constituting care receivers as subjects of productivity, or as 'human capital subjects', as I called it before. In reference to Foucault's remarks on the neoliberal theory of human capital investment, I can

again remark that innovation is considered as an input for productivity increase, rather than as an output. By investing in a technological infrastructure, government expects the healthcare sector to adopt more innovations, which will reduce medical mistakes and make the population healthier.

The theoretical angle that I introduced here, however, allows us to go beyond the understanding that I unfolded after Part 1. The case of the electronic health record is not just important to show that the same principles apply as in the general discussion on innovation in healthcare politics. I have tried to make two theoretical advances in this chapter. First of all, I broadened Foucault's second mode of subjectivation from the rather narrow notion of 'dividing practices' to the idea of subjectivation in power relations. This is not a big step compared to chapter one, in which power relations between doctors and patients were already implied. By providing a systematic overview of Foucault's scattered remarks on reciprocity in political theory, however, this analysis gains substance.

I have tried to show that the different relations of reciprocity - between individuals, population and government – form a framework from which the basic subject-types that were identified in Part 1 can be better understood. To start with the most practical: neoliberal thinkers expect that constituting care receivers as 'principal subject' and as 'human capital subject' places them in reciprocal relations, respectively with care providers and the entire population. With respect to the former: both patient and doctor are expected to benefit from the entrepreneurial attitude that is attributed to them. In the latter relation, the reciprocity that is expected to arise is mostly 'indirect', in the sense that it cannot always be traced to a particular relation of 'competitive exchange'. The individual and the population cannot exchange directly. The general logic seems to be that the individual also benefits from tackling population-level problems, by means of the data that they provide. A very specific example of a mutually beneficial individual-population relation – in the eyes of neoliberal politicians – is the processing of data for healthcare norms. Individual data is needed for generating information about health population(s). Vice versa, such generic information is expected to be usable as input for automated decision-support on individual patients.

Looking at reciprocity in more general terms, however, implies that the subjectivity of the care receiver is shaped by a number of relations. Suddenly, a patient is not just the 'principal' of his/her doctor and a cog in the wheel of the economy. In addition, (s)he is also a 'competitive health entrepreneur', a 'member of civil society', and 'citizen of the Dutch state'. What is more, (s)he is expected to benefit from all the relations that these subject-types imply.

Neoliberalism provides a framework to reconsider the subjectivity of the patient. Yes, the twofold subjectivation that appeared in Part 1 still applies, but it is now embedded in a broader construct that we may call the 'neoliberal subject'. For subsequent chapter, therefore, I shall use this notion as my point of orientation. In neoliberalism, the patient is considered as an overarching entity that combines a number of roles. The particular role that the subject acts out depends on the relation in which (s)he is engaged. These relations overlap. The subject is different and the same, at any given time.

Governments apply different techniques to assure that subjects do indeed assume these roles, without interfering in their lives directly. The 'spontaneous synthesis' that classical liberals expected to occur was transformed by 'orchestrated synthesis'. One of the implications of this orchestration is that people are not necessarily aware of the different ways in which they are subjectified. Many of the relations that I discussed here are 'side effects' of individual relations in which the care receiver engages. This is also important from the point of view of resistance. Even though the neoliberal subject is considered capable of criticism, this is restricted by information asymmetries. As such, individuals might voice criticism in relation to their individual cases, but are unlikely to do so in relation to population-level issues of which they are unaware. This idea contradicts what some commentators assume (see e.g. Mckee, 2009b): the neoliberal subject may be free to say no, but is unlikely to do so, given the way (s)he is constituted. This applies to both individual and collective forms of resistance (McNay, 2009; Read, 2009). Individuals are 'asked' to commit to a policy instrument, of which they are incapable of judging many of its parameters, mainly those relating to macro-level goals.

3 Constructing macro-actors
Conflicting standardisation scenarios

In this second chapter of Part 2, I continue both the theoretical discussion of subjectivation by political attempts to use technology for re-shaping power relations, and the practical discussion of the planning of the infrastructure for the Dutch electronic health record. However, as I indicated before, the approach that I took in the previous chapter has some shortcomings with respect to both these angles. In this chapter, I try to amend them.

Starting with the practical angle, many studies in the domain of science & technology studies (SST) have indicated that technical infrastructures are not made in or around parliament. Without intending to do injustice to the value of this contribution, I hope to have made clear that it would be equally restrictive to *not* take 'traditional' politics into consideration anymore. Following the line of these SST studies, in this chapter I expand the scope of where politics is located. This implies examining what is called 'subpolitics', in this case of electronic health record development. While the previous chapter dealt with the political conceptualisation of the infrastructure in general, this chapter focuses on the question of technical standardisation. We will see that this broadening of scope adds a good deal of complexity, not the least in terms of questions of subjectivation. In addition to the fairly 'straightforward' account of policy planning that I presented so far, at subpolitical level we are faced with various conflicting scenarios that standardisation experts imagine. A good deal depended on the rather specific perspective I took: looking for neoliberal elements in a broad political debate. Other angles might have brought other points forward as well. In fact, this conflict is often referred to as a 'standards war'. In interviewing such experts, a much-heard statement was that 'there is no such thing as *the* EHR'. On the basis of this, I found four radically different 'models' or 'scenarios' for future development. Only one of these relates to the image that I sketched in the previous chapter. This underlines one of the main angles of this study once again: the fact that the electronic health record does not exist (yet) implies that different scenarios are still open for discussion. Such a notion is crucial for an 'analysis of the present'.

Theoretically, I try to remedy the (purposefully chosen) unsophisticated way in which I used the technological script concept so far. I do this by relat-

ing it to what Callon & Latour (1981) have called macro-actors. One of the things that I hope to achieve in this chapter is to show how this concept can help in getting grip on technology-enabled governmentality. In concrete, this denotes that I try to explain how *different actors seem to regard the electronic health record as a macro-actor*, which has a particular impact on the Dutch health sector. I added the emphasis to make clear that it is not merely a layer of explanation that I have added to the case. Instead, I use Callon and Latour's concept to make sense of the accounts of others. Obviously, however, a certain degree of re-presentation on my part is inevitable. If we think back to the previous chapter, we can already recognise the macro-actor way of reasoning. The best example is probably that the electronic health record is positioned as a tool to fix macro-level problems. Still, I have only skimmed the surface of such a description. The question is what a macro-actor is. Is it only technology, or do users play a part as well? Instead of performing a re-interpretation of the analysis of the last chapter, I apply this analysis to the added complexity that the focus on the subpolitical level implies. If there are multiple scenarios for a future electronic health record, we should also keep in mind that there are potentially multiple macro-actors as well. An important question is what this implies for subjectivation.

Taking this angle implies that I attempt to make a connection between Foucault's governmentality studies and Bruno Latour's 'sociology of association'. This link has received some scholarly attention over the past decade (for an overview, see: Passoth & Rowland, 2010). The reason for making such a connection in this study is twofold. First of all, I explained before that Foucault's work is not immediately equipped for grasping the nuances of dealing with technology and 'things'. The second reason is of more methodological nature. If we take Foucault's genealogical approach to the study of governmentality, we are likely to study developments with the benefit of hindsight. If we 'apply' the perspective of one of his governmentalities, as I did in the previous chapter, we are likely to remain short-sighted. In this study, I am interested in examining governmentality as it is being constructed. Rather than looking for *one* particular type of governmentality in the present – panoptic or postpantopic (neoliberal) – I study what *different* types were considered before the discourse stabilises around a particular configuration. The reason for this stems from a more normative angle, or a change perspective. I argue that the best time to challenge undesirable forms of governmentality is when it is still 'in the making'. I think that the work of Bruno Latour is very suitable to articulate this.

I start by providing an overview of the conceptual and methodological approach of this chapter. In the second part, I discuss the four EHR scenarios I identified. A particular point of attention is to understand how particular technologies are expected to mediate a particular set of practices. We may ask the question: which of these technologies is deemed most able to mediate postpanopticism? I conclude with a discussion on the question of what we might expect of the future in terms of realising one of these scenarios.

Concepts and methods

I start by discussing the question of how we might imagine the conceptualisation of macro-actor. I articulate this in alignment with Foucault's ideas on governmentality and subjectivation. As said, the stress is on developing a more sophisticated understanding of the working of technological scripts. Furthermore, I relate the question of multiple macro-actors to multiple subjects, and to the idea of regarding standardisation as subpolitics.

Conceptualising macro-actors

Just like in my discussion of Foucault's work, in the previous chapter, I start by Latour's early comments on the social contract. In fact, the paper that he co-authored with Michel Callon on Hobbes' *Leviathan* (Callon & Latour, 1981) was published only two years after Foucualt held his lectures on the topic (published as: Foucault, 2008). Foucault was still alive then. We have seen that Foucault discusses the social contract as a metaphor for thinking about government, in relation to constituting the inhabitants of a particular nation-state as 'subjects of right' (Foucault, 2008). Callon and Latour are interested in a different aspect of Hobbes' work, which suggests a somewhat more literal reading. They pose that Hobbes was the first to articulate the relations between 'micro-actors' (individuals) and 'macro-actors' (the sovereign). The idea is that individuals conclude a contract to form a macro-actor to which they delegate certain tasks. Callon and Latour pose that their 'general law of translation' is more suited for addressing this issue than social contract theory.

Their main suggestion is that macro-actors are formed by bringing 'into play *associations that last longer than the interactions that formed them*' (1981, p. 283, original emphasis). This implies that the term is used to describe what

sociologists normally call 'institutions, organizations, social classes, parties, states' (1981, p. 279). Macro-actors are a composition of humans and 'things' – Latour prefers the term nonhumans – that have the capacity to act collectively. Think, for instance, of a statement like 'the United Nations said that…' The notion of organisations as actors has received considerable attention in organisational studies. In his later work, Latour continued this discussion under the term 'collectives' or 'hybrids'. This work is more tangible because of the use of practical examples.

The major addition that Callon and Latour make is that associations are not only made of people, but that also materials are included. As examples they name: 'replacing unsettled alliances as much as you can with walls and written contracts, the ranks with uniforms and tattoos and reversible friendships with names and signs' (1981, p. 284). This is all very reminiscent of Foucault's analysis of micro-politics, an influence on Latour's work which he acknowledges (Crawford, 1993).

The inclusion of nonhumans, or technologies, brings me to the issue that I announced in the introduction as the theoretical stake of this chapter: the development of a more sophisticated understanding of the script concept. So far, I have discussed scripts and inscriptions as pertaining to a particular artefact or technology. However, what happens to the script of a technology, if we regard it as part of a collective, or a macro-actor? If we imagine the electronic health record as such a collective, it is clear that the number of actors that it combines is considerable. It is a system that connects a very large number of humans – doctors, patients and potentially insurance agents, public officials, etc. – and nonhumans – computer boxes, cables, all the screens of a software application, the files that constitute the database, etc. All these parts of the collective also have their own individual goals, even if these are inspired by external stimuli, as Foucault has shown.

Here we get to the core of why I described my usage of the script concept so far as 'unsophisticated'. When I said in the previous chapter than the electronic health record 'does things', I referred to any different things. I said, for instance, that the information that is made available to the patient 'makes' him/her behave differently in interaction with a doctor and that it does not 'allow' doctors to use their sloppy handwriting for referrals. However, I also implied that people expect the electronic health record to 'solve' macro-level problems like waiting lists and the ageing population. In the first two examples, the scripts that are evoked are rather specific ones, relating to a fragment of the entire EHR infrastructure only. In the latter example, however, the suggestion seems to be that the entire infrastructure 'acts on' the Dutch

healthcare sector. What is expressed here by actors in the standardisation process is a view of an infrastructure that is both unity and a collection of parts. Another way of formulating this is that the whole is a 'collection of collectives'. The way in which this is described suggests that both the whole and the collectives of which it is composed have agency of some sort.

The expectation that is voiced by different spokespersons is that it both has a 'macro-script' and a set of 'micro-scripts'. What is of great importance in this respect is that standard-makers seem to pose that the macro-script of the electronic health record is constituted by its set of micro-scripts. In other words, a collection of interconnected functionalities is put together in order to change the behaviour of individuals, in such a way that it contributes to solving macro-level problems. This is somewhat different than Latour's discussion of collectives, which focuses on the way they form in practice. What I am describing here, is how they are planned and envisioned. This implies that I approach it from the point of view of inscription, i.e. the purposeful *attempt* to make a technology carry out a particular script.

What is important to realise, however, is that inscription refers to the creation of micro-scripts in this context. Similar to the earlier-mentioned idea of 'orchestrated synthesis', the idea seems to be that the macro-scripts will 'appear to order' once the micro-scripts are put in place. The assumption is that these inscriptions will succeed in the creation of the 'smaller' collectives of which the EHR macro-actor is composed.

If we project this on the case of healthcare, we have to imagine micro-networks of patients, physicians and other parties that are connected by databases, interfaces, standard protocols, etc. These micro-networks are interconnected by a national infrastructure. The different technologies are created for the purpose of prescribing particular behaviour and norms on the different actors in the network. In talking to those involved in the standardisation debate, it is, furthermore, clear that the functioning of a particular standard is regarded in the broader context of people and devices that are connected. Many of them describe the EHR as an actor and in such a way that it reflects the assembled nature that I described above. Practically, this implies that the constellation of physicians, patients and other parties are thought to have a certain collective impact on the functioning of the healthcare sector. I try to show this in more detail in the second part of this chapter.

A final cautionary reminder: no final decision has been made about the different EHR scenarios that I discuss here. In fact, the recent discussion in the Dutch Senate is likely to change the debate completely. Therefore, it is so far only possible to discuss 'projected inscriptions'. In a sense, all inscriptions are

projections, but in this case this applies to an even greater extent. Latour acknowledges that it is unlikely that the behavioural patterns, tasks, values, duties and ethics that designers try to inscribe will always work as planned. This is obviously of some importance for the case I discuss in this chapter: the different configurations of the EHR will probably not always work as planned, even if one is selected for implementation. I return to this topic in the next chapter, by scrutinising the expectations that underpin EHR development. At the same time, this also shows that the notion of inscription does not imply attributing a 'God-like status' to the designer (Latour, 2003). As I indicated in the introduction already, technologies also play a role *in* design, not only *after* design. This relativation of constructivism is important from a Foucauldian point of view as well. The idea that subjects are effectively created by a clearly delineable group of designers does not mix well with his ideas about discursiveness. In this respect, the standardisation discussion that I articulate here is clearly part of a longer discussion.

Multiple macro-actors, multiple subjects?

On the basis of the idea that multiple macro-actors are being envisioned, a logical step is to assess to what extent they imply a different subjectivation of the care receiver. Different scenarios imply different collectives, with different human subjects and different technological plug-ins. I related these to different types of governmentality, which all constitute their subjects in a particular way. Therefore, rather than speaking about *the* 'neoliberal patient', as in the previous chapter, I show how *different potential* configurations relate to *different potential* subjects. The purpose is explicitly not to scrutinise these configurations, or to confront them with counterevidence from academic literature. This is the topic of the next chapter. I only refer to literature for purposes of clarification.

The argument of multiple subjectivity is not just academic parlour. Actors in the EHR discussion actually use the term subject to evoke different ways of constituting people in their statements. The Public Health Council, for instance, argued that, for one of its studies, it did not only survey healthcare consumers, but also 'healthy subjects' (RVZ, 2004, p. 13). Foucault considers such 'dividing practices' – between 'healthy' and 'unhealthy' for instance – as one of three ways of transforming human beings into subjects (1982, p. 777). The other category, 'healthcare consumers', does not only subject people to healthcare, but also to consumer society. As a second example,

the institute that was delegated to enable a Dutch EHR refers to a 'subject of information' (NICTIZ, 2006, p. 58), which can either be a patient or a patient's family member. This shows that the gathering, processing and storing of information is understood as a system that has its own subjects. This is different from the definition that the International Organization for Standardization (ISO) maintains of the EHR: 'a repository of information regarding the health status of a subject of care, in computer processable form' (quoted in Blobel, 2007, p. 7). Following the ISO line, it is particularly interesting to note that a participant of an expert meeting of the Dutch senate remarked that the 'human being' comes up a number of times in an information system: 'as care provider, as subject and also as patient, which is also referred to as contra-subject' (Blobel, 2007, p. 8). I hope it is clear that the notion of subjectivity is sufficiently present in the EHR discussion to justify it as a topic of further inquiry.

Standardisation as subpolitics

In the previous chapter, I based my analysis exclusively on documents that were discussed in parliament. Since the mid 1990s, scholars in the vein of German sociologist Ulrich Beck have pointed at what is called the 'subpolitisation of society', or simply 'subpolitics' (e.g. De Vries, 2007). This refers to the idea that politics is not restricted to the acts of government, but that it is dispersed over many knowledge-intensive sites. I do not mean to suggest that subpolitics is a postpanoptical phenomenon. In fact, the very notion of panopticism implies that a particular approach to subjectivation is constituted in local micro-politics. Prison guards, school teachers and factory managers were all part of the panoptical apparatus. The creation of the Panopticon was not an act of central government. Nevertheless, in order to understand how subjectivation takes place in the postpanoptical present, we have to study subpolitical sites of the present.

The different platforms on which the standardisation of the electronic health record is discussed may be regarded as examples of such sites. Standards form an important part of the infrastructure that is laid out throughout the country. Using metaphorical terms like AORTA (NICTIZ, 2003), we are made to imagine a body of vessels through which data is pumped around like blood cells, using a 'National Switch Point' (Ministerie van VWS, 2005c; European Commission, 2007) to determine what goes where. Given the objectives, standard ways of handling data are needed to assure that all the differ-

ent parts that are connected to the vessels are interoperable. This was labelled as a problematic issue from the outset (RVZ, 1996) and has remained an issue all along (RVZ, 1996b). This is the reason for focusing on standards in this chapter. As I mentioned briefly in the previous chapter, this is mainly due to the opposition between two approaches: the third version of the American HL7 standard and the ENV13606 standard of European origin. This opposition forms the basis for this chapter. I mainly base my analysis on ten interviews with proponents of the different standards, which were conducted in 2008[3]. On top of that, I iterated my analysis by drawing on the analysis of documents that formed the basis of the previous chapter.

Here, I am concerned with the role that standardisation, as a site of subpolitics, plays in the governmentality discourses surrounding the electronic health record. I still consider governmentality as the 'reasoned way of governing best and, at the same time, reflection on the best possible way of governing' (Foucault, 2008, p. 2), rather than as the practice of government. This implies that I focus on the way in which experts reflect on the role of standards in their conception of 'governing best'. This makes particular sense if we take into consideration that the design of the Dutch electronic health record is still under discussion.

This does imply a different orientation than Latour has taken in his work. My intention is not to 'follow the actors' (Latour, 2005b) in the process of making the connections and building the networks that would realise their visions. As I am more interested in their reflections on how to 'govern' with a health record, I stay close to their narratives regarding the expected operations of the different scenarios they imagine. I use some of Latour's concepts to make sense of the stories of standard-makers. As such, I don't discuss the *actual* formation of macro-actors, and the *actual* shaping of subjectivity, but only projections of that. Where possible, I do indicate when standard-makers acknowledge the role that nonhuman artefacts play in the design process. I use a separate section for this, considering that this typically applied to the general opposition between standards, rather than to the more specific level of the different scenarios. This is in line with Latour's (1987) comments that people can act as spokespersons for things. My goal is not to provide a general account of the role that different actors play in the constitution of different visions or scenarios, even though this would certainly be possible, and interesting. It would articulate that also visions and scenarios are constructs, which do not exclusively stem from human imagination. Because of the focus

[3] Interviews were conducted with Willem de Ruiter

on governmentality as a reflective phenomenon, however, I am more interested in the 'content' of these constructs.

Four 'projected' macro-actors

Whittaker describes the contenders of the 'standards war' in the EHR discussion as follows:

> 'Coming out of the West, waving Old Glory in the setting sun, are the big guns of the HL7 standards organisation. From Down Under we have the *open*EHR (pronounced 'open air') project, and from Europe we have the easy intellectual superiority of the CEN/TC 251 European medical informatics standardisation committee' (Whittaker, 2002, p. 29).

In the Netherlands, it is mostly the opposition between the American and the European approach that has attracted some attention in politics (RVZ, 2002b; 2005b; NICTIZ, 2003; ICT Zorg, 2007; Ottes & Van Rijen, 2008; TK, 1997/1998b). Both standard organisations have Dutch departments. Nevertheless, it is important not to overlook the impact of the Australian initiative:

> 'over the past five years it has had a significant influence on the development of EHR standards by the three main international ehealth standards development organisations, CEN (European Committee for Standardization), HL7 (Health Level 7), and ISO (International Organization for Standardization). In fact, CEN EN13606 [3] is a subset of the full *open*EHR specification' (Schloeffel et al., 2006, p. 1).

Even though the then-minister of healthcare (social-liberal) initially focused on European standardisation efforts (TK, 1997/1998b), and the Public Health Council criticised the lack of an underlying data model for the second version of the HL7 standard (RVZ, 2002b), the third version of this standard was adopted for further implementation by the responsible National IT Institute for Healthcare in 2002 (NICTIZ, 2003)[4].

[4] This paragraph, and the following two, are taken from an earlier publication (Mensink & Birrer, 2010), the remains of which are published in chapter four of this thesis

The argumentation of the responsible agency was pragmatic: this version was internationally the most developed standard and many Dutch hospitals had already adopted the second version of the standard. The next political incident in relation to the adoption of standards was the negative Dutch vote on the acceptance of four out of five parts of the 13606 standard in May 2007 at the European level (ICT Zorg, 2007), an issue that was not discussed in parliament. However, after a highly explicit advice by the Public Health Council (RVZ, 2005b) and a controversial informal communication by members of the council in a Dutch medical journal (Ottes & Van Rijen, 2008) in favour of the European standard, parliamentarians started questioning the technical shortcomings of the HL7 standard. However, the then-minister (Christian democrat) did not consider the 13606 standard sufficiently mature to be applied on a larger scale, mainly because only four of its five parts had been accepted by then, and because of a lack of existing implementations (TK, 2008/2009e). The minister decided against using the standard in future implementations, as Sweden had done, but did refer to international agreements to move towards harmonisation between HL7 and 13606.

While the HL7 standard traditionally focuses on sending referral messages between the information systems of different healthcare providers, the ENV13606 standard has always put its focus on the coded mapping of medical context. Rather than focusing on basic message exchange, the goal of the 13606 has been to encompass all EHR information at the same time (De Clercq et al., 2004), using the concept of archetypes. Archetypes are defined somewhat cryptically as 'knowledge level models which define valid information structures' (Beale, 2001, p. 2) and practically denote models in which all medical information related to a certain procedure is stored. HL7's Clinical Document Architecture (CDA) concept, which can be seen as 'conceptually very similar to archetypes' (Eichelberg et al., 2005, p. 282), is intended 'to structure the clinical information inside the documents (such as a discharge letter). It does not deal with the meta-information required for structuring (and transferring) the relations between these documents, which may be included in an electronic patient record' (De Clercq et al., 2004, p. 1028).

I do not want to argue that one standard will lead to 'system X', and another will lead to 'system Y'. Even within the group that supports a particular standard, there are diverging views. In this section of the paper, I focus on four EHR 'scenarios', which I conceptualise as macro-actors on the basis of the accounts of my respondents. Two of these, which I discuss first, are attributable to the HL7 network, and two to the proponents of 13606. These scenarios are not fully separable empirically. They are not labelled as distinguished

views within the different groups. Where applicable, I indicate where scenarios overlap. That does not mean, however, that these are completely analytical categories either. They were based on oppositions within the accounts of the respondents.

The virtual record

The term 'virtual record' is mostly attributable to the HL7 network. The term was repeatedly used by politicians to describe the EHR project (TK, 2000/2001a; 2008/2009e; Hoogervorst, 2006a). On top of that, it was adopted by the implementing institute in its 'Masterplan' (NICTIZ, 2002a)

The term 'virtual' applies to the idea of a network of healthcare providers (physicians, laboratories, etc.), in which medical data is communicated by means of standardised messages between the local information systems that all members of the network maintain and manage individually, using a 'National Switch Point' (NSP) (European Commission, 2007) through which queries can be made to local databases. In other words, local databases are 'black-boxed' in this system, in the sense that their contents are not considered. Communication in the healthcare system is thus based on HL7's message paradigm. The virtual record is clearly positioned to facilitate communication in medical processes, which are not necessarily restricted to branches of the healthcare sector. An HL7 representative referred to this as 'organisational interoperability', which is distinguished from more technical forms of interoperability. The first steps have been to create specific messages for medication and laboratory data, making use of the third version of the HL7 standard. It is clear that the virtual record is mainly a tool that facilitates the operations on the supply-side of healthcare.

The micro-script that standard-makers want to embed is to create such applications that would make physicians translate their handwritten referral notes to electronic messages with a limited number of basic parameters. Clearly, this is not a major step compared to the current operations of healthcare. Patients and doctors are not constituted in a fundamentally different way than what is the case now. The setup leaves responsibility for medical data with the physician, as (s)he maintains the ownership of the containing database.

Respondents from the HL7 network voiced the idea that the best way to assure high data quality is to make sure that the physician who creates the data - in a measurement, or consultation for instance – remains the owner of

the data, in such a sense that the data remains at its source. In other words, the 'collective' of physician and data should not be broken. This relates to the opinion within the network that physicians fundamentally distrust any data that they did not create themselves. Therefore, in order to make sure that someone is responsible and thus accountable for the quality of the data, local data storage is deemed inevitable. Another political argument for local storage of data is based on the idea of avoiding concentration of data for reasons of security, abuse and potentially centralised power structures.

Standard-makers in the HL7 network base their ideas on a pre-defined conception of the 'regular patient'. A main assumption that underlies their inscription plans is that patients are not interested in an electronic health record, but in the treatment of their illnesses. Before a greater emphasis was placed on patient-access to their records, the position of certain HL7 stakeholders was to provide the patient with access to the 'logging screen' only. This gives an overview of the physicians that have (attempted to) access their data. A much-heard argumentation is that patients currently do not ask their physicians for insight in their medical records either.

Even though the virtual record would operate as a macro-actor, it is highly distributed. Its stability depends on its links to the AORTA infrastructure, the National Switch Points and the logins that patients and physicians use to make queries. Its composition changes from time to time, based on the queries that are made. The 'macro-script' of this corresponds to the basic expectations of the EHR that are voiced in political discussions. I name the most important examples. By using the EHR, communication is expected to become more efficient (RVZ, 1996). Quality of care is expected to improve, considering that digital records would overcome human errors, such as sloppy handwriting (TNS NIPO, 2003). As a result, healthcare costs would decrease (TNS NIPO, 2004a; TK, 2007/2008b). These expectations hold for all EHR configurations that I discuss. Each of them adds to this in different ways, however.

The chain integration record

The chain integration record is also mainly attributable to the HL7 network. The term 'chain integration', or 'integrated chain approach', is the translation of a common Dutch way of referring to what is generally called Supply Chain Management (SCM). The notion that something is considered as a supply chain indicates that a particular process is given a special status. Its shape is more fixed than in the case of the virtual record. That does not necessarily

mean that it is more stable, however. SCM was coined by business consultants in the 1980s and has increased in popularity ever since. This academic concept is often applied in political discussions (e.g. RVZ, 1996; Ministerie van VWS, 2002; 2005d). More colloquial terms as 'healthcare chain' or 'chain care' are to be found in nearly any document in the EHR debate.

This projected macro-actor is largely the same as the virtual record, but would be designed to pull together all the messages concerning individual patients in relevant medical 'chains', in order to create a comprehensive record. Its projected 'macro-script' is different. This implies that data is not connected to a medical specialisation, as was the case in the virtual setup, but to a patient in a process. This labelling of chains is an additional form of categorisation. This mainly relates to patients with a chronic illness. In such cases, certain members of the HL7 network voiced the idea that it might be good for the record to 'follow the patient'. In this sense, it is somewhat more patient-oriented than supply-oriented, compared to the virtual record. This does imply a view significantly different from the virtual record, in the sense that data is no longer necessarily distributed and confined to its source, but can be drawn together around a single patient with a chronic disease.

The main inscription of the chain-integration record is that physicians are prescribed to contribute to the constitution of their patients' 'chain record' by the referral message that they send. They are connected in a more fundamental way than if their data were merely accessed through incidental queries.

The patient-user of this macro-actor is constituted rather differently than in the case of the virtual record. An idea that strongly influenced standard-makers in the HL7 network is the distinction between 'regular patients' and 'expert patients' that was popularised in political circles since the late 1990s (Wilson, 2001). As the former category is deemed to form the majority, part of the network takes it as the basis for defining the workings of the virtual record. This is an indication that the virtual record and the chain integration record could co-exist. We could imagine a system in which regular patients are enrolled in a system through incidental queries, while expert patients have a more structural engagement in a particular medical chain.

Despite the differences between the associations within HL7 that support the virtual record, or the chain integration record, it needs to be argued that there are also strong overlaps between the two associations. For instance, both approaches are based on a strong resistance against central storage and against the notion of investing in archiving in general. By distinguishing between 'regular patients' and 'expert patients', data is only drawn together

around the patient in a few specific medical chains. Because of that, local databases can still be maintained to a great extent.

On top of the expectations that I described with respect to the virtual record, some more are added here. The chain integration record is supposed to partly overcome the perceived fragmentation of the healthcare sector. In an advice, order by the Minister of healthcare, it is argued that:

> 'an increase of fragmented care is expected; the number of different care providers that work together for the health of one single patient is growing. These developments call for an accessible and exchangeable record between the different care providers in the chain' (Squarewise, 2006, p. 9)

Such a 'restructuration' according to medical chains would result in a repositioning of 'expert patients'.

The Personal Health Record

The Personal Health Record is mainly attributable to the 13606 network. Even though the idea of a personal health system already arose before computerization, it has only taken flight in the past decade. Particularly the role of commercial providers like Google and Microsoft has been influential in recent years (Rich & Miah, 2009; Wright et al., 2010). In 2010, the European Commission offered funding for projects that would further the integration between systems for 'personal health' and 'public health'[5]. The vision of certain 13606 proponents could be regarded as such an approach.

The personal health record signifies a system in which all information around a medical act is connected to an individual patient, rather than to physicians, treatments or processes. 13606 standardises medical information, rather than messages. This information is stored separately from the actual EHR application. This is called a 'dual-level approach' (Beale, 2001). Just like in the case of the virtual record, a mediator is required. Here, the mediator is not meant to connect databases, however, but to connect user interface and database.

By using open standards, applications like Google Health and Microsoft Healthvault can connect to the system. The importance of this extension for this macro-actor lies in the fact that these applications have a rather different

[5] See: http://cordis.europa.eu/fp7/ict/programme/overview5_en.html

orientation than the public health records that I have discussed so far. For proponents of the 13606 network, personal health systems are mainly focused on monitoring data such as fitness indicators that are measured while doing sports. By this inclusion, this macro-actor is expected to stretch out significantly.

But, what is more, this broadening of the network also implies the constitution of a second additional set of users: what some have called 'pre-patients'. Whereas the public EHR mainly counts ill people as its users, the personal health record also includes those that do not (yet) have an illness. This is interesting from a Foucauldian perspective, for different reasons. While the virtual record was based on an imagined set of fairly passive patients that only want treatment, and the chain integration record aimed at 'expert patients', this macro-actor is based on a category that potentially includes the entire population. First of all, in the previous chapter, I indicated how the population became a unit of governance around the 18th century (Foucault, 2008). In this respect, extending the 'reach' of the health record is an interesting development. At the same time, it could be argued that the distinction between health and illness is increasingly blurred. A good part of debate in the medical domain has always turned around the question of defining the boundaries of abnormalities from the condition that is considered healthy. If all citizens have an electronic record, this 'dividing practice' is less an issue.

A final set of new users, which 13606 proponents imagine, is the fairly undefined category of organizations that could be hired by patients to manage and maintain their data. 13606 proponents acknowledge that managing your own health may be a trying task. Banks are often referred to as the type of institution that could be trusted with such a task. Particularly because of the interest of corporate players like Google and Microsoft, such intermediary organizations are deemed desirable.

The prime function of the Personal Health Record is to provide people with access to their own data. The clearest motivation for this position was the statement of one 13606 proponent that 'the patient is just a subject in all those information systems, but does not have his own system'. He proposes to create systems in such a way that the patient is 'electronically represented' and states that the EHR should not be about information gathering for the physician, but for the patient. Therefore, the fact that the technology is coded in such a way that data is 'attached' to the patient inscribes new patterns of use.

A micro-script that is imagined for this macro-actor is based on the possible connection to applications like Google Health and Microsoft Healthvault. In such a case, a patient is probed by the system to actively add data concerning his/her health. It would go too far to use Latour's prescription concept to describe the agency of the system, but we might say that someone could be enticed by such a function. Still, both within the 13606 and in the HL7 network, I encountered resistance to such forms of 'user-generated content', arguing that it is problematic to mix this with existing, authoritative data sources. In line with the focus on the subject, it is interesting to note that data is described as subjective (Foucault, 2008b).

The main agency that the personal health record would have in the healthcare system would be to reposition the patient. Even though the notion of patient empowerment has certainly entered political discussions as a relevant trend (RVZ, 1999b), this is rather regarded in relation to health information on the internet. The notion of patient access to the EHR did get increasing attention in recent years (TK, 2008/2009e). Nevertheless, the patient is not considered as the owner of his/her own data (Ministerie van VWS, 2005b; Ministerie van VWS, 2005a). The agency that is attributed to the *potential* personal health record stems mainly from 13606 proponents.

The monitoring record

The fourth, and final, macro-actor that I discuss here is closest to the setup that I identified in the previous chapter. In other words, it comes closest to what I described as a neoliberal, postpanoptical setup. Therefore, some arguments will be revisited, but from a different angle. This EHR type is not clearly labelled in the discussion, even though it is often described by 13606 proponents.

This macro-actor is technically the same as the Personal Health Record in terms of infrastructure. As I said in the introduction, the macro-actors that I discuss here are not entirely separable in terms of the technology used. The emphasis is clearly different, however. The main distinguisher is that the agency record comes with a different set of anticipated users and connected applications.

The argumentation that is given by 13606 proponents is that their standard enables monitoring and decision-support for individual patients and populations. The emphasis is put on the adequate mapping of medical context. The technology does not only provide the output data of a blood pres-

sure measurement, for instance, but also further context information. It would record who performed the procedure (doctor, nurse, patient, etc.), which equipment was used, which method was applied, etc. Most importantly, information would be presented in such a way that computers can 'understand' it. Referring to HL7s message-paradigm, one 13606 proponent argued that 'messages are meant for updating EHR's; that is not the same as archiving'. From a Foucauldian point of view, it would be interesting to question the rationality behind the decision of what should be archived and what should not, rather than the mere notion *that* there is an archive (Foucault, 1972). I try to comment on this here.

The expected new functionalities imply different micro-scripts in terms of the constitution of the patient. Not only is the user conceived as a disciplinary actor that will hold doctors accountable for bad work, but at the same time (s)he is entered in a relation in which different medical institutions monitor his/her development. Let me start with the first part. The mere notion that patients will have access to more data leads to the assumption that they will change their behaviour. Most importantly, it will probe them to adopt a more critical position vis-*à*-vis their doctors. It is a relevant factor to note that this macro-actor is, therefore, thought to go against the interest of physicians, as it would undermine their power. As in the case of the personal health record, this relates to a vision of patient empowerment, but to a different one. Rather than arguing for the emancipatory character of empowerment, the vision related to this script is to empower patients with 'perfect information' to hold their physicians accountable for the quality of their service. Basically, this implies the vision of a script that would enforce a principal-agent relation of the patient vis-à-vis physician, or a vision of a disciplinary subject as Foucault (2008) described in his analysis of neoliberalism. As I said before, we might regard this as the neoliberal expectation of an 'orchestrated synthesis' in society.

The second part of the constitution of the patient, as the object of monitoring, is based on another micro-script. This implies that the creation of computer-processable data entices physicians and public institutions to monitor individual and (anonymous) population-level data. For instance, applications are expected that would probe doctors to monitor not only monitor the sickness of his/her patients, but also the developments in the patient's health. The general practitioner would take up the role of 'health counsellor'. In this sense, also here does the addition of personal health systems like Google Health and Microsoft Health Vault imply an addition of sport clubs and the like. As I have shown in the previous chapter, such ex-

pectations do not only apply to individual physicians. Organisations in the realms of medical science, insurance companies, political organisations and the management of healthcare are expected to draw on large-scale, anonymized datasets that are derived from individual patient data (RVZ, 1996). This script relates to a view of certain standard-makers in the 13606 network to increase the efficiency of healthcare by implementing decision-support, or even fully automated decision-systems.

The projected micro-script of automated storage of context information involves yet another expected change of physicians' behaviour. The effort to create completely trustworthy information is thought to play a major role in reducing the costs that come with repeated medical procedures. Both standardisation networks argue that physicians tend to distrust data generated by colleagues. Some go as far as saying that 'a surgeon would rather not have a memory'. As it was explained in the section on the 'virtual record', the HL7 network uses this as an argument to stress the importance of personal data storage for individual physicians. For actors of the 13606 network, by contrast, such an approach is unsatisfactory, considering that it would lead to repeated measurements, which is considered undesirable from the point of view of cost containment.

The third micro-script is similar to one that I described for the personal health record, even though it is framed differently here. Having a system that is built on open standards is expected to 'invite' personal health systems like Google Health and Microsoft Health Vault to link up. The logic behind the script is that open standards change industrial behaviour, in the sense that it 'invites' broader adoption. This is in conflict with the HL7 view that standards are best made in collaboration with industry. In such a view, relevant players are invited as members of an association before publishing the standard.

Let me summarise the way the principal-agent record would act within the healthcare system. First of all, it is expected to contribute to cost reduction, for instance by reducing the need for repeated tests. This expectation, however, is voiced in parliament as a general expectation of the EHR (TK, 2007/2008b). This is not necessarily restricted to the scenario discussed here. However, the argument is that only 13606 would offer the means of meeting this expectation. On top of that, patients are expected to adopt a principal-agent relation with respect to their care providers. In political discussions, this opinion of mainly voiced by 13606 proponents (RVZ, 2003a). The same applies to question of decision-support. The expectation is that the addition of information from user-generated personal health systems to a public EHR

will contribute to transforming the current 'sickness system' into a 'health system'. It is argued that the current debate is still too much grounded in a supply-oriented system, in which it is financially attractive for physicians to have a high number of patients with a chronic illness. By allowing the addition of 'health' related information, physicians are thought to be stimulated to take greater efforts towards prevention. The main way in which this macro-actor is expected to act, is by breaking open the structure of the healthcare sector.

Artefacts and conflicting interests

It is interesting to note how actors in this standardisation process discuss conflicts of interest in relation to the role that certain artefacts play. I discuss them in a separate section, considering that they do not particularly apply to the four projected macro-actors. All examples that I discuss here relate to criticism of HL7 by 13606 proponents.

The most polarising issue relates to accusations that HL7 proponents did not dare to 'put a bomb under legacy systems'. Indeed, the implementing institute, which adopted the HL7 standard, opted for working with existing systems (NICTIZ, 2002a). I have argued before that the databases that contain medical information are 'black-boxed' in the messaging paradigm. It is clear that the databases 'under the GP's desk' pushed the process considerably. As I showed before, the explanation is different. HL7 proponents take local storage for granted, arguing that it is the only way of gaining the trust of physicians. Their competitors don't accept this limitation, and attempt to find other ways of assuring higher level of trustworthiness. This is not all. 13606 proponents point at underlying argumentation on the HL7 side. A number of them pointed at the role of hardware vendors, arguing that black-boxing databases is in their interest. One of the main reasons for building on an existing framework of local hardware would be that many of the members of the HL7 network create proprietary database systems. It is argued that such vendors want to keep control over the 'database column' of medical information systems, and only want to standardise the communication between them. Also other IT companies are drawn into this association, according to 13606 proponents, because of the market opportunities for creating software plug-ins that would be needed to keep all the different systems connected. By opting for open standards, 13606 proponents attempt to force (the market for) databases to open up.

There are a number of artefacts of which 13606 proponents have claimed that they have pushed the discussion into a direction favourable to them. The clearest example, even if it is not as 'material' as most of Latour's examples, is the Act on Medical Treatment Agreements (WGBO). This was introduced mid 1990s and is argued to have pushed the political discussion for strengthening the role of the patient with respect to medical data. The act declares that patients have the right to access, modify and destroy their medical data, which, in relation to patient empowerment, is thought to be crucial in terms of self-determination. Interestingly, 13606 proponents themselves discuss the act as an actor: they argue how pleased they are not to have to negotiate with HL7 representatives about patient rights, considering that the act 'does that for them'.

Something similar may be argued about the earlier-mentioned 'logging screen' interface of the future EHR. In fact, it became an artefact that embodied a core issue in the political or visionary discussion around the position of the patient in relation to the question of standardisation. Once it was proposed that patients could monitor who accessed their data, questions arose to what extent patients could have access themselves. Interestingly, what started as an attempt to restrict patient access, in the end probed questions to expand it. Only in 2009, there was a promise by the then-minister of healthcare (Christian-Democrat) to look into patient access (TK, 2008/2009e).

Certain authors have coined the idea that, on the basis of Latour's work, concepts may be regarded as nonhuman actors as well (Underwood, 2002). By showing how concepts are translated between communities, one could illustrate how they can push certain processes. Earlier, I referred to the academic concept of 'chain integration', which co-existed with terms like 'health care chain' and 'chain care' in political discussions. It is not my aim to give a general account of the role of concepts in this discourse, even thought that would certainly be an interesting analysis. I do want to give one example that seems particularly relevant from the point of view of standardisation. The core of the 13606 standards seems to lie in the 'archetype' concept (Beale, 2001; Garde et al., 2007). This concept pushes both political discussions around accountability of physicians and, more importantly, pushed HL7 to come with comparable concepts. Scholars have argued HL7's Clinical Document Architecture (CDA) to be 'conceptually very similar to archetypes' (Eichelberg et al., 2005, p. 282).

A final point, which is particularly relevant given the discussion of visions and projected futures, is the role of imagined actors. Throughout the description of the four macro-actors, I have already indicated how different

sets of future users and artefacts are drawn into the argumentation of a particular projection. Different macro-actors would involve 'expect patients', 'ill people' or 'pre-patients', as well as 'decision-support systems', 'logging screens' or 'Google Health'. Interestingly, some of these artefacts do not actually occur in concrete discussions on standards or on the implementation of the Dutch EHR. We might refer to them as 'distant actors'. Despite their non-presence, it is clear that their existence pushes political discussions. For instance, members of parliament

> 'see all sorts of initiatives abroad, in which a personal medical record is arranged, as in the case of Google Health and Microsoft Health Vault [..] In case government does not properly arrange the access functionality properly, these members fear a parallel development of the public electronic doctors' record and a patient data vault in the private sector' (TK, 2008/2009a).

The minister argues that such personal health records can potentially extend, but never replace the public system from a security point of view.

Discussion and conclusions

The four macro-actors that I discussed above can be presented in a more structured manner by categorising them according to two variables: (i) the orientation to changing the situation of individual care on the one hand and of the healthcare system on the other, and (ii) a focus on streamlining process & communication on the one hand, or structure & information on the other. The four technologies-in-design can then be presented as such:

	Emphasis on system	**Emphasis on patient**
Process & Communication	Virtual record	Chain integration record
Structure & Information	Monitoring record	Personal Health record

Such a classification of ideal-typical technologies-in-design can be used to enhance the moral dimension of the discussion on technological develop-

ment. They can serve as analytical tools to be used as discussion cases, or even to increase the predictive power of discussions on these developments. In terms of predictions in this case, I just want to highlight a few important developments can be illustrated by means of the above mentioned macro-actors. First of all, it seems clear that the virtual record was the model for Dutch EHR design for most of the process. The actual term was applied by subsequent ministers of healthcare (TK, 2000/2001a; Hoogervorst, 2006a), as well as by the institute that was delegated to enable the implementation of the EHR (NICTIZ, 2002a). Looking at the table above, however, there seems to be a movement on the horizontal variable to the right, i.e. from a system orientation towards an individual care orientation. By such reports as *From patient to consumer* (NICTIZ, 2002c), and other political advices by the public health council, it seems that the political discussion is moving towards acknowledging the position of the patient. Particularly parliamentary debates in the first half of 2009 voiced a strong dissatisfaction with the role that had been envisaged for the patient up to then. Only in March 2009 has the responsible minister given his veto for allowing patient-access to the EHR (TK, 2008/2009e).

At the same time, however, there has been a continuous orientation towards using the EHR for addressing macro-issues in healthcare. As we have seen, this is a crucial point in neoliberal, postpanoptic governmentality. This would imply a 'shift to the left' in the table. While in the 1990s the record was positioned for addressing waiting lists and waiting times, attention has shifted towards the societal costs of medical information errors in recent years. In terms of the overlap that was described between the personal health record and the monitoring record, the question is whether patient empowerment is meant to emancipate the patient, or to create a disciplinary patient-subject in the healthcare system.

A third and final development that I have observed seems to be less ambivalent in terms of 'direction'. It seems to be clear that both standards are moving in the direction of standardising the actual information in medical databases, rather than just the messages that are sent between them. Even international proponents of 13606 agree that 'HL7 is moving towards an architecture standard' (Garde et al., 2007, p. 342). In this sense, it seems clear that the future of EHR development is to be expected in the lower line of the table above. The question that remains is whether it will stabilise in the left or in the right column.

At the same time, it also needs to be added that, due to frequent criticism, the then-minister (Christian-democrat) became increasingly careful

about making claims that the EHR would expand beyond the virtual record. Particularly due to worries with respect to privacy, the stress on the virtual character was re-emphasised (Ministerie van VWS, 2007b). This may suggest a more 'modest' direction for future developments. This is also in keeping with the recent refusal in the Dutch senate. Particularly a motion requesting not to take any irreversible steps with respect to the EHR is telling (Eerste kamer, 2010).

On the other hand, we should perhaps also consider the option that some of these scenarios will co-exist. A number of these scenarios are not mutually exclusive. We could well imagine that the majority of care receivers would be served by a 'virtual record', while 'expert patients' would receive an additional 'chain integration record'. In addition to that, the fact the 'personal health record' and the 'monitoring record' are technically the same, could imply that an effort could be made to have them co-exist somehow.

On the basis of these diverging perspectives, it is hard to predict the future. Technical developments seem to push in a direction that is different from what is desired by the senate. I conclude here by saying that an overview of scenarios, such as I have provided here, would be beneficial in terms of getting grip on the question what is desired. A further question is: how feasible are these scenarios? This is the topic of Part 3.

We have reached the end of Part 2. The theoretical lens of the pair of bifocals at the past two chapters has been to study how people are made subjects by using technologies to re-shape power relations in society. The study of neoliberal perceptions of reciprocity has helped in the understanding of attempts to create a particular set of power relations. Because of that, it became possible to imagine the 'neoliberal subject'. This subject type embodied the twofold subjectivation that we were left with after Part 1. It provided a more holistic view of the way in which neoliberal thinkers imagined the apparent opposition of the original two subject types – 'principal subject' and 'subject of human capital' – to be actually embedded in a unified subject entity. Relations of reciprocity are imagined to ensure that all this is beneficial to the subject. If we take the discussion of the present chapter into consideration, we should, in fact, go even a step further. Not only could we imagine the political constitution of a neoliberal subject, but in addition to this we could pose that such a subject would in fact be embedded in a macro-actor that would serve as an 'orchestrated' agent of neoliberal policy. From such a point of view, the subjectivation of the care receiver is even more complex: (s)he

would in fact be something like a 'neoliberal micro-subject', embedded in a complex web of different collectives that make up a larger whole.

By taking the practical lens into consideration, we can add a bit of nuance to this image. In the present chapter, I indicated that there are currently still a number of co-existing options for the future of the electronic health record. The refusal by the Senate is likely to have an impact on this as well. Only one of the four scenarios implies a subject-type that resembles the 'neoliberal subject', with all of its reciprocal relations. There are reasons to believe that this scenario reflects future international developments. From the point of view of Dutch politics, others scenarios seem more likely. What is more, it may well be imagined that different scenario will co-exist, if implementation in fact goes through. Next to the 'neoliberal subject', we have seen a range of other, potential subject-types. The 'virtual record' comes with a subject that is relatively comparable to the patient in the current healthcare system. Apart from that, there are potential subjects that are more applicable to particular sub-groups of the patient population. We have the 'expert patient subject', for people with a chronic illness, for instance, and the 'self-managed subject', which is more likely to apply to younger people who have enjoyed higher education. In fact, their subjectivity is potentially not even formed by being a 'care receiver': as we have seen, some standard-makers have voiced the objective of including 'healthy people' as EHR users as well. In all of these cases, connections to government and population are considerably less emphasised, or intrusive, than for the neoliberal subject.

I hope that this gives some indications of the shortcomings of an analysis as I unfolded in the previous chapter (despite some of its advantages). Let me briefly highlight a number of these disadvantages. First of all, the 'gaze' on parliamentary politics concealed some rather important aspects of the development of this technology. Second, it forms a relevant point of reflection on Foucault's methods. Considering his historical approach, the focus is likely to be placed on the rationality and practices of subjectivation that did in fact materialise. I hope to have shown that an 'analysis of the present' shows that such processes are a lot less straightforward than they may seem in retrospect. Particularly from the point of view of offering a 'critique of the present', something that Foucault advocates, this is rather important.

In order to offer such a critique, however, more has to be done. The stake of Part 3 is, therefore, to examine the account of neoliberal discourse from yet another angle. What I try to do is to look at criticism within these political discussions, mainly trying to understand how they are received.

Obviously, my aim is to understand how this relates to questions of subjectivation. As said, this is an angle that Foucault never embarked upon.

Part 3

The shadow of dominant discourse
Reality effects of pro-innovation policies

4 Immoderate expectations
Will the electronic health record behave?[6]

The subtitle of James Scott's (1998) book *Seeing Like a State* is rather closely related to the stake of Part 3. Not only does it suggest that he studies 'certain schemes to improve the human condition', but also how they 'have failed'. Despite Scott's indebtedness to Foucault's work, subjectivation is not his prime concern. For the following two chapters, I am concerned with the question what the potential of 'failing governmentality' implies for the way the subject is formed. This is a different statement than to say that government has failed, an angle against which Barry (2001) appeals.

The theoretical angle for this part is the question of subjectivation in relation to 'questionable expectations'. I do not wish to suggest that such a point of view is typical for understanding postpanoptical subjectivation. However, I do argue that the expectations that neoliberalism brought forward are likely to relate to a different set of issue than in the case of expectations relating to the impact of a surveillance society. Therefore, in order to understand postpanopticism, we still need to take these particular expectation in account.

The notion of 'questionable expectations' has a variety of dimensions. I focus on two. First of all, there is the angle of 'engineering' technologies of government. When discussing such technologies, Foucault mainly looked at established practices. Considering that I have focused on attempts to create them, we have to take into consideration that such attempts may fail. Latour already warned us that attempted inscriptions may work out differently than planned. The same applies to technologies of government. If expectations fail, another set of practices emerges. If technologies work in a different way than imagined, the practices and relations that they mediate will also take another turn. Macro-actors will not act as they were expected to. And, most importantly, people will be made subjects in different ways, by being embedded in different relations and sets of practices.

A second angle that is important here relates to the expectations with respect to the role, or roles, which are expected of a particular subject-type. With respect to the neoliberal subject, for instance, we have seen that (s)he is

[6] The fact that this chapter and the following are written in first person plural is due to the fact that the text is based on publications (co-authored by Frans Birrer)

expected to monitor the conduct of care providers, and become a more productive member of society at the same time. These expectations are communicated rather broadly, by political stakeholders, but also in media and probably in individual communications as well. If it turns out that people's subjectivity does not align with what has been communicated, how will this relate to political and societal expectations?

Apparently, expectations matter. However, how can we study them? And, if we study them, can we make any meaningful statements about them before we have the chance of examining the 'reality-effects' of all the projected inscriptions? It seems that the only thing we can do is to take criticism that is voiced against the most important assumptions and expectations into consideration. This is what I do in this part of the study. The two chapters take different approaches, which I explain in more detail later. For now, it suffices to say that this chapter starts in a rather practical way. The next chapter adds a more theoretical layer to these considerations.

The practical issue that is at stake in Part 3 is the critique of some of the crucial expectations underpinning pro-innovation policies in healthcare. Even though the focus is mainly on expectations that relate to subjectivation in the line of what I have discussed so far, a number of other expectations will be discussed as well. Two examples of pro-innovation policy in healthcare are discussed. First of all, I round up the discussion of electronic health record planning, which I started in Part 2. Secondly, however, I introduce another case of pro-innovation policy: the personal budget. This is the topic of the next chapter. In practical terms, we could wonder what healthcare, and innovation in healthcare in particular, will look like if the expectations that are formulated turn out differently. What will this mean for the position of the patient, and the projected restructuring of the healthcare sector?

Starting with the discussion of the electronic health record, it is impossible to take the expectation of all the scenarios I discussed in the previous chapter into consideration. In any case, my main objective has been to 'unpack' the understanding of such a policy that a Foucauldian reading would suggest. Therefore, I mainly restrict myself to the assumptions behind neoliberal reasoning. I do, however, continue the discussion of opposition between the different standardisation organisations that I started in Part 2. I start, however, by providing a general introduction to the theme of expectations in science and technology studies (SST)[7].

[7] The text up to here is not part of the publication that constitutes this chapter

The role of expectations in the process of development of technology has received increasing interest in the SST (Science & Technology Studies) community (Van den Belt & Rip, 1995; Van Lente, 1993, and subsequent work; for a recent collection on the subject see Technology Analysis & Strategic Management vol. 18 nos. 3/4, 2006). What is expected of a certain new technology has a strong influence on the direction of the development process. Expectations concerning what is and what is not technically achievable, which functions this new technology could fulfil, and which current problems it could solve are a strong motivator in the development process, with a high impact on the shape the technology will eventually take. Sometimes, these expectations work as self-fulfilling prophecies, with or without unforeseen consequences. On other occasions expectations turn out to be a serious obstruction for actual innovation to take place, or they may lead into completely unexpected directions. In a broader sense, expectations are not confined to the working of the technology per se, but also include expectations of actors concerning their interactions, expected levels of cooperation, strategic considerations, etc. The discussion of expectations of technology and the complexities of the mutual interactions of these expectations fit in what has been called the second or 'reflexive' modernization of society (Beck et al., 1994).

This SST theme of expectations is of course very relevant to innovation studies as well. For innovation, too, expectations will often be a major determinant. In this paper, we will focus mainly on expectations with respect to a specific technology, on what Van Lente (1993) calls the 'promise' of a technology.

Expectations regarding future innovations have the inconvenient characteristic that by their very nature they are not easy to test. It is hard to make sure beforehand whether certain technical barriers will be overcome, or whether customers will adopt a new product. If we were to only act when we are completely sure, there would be no innovation. In fact, some SST researchers have argued from a methodological point of view that such expectations are socially constructed and that we should abandon the idea that objective standards can be found by which they can be compared and evaluated. On the other hand, in practice it would be unwise to categorically ignore any considerations with respect to plausibility or implausibility. There is no point in engaging in completely unrealistic endeavours.

It is precisely the fact that they are so hard to test which makes expectations prone to wishful thinking. Technicians may be prone to excessive enthusiasm concerning what they can achieve. Technical fascination may draw attention away from considering social desirability. Focus on technology can

also lead to unquestioned assumptions of idealised users of the new technology, and to a disregard of the ways real users might use it and what consequences that would have. There have been numerous occasions in the past when experts made immense claims about the potential of certain technologies that, when scrutinised, seemed unwarranted and totally overoptimistic, even taking into account the knowledge available at that time. The consequences of such expectations were sometimes disastrous, or at the very least, they seriously misguided the setting of research priorities. We will just briefly treat one example (see Brown, 2003 for other examples of such 'hypes'). In the 1960s, there were many attempts to build large management information systems that should contain any information relevant to the organisation in question. A manager should have all information, statistics and decision programs at his/her disposal that would be relevant to any decision (s)he would have to make. Rather than starting with experiments with small modules of limited scope, management information systems were designed from a blueprint for an overall system. As a result, these systems never worked – not even in part, because the parts were not conceived such that they could function independently. It took quite some time, and numerous fruitless efforts, before it was realised and accepted that such projects were utterly overambitious, and the term 'management information systems' was changed into the more modest 'management support systems'.

This strongly suggests that, even though up to some point, high expectations are indispensable in innovation, it is also imperative to recognise that such expectations are often intertwined with hidden desires. Technicians may be enticed by the technical fascination of a certain project rather than the feasibility of its promised results; overoptimistic prospects may also be propagated as a means to increase research funding possibilities. Politicians may fancy shiny projects with vast suggested societal benefits as a way to give their constituency the impression that they are actively handling its problems. Companies may be eager not to miss an opportunity, especially when development costs can partly be shifted to governments or other actors. Consumers may be taken in by promises for a better life, which are attractive to believe, and the technical details of which they cannot evaluate by themselves. Often, all actors involved have reasons for indulging in unrealistic assumptions, leading into entanglements like the tragedy of the commons and other social dilemmas ('systems of subliminal enticement' (Birrer, 2000)).

The case we will describe in this article concerns the plans for a national Electronic Health Record system in the Netherlands. This is called a system innovation since it will impact the health care system as a whole, even radi-

cally so, particularly in some of the visions around. While focusing on expectations, our case will be somewhat different from most of what is described in the 'expectations' literature, which usually describes the emergence and development of one particular set of expectations guiding the development of a new technology. In our case, there are two sets of expectations that are to a large extent competing with each other. As for the technology, some small-scale experiments have been undertaken, but an actual Dutch national Electronic Health Record does not yet exist. We will focus on the expectations themselves, rather than on the global political dynamics, of which we are still uncertain where they will lead.

From a constructivist point of view, it might be argued that expectations cannot be evaluated as being realistic or not (cf. Borup et al., 2006, p. 288-289). In this paper, we use a more indirect way to consider expectations, namely by investigating whether or not certain clusters of expectations are substantially defended against relevant counterarguments. Expectations that are not defended in such a way we will call 'immoderate'. We will show that in our case such 'immoderate' expectations can be identified. Sometimes they are even embedded in such broad idealised socio-political perspectives that they get utopian traits.

We use the case of the planning of the Dutch Electronic Health Record to study such 'immoderate' expectations. In a frequently quoted report, commissioned by the then-minister of healthcare[8] (liberal conservative), the CEO of the Dutch telephone provider (KPN) called for regarding the Electronic Health Record and other eHealth projects as radical innovations (Scheepbouwer, 2006). The law that is to regulate the functioning of this record is ultimately to be adopted by parliament. Considering the fact that expectations appear to be crucial here, the first set of empirical materials that we analysed consists of documents that passed through parliament and (could have) influenced decision-making. Obviously, this includes numerous studies and statements by other relevant players, such as the institute that was mandated to prepare the Dutch EHR, as well as medical chambers. We focused on documents that articulate expectations regarding the role that an EHR could play in transforming healthcare, and particularly those that related this to the technical infrastructure. In particular, we have focused on the dynamics of standardisation, even though the expectations that underlie these standards often do not 'reach' parliament. This is in itself an interesting phenomenon, considering that standardisation is usually considered as one of the options for government to advance (or obstruct) innovation (King et al., 1994). We

[8] By minister of healthcare, we refer to the Minister of Public Health, Wellbeing and Sports.

discuss the assumptions and expectations that are implicitly endorsed by adopting a particular standard. In total, about 150 documents from the period 1994–2009 were surveyed. All documents were coded in two steps: first, we marked any expectations that were voiced, and second, we recoded them according to the main 'categories' of expectations that we found. As a second step, we reviewed the existing literature that discussed the type of expectations that we found in the parliamentary documents. We took particular notice of articles that contested these expectations. As such, we consider these articles as empirical material from the Electronic Health Record discourse, in the same way as we consider parliamentary documents. Considering our definition of moderateness, we discuss three major expectations and their underlying assumptions. We then move on to discuss contested issues, showing also that these play only a minor role in the Dutch political debate. We end with a discussion and conclusions.

Expectations of the Dutch EHR and underlying assumptions

Even though we would go too far by arguing that the Electronic Health Record is expected to bring about a full-fledged utopia, the EHR discourse does have strong utopian characteristics (Gregory, 2000a; Tully & Cantrill, 2005). Most of the immoderate discourse with reference to the Dutch Electronic Health Record is connected to the Public Health Council (RVZ in Dutch), as well as to a group around the above-mentioned ENV 13606 and related openEHR standards. With respect to the latter: proponents of these standards have explicitly argued for a 'utopian era' for ICT in healthcare which, in 2005, was expected from 2010 onwards; this era was characterized as reaching 'the holy grail, that is, the universal solution for the electronic healthcare record' (Rossi Mori & Freriks, 2005).

First expectation: Increase of cost efficiency and quality of health care

The basic expectation regarding the role that the Dutch Electronic Health Record is supposed to play is that it will increase (cost) efficiency and quality of care provision. The general argument may be summarised as that automation will lead to cost containment, without compromising the quality of care. This has been clear since the foundational study by the Public Health Council (RVZ, 1996), and has been repeated by every minister of healthcare since. Ever

since a 2003 study of medical information errors for the minister (TNS NIPO, 2003), the major expectation has been that the replacement of a paper-based record by an electronic record will prohibit human errors from occurring. This is what Gregory (Gregory, 2000a) has described as the clinical dimension of utopias around the EHR. Apart from increasing patient safety, it is expected to reduce the (financial) costs that these errors cause to society, as a second report brought forward (TNS NIPO, 2004a). Similarly, the then-minister (Christian democrat) expected the costs of repeated medical procedures to be reduced by automation (TK, 2008/2009a). Academic papers have also voiced the expectation that a fully standardised health record could lead to dramatic cuts in healthcare expenditure, estimated at an annual $ 77.8 billion for the US only (Walker et al., 2005). For the Netherlands, only the direct costs of medical information errors were estimated to amount to an annual € 1.5 billion (TNS NIPO, 2004a). The Dutch expectation is mainly based on the technical infrastructure that the HL7 standard would enable, considering that this was the imagined standard at the time of the medical information errors study. The focus on cost-containment relates to one of the topics of traditional utopias, i.e. labour. Commissioned by the then-minister (liberal conservative), the CEO of Dutch telecom provider KPN argued that the EHR would play a key role in reducing scarcity on the labour market (Scheepbouwer, 2006). eHealth technologies – amongst which the EHR is shared by the Public Health Council (RVZ, 2002a) – are expected to be able to replace human labour to some extent (RVZ, 2002b). By reducing administrative weight, the then-minister (Christian democrat) expected medical labour productivity to increase, and more time to be available for personal contact with patients (Ministerie van VWS, 2007a). In addition to this, the Public Health Council expected that medical tasks could be delegated to the patient directly (RVZ, 2002a) by the use of information technology. A second, indirect effect that is worth mentioning in relation to labour is that the quality of care, which the EHR is expected to increase, is thought to lead to a healthier population and, therefore, to less exclusion from the labour market, as voiced in the study about medical information mistakes for the ministry (TNS NIPO, 2004a).

Second expectation: Macro use of data

A second expectation that we identified concerns the role that the EHR is imagined to play in the macro-level management of public health. This involves the 'secondary use' of medical data (Berg & Goorman, 1999; Berg, 1999). Gre-

gory (Gregory, 2000a) calls this the managerial dimension of utopian EHR projects. From the mid 1990s onward, different topical macro-problems have dominated the discourse on the necessity of restructuration, ranging from the then-minister's (social liberal) concern about waiting lists and waiting times for getting medical treatment (TK, 1997/1998b), to questions by MP's about early identification of epidemics and large-scale poisoning (TK, 2000/2001d) and the Public Health Council's proposal for calculating medical norms to be used for decision-support (RVZ, 2005b). Apart from such concrete macro-level challenges, the Council proposed to use the EHR for 'monitoring quality, business coordination, management support, research and statistics and education and policy'[9] (RVZ, 1996, p. 70), to eventually produce 'ultimate strategic management information'. Also evidence-based medicine has been a long-standing objective for them (RVZ, 1996; RVZ, 2002b). Applying EHR data to macro-level challenges requires broad comparison of anonymized data that was generated on the basis of individual patient cases. Following Michel Foucault's (1977) analysis of Jeremy Bentham's model of the panoptical prison, it is common for utopias to continuously observe the totality of the community and all its details with the objective of maintaining discipline (Achterhuis, 1998). The council is fairly precise in describing the type of information that would have to be gathered. In terms of the population, structured storage of data is the method of choice, whereas it is deemed relevant to store highly detailed information on the medical life of individual patients, up to 'a patient's meal' (RVZ, 1996, p. 77). In fact, the institute that was responsible for preparing the Dutch EHR made a distinction between storing individual patient data in natural language and translating it to coded data for secondary use (NICTIZ, 2002a). This brings the discussion back to the issue of standardisation. In fact, the objective of macro-level management was the major argument for the 2005 advice of the Public Health Council to adopt the 13606 standard (RVZ, 2005b). The notion of macro-level management brings up a more controversial element of utopias (or dystopias, according to some): subjecting the individual to the community. Despite an emphasis on balancing the general interest and the interest of the individual patient, potential conflicts of interests were identified at an early stage already by the council (RVZ, 1996). For instance, structured gathering of patient data is not necessarily in the interest of the individual physician (and patient), whereas it is deemed to be in the general interest. The discussion on the notion of a patient-held healthcare chip card was an interesting case in this respect. When discussing the need for a patient to be physically present in order to use data

[9] All translations of Dutch quotations are ours.

for secondary purposes, the Public Health Council argued that: 'for the protection of the privacy of the patient this is of great importance, but for anonymized epidemiological research it forms a major restriction and can thus harm the general interest' (RVZ, 1996, p. 97). The council then argued that privacy regulations were often too restrictive to serve the general interest.

Third expectation: Transition from supply-driven to demand-driven care

A third and final expectation of the EHR is that it will contribute to the transition from a supply-driven to a demand-driven care system. The council assumed that, if provided with adequate information, the patient will take up the role of a critical, demanding customer in the healthcare system (RVZ, 2003a). Even though this may seem to be at odds with the earlier-mentioned subjection of the individual to the general interest, we attempt to show here that this is not the case. I.e., the role of the patient as a critical consumer is partially created to serve the general interest of the health system, by holding 'the supply-side' accountable for bad work. Recalling the earlier-mentioned focus on labour, another traditional dystopian/utopian theme comes up: 'purification' (Achterhuis, 1998). Even though the notion of purification has taken a much more destructive form in (partially) realised dystopias, it is interesting to see how the notion of accountability is positioned to 'clean up' the healthcare system. Since the 1970s, the medical institution has often been portrayed as imposing a major threat to our health (Illich, 1976). Increased accountability of doctors to patients is provided as a means of solving this problem. Generally, the notion of demanding more from the patient and giving him/her more responsibilities is also echoed in what the Public Health Council has called 'good patientship' (RVZ, 2007). Starting in 1998, the Council was commissioned to perform a number of studies on this topic, leading to advices such as Towards More Demand-Driven Care (RVZ, 1998a), Between Market and Government (RVZ, 1998b) and From Patient to Customer (RVZ, 2003a). Even though these are not exclusively aimed at the EHR, the health record is named as a precondition for achieving this. Other studies address patient empowerment as an explicit objective of eHealth and the EHR (RVZ, 2002b). Offering a patient-managed health record would give the patient easier access to second opinions (RVZ, 2003a) and enable the patient to have more equal relations to physicians. In spite of these discussions, only at the beginning of 2009 did the then-minister (Christian democrat) request the National IT Institute for Healthcare to propose a design for patient access,

after having been prompted by MPs (TK, 2008/2009e). In order to achieve this, again, the difference between standards is considered crucial. To be able to access patient-centred records, it is considered essential to store medical information in the same way everywhere; the openEHR approach is considered superior to the HL7 approach in this sense (Garde et al., 2007). The much-referenced structured data storage relates to Gregory's (2000a) technical dimension of EHR utopias. Because of this, the Public Health Council recommended the use of a patient-centred record on the basis of the 13606 standard (RVZ, 2005b). In this respect, it is relevant to note that HL7 is moving towards an architecture standard (Garde et al., 2005; Oemig & Blobel, 2005), 'heavily influenced by CEN ENV 13606, openEHR' (Dolin et al., 2006, p. 34).

The persistence of expectations

It seems reasonable to point out that the Public Health Council has explicitly stated that many of the expectations of medical computing that arose in the 1950s and 1960s have not been realised. In spite of that, we have shown that the Council has been one of the main bodies to introduce high expectations from the 1990s onward. It is interesting, therefore, to note their reply to the expectations that were voiced in earlier decades:

> 'The technology is not the problem in this respect. The current PC that nearly everyone has on their desk is much more powerful than the mainframe computers of the 1960s that filled up an entire room. The problems are rather related to medical content, such as the lack of a communis opinio on, for instance, the (analyses of) facts, standardisations, etc.' (RVZ, 2001, p. 32).

In other words, not meeting expectations has not been due to the expectations themselves, or to the technology, but to 'social factors' like lack of agreement in the field. In this respect, Kaplan's remark seems to give a sharp, albeit somewhat cynical, account:

> 'When their utopian hopes seemed to have failed, medical computer experts reacted like other 'true believers' (Hoffer 1951). Rather than experiencing cognitive dissonance by abandoning their idea of computer as panacea, medical computer experts shifted their specific goals, thus changing the revolution's precise nature. When the millennium in medi-

> cine failed to materialize, they maintained the idea of a computer revolution while changing its characteristics' (Kaplan, 1995, p. 29).

Gregory would argue that this is not necessarily problematic, however. She states that '[p]ersistence of belief – in a concept, a design idea, a theory, or an hypothesis for discovery – is crucially important for sustaining scientific practice and technological invention' (2000a, p. 198). From the point of view of innovation as a strategic, yet feasible effort, this point of view can be questioned. On the other hand, particularly for information technology, it is true that attempts to innovate often only work out in a second attempt, such as in the case of Web 2.0.

We take up the two main elements of the Public Health Council's comment for the remainder of this paper: on the one hand, the (partial) non-technical nature of addressing the expectations of the Electronic Health Record, and on the other hand, the expectation of the role of technical standardisation in this.

Contested issues in the international literature

In this section, we summarize a number of contested issues from the international literature that directly relate to the three expectations described above. Despite their relevance to EHR projects, they either received no attention at all in the discussion on the Dutch EHR project, or the counterarguments were simply not answered.

We will start with two issues which relate to the feasibility of certain EHR approaches as a whole. First, expectations are based on the assumption of 'ideal users'. Physicians are assumed to process medical information in such a way that it suits the creation of a 'container EHR' that allows for secondary use. Similarly, it is assumed that, given 'perfect information', the 'good patient' will operate as a critical consumer, as an ideal user. Second, it is assumed that information can be decontextualised for the purposes of: (i) being centred on the patient and (ii) secondary (macro-level) use. Then we briefly review some additional aspects that were already touched upon in the first two sections. As a third aspect, we discuss the assumption that automation makes medical processes more (cost) efficient; technology is thought to: (i) (partially) replace human labour, (ii) reduce the need for repeated medical procedures, and (iii) enable the transfer of medical tasks to the patient. The fourth and final point is the idea that automation improves the quality of care

by reducing human error, which in turn is assumed to lead to positive externalities on the labour market.

Ideal users

It is well-known that changing work processes tends to be a hard job. Not only have actors developed routines over time that they are unlikely to change, but in addition, these routines constitute a social system (Giddens, 1984). Garfinkel's study of 'Good Organizational Reasons for Bad Clinical Records' is a much-quoted argument that illustrates this point (see e.g. Freeman, 2002). Therefore, even if we assume that work processes can be changed, one should not underestimate the efforts of actors to minimise those elements of working with EHRs that (are perceived to) obstruct their work.

The literature shows many instances of strategic behaviour that results in going around the original intention of the system (Pinelle & Gutwin, 2006; Winthereik et al., 2007). In addition, it appears quite common for medical staff members to keep on using 'shadow' paper records, next to their electronic ones (Saleem et al., 2009). Some physicians are in fact reported to boycott EHR systems (Kaplan, 2001). In this respect, it is important to note the massive objections that physicians have made against the use of their own data in the Dutch EHR (Katzenbauer, 2009).

A second instance of assuming 'ideal users' lies in the idea that, given the 'perfect information' that an EHR would provide, patients will show 'good patientship' and will form principal-agent relations with respect to their care providers. Often, such notions as 'patient centeredness' are reduced to clichés (Berg, 2002). One of the arguments given in favour of the assumption of the 'good patient' is that providing better information on the quality of different care providers will spur well-informed choice. Berg, however, argues that providing all available medical information to the patient will rather lead to overload and will require the interference of family doctors as 'information brokers' (Berg, 2002). In other words, the market does not work effectively in such cases. Currently, information is not produced for the patient, but for fellow physicians.

Decontextualisation

As Berg & Goorman have argued, 'medical information is essentially bound to the context of its production. Even the highly standardized laboratory data that figure in every hospital record cannot be read without knowledge of that particular hospital's normal values' (1999, p. 58). Not being aware of the context of a medical act is still thought by many authors to potentially lead to wrong interpretations by other physicians (Pantazi et al., 2006; Son et al., 2008). Many authors build specifically on the argument of Berg & Goorman (Ellingsen & Monteiro, 2003; Kaplan, 2001; Williams, 2005). Some authors are very explicit in arguing that 'interpretation of imprecision is highly contextual, and, furthermore, that medical data cannot be decoupled from their meanings and their intended usage' (Kwiatkowska et al., 2009, p. 351).

However, as is already implicitly argued in such statements, as well as in De Mul & Berg's research on incompleteness (de Mul & Berg, 2007), the question what the information is needed for is crucial here. Coleman concludes that '[t]he need for translation of physician orders can be handled by computer systems. The challenge of effective communication and interpretation cannot' (2004, p. 282).

The main problem, however, seems to occur when information is supposed to be used for 'secondary purposes', as explained in the second expectation that was mentioned in the previous section (macro-level management), and to some extent in the third as well (patient-centeredness). Even though Berg & Goorman (1999) do not argue that such secondary use is fundamentally impossible, they do question the uncritical assumption that information technology can easily enable this.

Some authors have developed approaches to address this problem. A few, in fact, use Berg & Goorman's (1999) argument concerning the problematic nature of decontextualisation as an argument to work on better standards and interoperability (van Ginneken, 2002; Weng et al., 2007). In many cases, the notion of context-dependency in terms of digitalising medical information is presented as a problem related to a different generation of health record systems. A key element in most utopias is the notion of making a radical break with the past. In terms of new starts, it is relevant to note the thinking – by virtually all the major actors in the Dutch discourse – in terms of eras that are thought to end with the introduction of the EHR: the paper era that is followed by the digital era or the information era (NICTIZ, 2006b; TK, 1995/1996; RVZ, 2002b), the data-processing and the IT era that are followed by the network era (Ministerie van VWS, 2002), the pre-eHealth era (RVZ,

2002a) and finally the pre-internet era, and even the Web 2.0 era that are to be overcome by the Web 3.0 era(Ottes & Van Rijen, 2008). The 'utopian era' has already been mentioned (Rossi Mori & Freriks, 2005). Some debate legacy systems, the presence of which clearly makes a new start problematic. Particularly the Dutch 13606 group strongly argues for breaking with the existing infrastructure. The institute that is responsible for preparing the EHR, by contrast, distinctly intends to maintain legacy systems (NICTIZ, 2002a).

Some argue that the presence of 'classical systems' stands in the way of recent, more promising developments (Tange et al., 1997) in terms of transferring contextual knowledge. Essentially, this is the main argument of the ENV13606 group with respect to their criticism of the HL7 standard. The systems that Tange et al. propose, however, are radically different from the current proposals in Dutch EHR implementation, as we will see below. Others present the generational difference in terms of outdated theories of information processing (Pantazi et al., 2006). All in all, this seems to suggest that there is a potential future for sharing context-dependent medical data in the sense of the topic of this paper. Therefore, numerous authors suggest numerous ways of designing approaches to map context more effectively (Pantazi et al., 2006; Son et al., 2008; Tange et al., 1997). By now, there have indeed been some careful suggestions that the openEHR standard is probably able to contribute to 'multi-centred clinical research' on the basis of routinely collected data (Garde et al., 2005). In a later paper, however, Garde et al. argue that even though openEHR 'can provide the common basis for ubiquitous presence of meaningful and computer-processable knowledge and information', it 'cannot overcome all barriers to Ubiquitous Computing' (Garde et al., 2007, p. 334).

A radically different approach to the storing and sharing of medical data is the notion of 'medical narratives'. Tange et al. conclude that 'it is widely accepted that medical narratives are best presented in natural prose' (Tange et al., 1997, p. 24), a notion that is supported by others as well (Pantazi et al., 2004). They do, however, see possibilities for creating such natural prose out of previously encoded data; computer software would translate such codes into natural language. Clearly, such a form would be an intermediate between work with coded and non-coded data. In spite of that, however, the basic manner of storing data is still coded. As such, the latter approach is not necessarily at odds with the approach suggested by the ENV13606 network. Even though the medical narrative approach is not referred to explicitly, the approach is comparable to what Pantazi et al. (2004) have described as Case-

Based Reasoning (CBR) in medical informatics. Here too, however, it is explicitly stated that the approach is still highly experimental.

At the very least, it looks like the debate on decontextualisation in general, and for secondary purposes in particular, has not yet been completed. In spite of this, many governments, including the Dutch government, have committed to an approach (HL7) that is strongly criticised for this very reason. It is still questionable to what extent the major alternative (ENV13606/openEHR) can deal with these issues.

Cost-efficiency by automation

The previous considerations implied serious doubts on the feasibility of more ambitious implementations of an EHR system, which by definition impinge on cost-efficiency. Berg stresses that it often takes years for ICT investments to start producing financial benefits in healthcare, and in many cases there is no gain at all (Berg, 2002). To this effect, Berg & Goorman have formulated a much-quoted new law of medical information, which states that '[t]he further information has to be able to circulate (i.e. the more different contexts it has to be usable in) the more work is required to disentangle the information from the context of its production' (Berg & Goorman, 1999, p. 51). The argument of additional efforts because of EHR's has been pointed out many times (Goodyear-Smith et al., 2008; Pinelle & Gutwin, 2006; Tully & Cantrill, 2005; Vikkelsø, 2005). Still, the link to expectations with respect to cost-containment is hardly made, particularly when it comes to macro-economic considerations in this area.

It has been suggested that the investments that would be required to enable the hypothetical, decontextualised secondary use of medical data are considerable (Berg, 1999; Berg et al., 1998). Berg stresses the point that the benefits of such additional use of data do not fall to actors in the operational process of care delivery, but rather to those involved in research, management, insurance or policy-making. He rightly argues that the costs that would need to be met to assure such benefits should, therefore, not be placed on the primary process. In this respect, it is relevant to note that '[t]he utopia of automatic collection of data from a complete record, when this currently has to be laboriously obtained from paper records, seems to herald a new era for research. However, there is debate as whether research will really be easier with the EPR [Electronic Patient Record], or just as difficult in a different way' (Tully & Cantrill, 2005, p. 436). In this respect, one might agree with Vik-

kelsø's argument for a 'theory of distribution' to understand EHR's, rather than for a 'theory of improvement'.

Overcoming human errors

An assumption that underlies the expectation of quality increase is that automation is capable of overcoming human errors. That this assumption is not self-evident has already become clear from the previous issues discussed, particularly the issue of decontextualisation. The case for regarding medical errors as a problem of human interference was put on the agenda by the American Institute of Medicine's report, entitled To Err Is Human (Kohn et al., 2000). Since then, improved records and new technologies have been proposed for overcoming such errors (TNS NIPO, 2003; 2004a). Contrary to affirmative cases (Mahoney et al., 2007), there are also clear examples that show that the potential of digitalisation was overestimated (Walsh et al., 2008). Even though error rates may sometimes be reduced, this does not necessarily imply a lowering of injury rates. Others have argued for increased risk due to digitalisation as well (Caudill-Slosberg & Weeks, 2005; McDonald, 2006; Ó Scolaí, 2007).

Contested issues in the Dutch context

As already mentioned earlier, the caveats implied in the international literature summarized above hardly had any traceable impact on the discussion of the EHR plans in the Netherlands. In fact, there is only one significant exception: in 1998, the Dutch Technology Assessment Agency published a critical report (Berg et al., 1998), which discussed several of the above issues in some detail. Among them was the issue of decontextualisation and the additional efforts it would entail. If we examine the shape and style of the report, we could conclude that the authors have 'translated' the message of international academic papers into the context of the Dutch EHR debate: the document was named after a Dutch documentary, was written in Dutch and included pictures and examples.

Upon its release in 1998, the report had virtually no traceable impact on high-level discussions. Only in 2005 was the then-minister (liberal conservative) prompted by Evelien Tonkens, a then-member of parliament of the GreenLeft (GroenLinks) party, to address the importance of the narrative ele-

ment of EHRs for medical work. She was not yet in parliament when the report was first published. In a recent interview (conducted by the authors on May 10, 2010), she remembered she was prompted by two simultaneous developments. First, there was the debate around the interpretation of records in child care during court cases, for instance in relation to rulings about the outplacement of children. It appeared that, for purposes of decontextualisation, recorded data had been standardised to such an extent that judges could no longer interpret it. During interactions with physicians, Tonkens heard similar stories about attempts to decontextualise medical data. The second motivation was the reading of James C. Scott's Seeing Like a State (Scott, 1998), in which similar issues were analysed.

The minister replied to Tonkens's question as follows:

> 'The report […] concludes that gathered information should remain in its original context for supporting the primary process. I subscribe to that thought. However, the developments in the field of chain-integrated and multidisciplinary care place high demands on record-creation. After all, care providers other than the concerned record-keeper also need to be able to understand the context and deal with this information. The need for care information to circulate has an impact on the design of healthcare records. Agreements as well as international guidelines and standards in the field of records have become necessary. However, there will be space for free text for personal use or for sharing this with others' (TK, 2004/2005b).

How can we interpret this reply? First of all, there is a discrepancy between arguing against decontextualisation in the first two sentences and the following statement that it is necessary and inevitable nevertheless. Second, by stating that there will be space for free text for personal or shared usage, the minister partially undermines his earlier stress on the need to share data: (i) we have seen that physicians use their personal notes as 'workarounds' for electronic records, and (ii) the minister previously argued that the natural language of free text is inadequately structured to enable proper sharing.

Unsurprisingly, this issue was not developed further. Tonkens argues that this is mostly due to the perception by political fractions of an issue like this in comparison to other, more politically pressing ones. In the field of healthcare, there are often cases with 'lethal consequences', which take the attention away from seemingly technical issues like this one. This is even stronger if we take into consideration that Tonkens has a background as an

academic researcher, and was therefore familiar with the reports and studies that were mentioned above, contrary to her fellow MPs.

Discussion and conclusions

Berg and others (1998) have argued against the much-heard criticism that physicians' work processes are unstructured and unscientific. For this paper we have taken a different direction. Even though it seems that the authors have rightfully pointed out that such criticism is often based on a misconception of the medical context in which these work processes are set, the intention of actors in the immoderate EHR discourse is to change these processes anyway.

Obviously, a vision as described in this paper implies severe consequences for the innovation process. First, immoderate expectations will not be met by delivered results, and may actually impede the innovation process because an unfeasible strategy is chosen. Not only in the Netherlands, but also in other western countries, the progress with EHRs is remarkably slow, in view of the fact that apparently its construction is viewed as relatively unproblematic. One explanation of this slowness lies in underestimated technical difficulties. Strategic considerations of various actors involved represent another potential source of delay. For instance, many physicians feel that their practice cannot be decontextualised. For this reason, or simply because they feel their position is threatened, collaboration in the medical branch may not be easy to get by. Comments by Berg and others show that current conceptions of medical records often obstruct the medical process. The same point is made in another recent collaboration of Berg that discusses EHR's as a 'meaningful audit tool' (Winthereik et al., 2007). Record keeping is an important administrative activity that is likely to place a serious burden on the primary process (Berg, 1999). Even though Berg agrees with the call for increasing accountability, he argues that '[i]n many countries, the pendulum has swung from too much discretionary space for the physician to too little' (Berg, 2002, p. 35). Therefore, accountability can bring about obstructions in the medical process.

A second consequence of such immoderate expectations in innovation is that they may lead to wishful thinking. Painting a shiny future might overshadow a critical examination of potential downsides, such as compromising privacy considerations, promoting individualisation, or introducing rigid scientific management. Utopias are known to generally have their dystopian

sides as well. One would hope that the social desirability of such utopias will receive more attention as well.

How could we improve innovation processes in these respects? How can 'unreasonable' expectations be separated from reasonable and fruitful ones? In the previous paragraphs, our purpose was not to define an infallible demarcation criterion between the two. What we have been articulating are issues from the international literature that, despite their relevance to the innovation project in question, are somehow disregarded or remain unaddressed in the general discussions on the EHR project. Within the Dutch case, there has been only one serious instance in which certain contested issues were brought into the arena of political decision-making.

If we were to question the role of expectations in innovation processes like the one we described, we might remark that the 'political' networks in which ambitious expectations are formulated are relatively disconnected from academic networks that critically assess the claims that are made. Even though it is certainly true that numerous critical issues were brought forward by members of parliament for instance, we found these to be of a different nature than the ones offered by academic scholars. Relevant notions, such as the privacy and security of the system, have occupied parliamentary discussions for years, whereas questions we described as 'contested issues' were barely touched upon. Such issues are probably more common in the community of science & technology studies (SST) than in parliamentary circles. On top of that, when a translation from one network to the other did take place, its impact was negligible.

This brings us to the background of different actors that are involved in assessing expectations. For instance, it seems right to assume that Berg & Goorman differ from other authors in medical informatics, by taking a Computer-Supported Collaborative Work (CSCW) perspective:

> 'In medical informatics, design is seen as a matter of construing a functional technology, and implementation as a matter of gearing the organisation to use the technology optimally. In contrast, the CSCW tradition argues that it is primarily the technology which has to fit work practices' (Vikkelsø, 2005, p. 24).

The latter point of view seems to be echoed in the 1998 report, which we discussed in the previous section. In the case of Evelien Tonkens, her background in academic research enabled her to draw new arguments into the discussion, but at the same time, it did not help her to convince her col-

leagues of the importance of the issue, in view of other developments that were – perhaps understandably – perceived to be more pressing[10].

Finally, what does all this tell us about subjectivation? Or, to be a bit more specific, what do the above-mentioned critiques mean in relation to the earlier discussion of the neoliberal subject? As said in the introduction to this chapter, there are two ways in which I want to examine this issue. First of all, there is the issue of implications for the way in which care receivers are constituted. If certain expectations with regards to technology-enabled practices and relations turn out differently after implementation, subjectivation is likely to change as well. In this respect, a number of remarks are important here. First of all, the frequent criticism of the idea of ideal users puts serious pressure on all the relations in which the neoliberal subject is assumed to be framed. This already starts with the notion of rational, self-interested and competitive interaction between individuals. Individuals may simply not act this way. Care receivers may not hold their patients accountable because of the data that they receive through an electronic health record, or because of 'function oriented description' techniques. In a sense, this is the simplest and most destructive critique of neoliberalism, or on other governmentalities that are based on purposeful subjectivations. Similar problems arise in relation to other relations of reciprocity – to the population, to government – but these are somewhat less tangible. If we look at the argument around the possibilities of decontextualisation, the relation between individual and collective is put under greater pressure. If data cannot easily be taken out of context, it will be considerably harder to use it for serving macro-level objectives. Likewise, it will be hard to use aggregate norms for serving individual patients. If such technical parameters fail, the grand narrative of competition as an overall beneficial organising construct is also likely to falter. Finally, if digitalisation does not result in overcoming medical mistakes and errors, the impact of the EHR on the health of the population might turn out lower than expected, if there is a positive impact at all. In such a scenario, innovation will hardly make neoliberal subjects more productive.

Also from the point of view of the macro-actor that certain politicians and standard-makers are trying to construct, in line with neoliberal thought, such shaky expectations are rather problematic. I have tried to show that not only the human elements of the macro-actors, but also the (micro-)scripts of the mediating technologies involved are likely to work differently. This does not mean that the whole idea of having a macro-actor becomes meaningless.

[10] The remained of this chapter is not part of the published article

We can certainly imagine that the impact of a particular institution – as the unification of a network – acts in a particular way on a system such as healthcare. However, it is likely that such macro-agency will turn out quite differently than expected. At this stage, it is hard to predict how this will be. Again, the recent refusal by the Dutch Senate will certainly leave its marks. Moreover, we have to take into consideration that, if we take a macro-actor view seriously, that it is by far not as internally consistent as expected. The assumption that all the goals and action-programmes of the different actants would 'point in the same direction' is most likely wrong.

On the basis of the analysis of this chapter, it is hard to comment on the second subjectivating notion of failing expectations: political and societal expectations of the proclaimed subject. What will reactions be if it turns out that patients will not operate according to the promises of neoliberal subjectivity? In order to get a grip on this question, I turn to another pro-innovation policy in the next chapter: the introduction of a personal healthcare budget. The main reason for this is that, contrary to the electronic health record, it *was* introduced already. This makes it considerably easier to take such reactions into consideration.

5 Clustered argumentation
The 'good patient'-model and the personal budget

As I announced in the previous chapter, I continue the discussion of subjectivation in relation to questionable expectations, but add a theoretical layer. This is based on studies of argumentation, even though the approach I take is less formal than what is often seen in this field. The main reason for such a theoretical angle is to understand better why critique is often hardly effective, as we already saw for the electronic health record case. I think that an explanation that transcends the type of description that I performed in the previous chapter is useful here. The concepts of 'clustered argumentation' and 'evading mechanisms' are offered as an explanation. Below, I explain how this may be related to the approach that I have taken in this study so far.

If we look through the practical lens, the most important feature of this chapter is the introduction of a second case of pro-innovation policy. As I announced in the introduction, the personal healthcare budget is expected to 'imply an impulse for product innovations on the bordering areas of living and care and care and wellbeing' (TK, 2001/2002a, p. 3). The logic is that patients will give financial pro-innovation incentives to care providers if they have the chance to spend their own budgets. 'Cash for care', as it is often called, is imagined to grant power to the notions of choice and demand. Just like the electronic health record, this is a regarded as a framework-condition for the operations of a neoliberal system of competitive interactions. As such, the themes are very similar to the discussions of chapter two: re-shaping power relations, to a great extent by giving the perception of reciprocity. As such, this second case will both re-visit some of the point that were touched upon before, and will hopefully add new insights[11].

Public policy proposals for radical transformations often draw on a large number of premises. In this paper, we show that argumentation is complicated by what we call a 'cluster of arguments', of which the parts are not evaluated independently, but seem to be either accepted as a whole or rejected as a whole. Our case study examines one such cluster. The case concerns the introduction of a personal budget for healthcare in the Netherlands.

[11] These first paragraphs are not part of the publication that constitutes the core of this chapter

This implies that, for particular types of treatments, citizens can opt for receiving a budget that is allocated for their case directly to their bank accounts, rather than receiving care 'in kind'. Our analysis is based on a study of the key policy reports that constitute this discussion, as well as on a confrontation with the academic literature.

The focus of our analysis is on how the personal budget policy affects how the patient is constituted as a healthcare actor. The patient seems to be attributed a new role. We argue that discussions on this new role in fact aim to constitute a new subject of healthcare, a 'good patient', to use a term that was introduced by the Dutch Public Health Council (RVZ, 2007).

We approach this topic by first presenting the interconnected expectations about the subject, its surroundings and the interaction between subject and surroundings. We build on earlier work on expectations in healthcare policy (Mensink & Birrer, 2010). We proceed by analysing the argumentation around problems that were raised by actors in the discussion. Many of the types of argumentation we found can in fact be described as what we will call 'evading mechanisms'. Evasion does not point at purposeful attempts to mislead other actors. We merely describe mechanisms that can be observed around a particular argumentation cluster. After going over these mechanisms, we unfold how the 'argumentation cluster' of this discussion can be understood. We show how the complexity and interconnectedness of premises leads to ineffective handling of criticism by the discussants.

We use Michel Foucault's work as a starting-point for the discursive constitutions of subjects (see e.g. 1977; 1982; 2008). Acknowledging that a subject is constituted this way counters the modern-liberal idea of the subject as an autonomous free-floating entity. We extend Foucault's usual approach by including arguments that fall outside the dominant discourse, which puts this discourse in a different light.

On the basis of our analysis, we can first ask whether the subject that is sketched in political discussions surrounding the personal budget is deemed realistic. Secondly, we can assess what clustered argumentation implies for the subject, in the light of normative oppositions between the dominant discourse and the 'non-dominant statements' we include.

The good patient

We start by analysing how a new type of patient was proposed in the policy for a personal healthcare budget. We consider this the dominant discourse in this study.

The personal budget was put on the political agenda in the late 1980s (TK, 1987/1988), by advocates for disability rights and a vice-minster of the liberal conservative party (VVD). In 1995, experiments started for certain types of nursing and care. Soon, the budget was drawn into a broader policy discussion regarding the perceived crisis of ever-rising exceptional medical expenses. It was seen as a wedge to break open this supply-oriented system, by granting force to the demand-side. The scheme was fundamentally revised in 2003, and again in 2007, with the introduction of the new, municipally managed Social Support Act (Wmo). The latter mainly connected the budget to the discourse of citizen participation in society.

The initiators aimed to use the budget to 'overcome signalled bottlenecks of organisational nature in the homecare offered to handicapped people, such as insufficiently flexible support, or an excess of care providers' (TK, 1987/1988, p. 14). After introducing the scheme, however, argumentation shifted considerably, incorporating more macro-political elements and societal challenges perceived by subsequent governments.

In order to counter these challenges, government used the personal budget as an instrument to attribute a new role to the patient, or citizen. This 'new healthcare subject' is expected to bring about the changes that were deemed necessary. We use the Public Health Council's term 'the good patient' to denote this new subject. Nevertheless, we point to a broader set of requirements than the council does. Initially, the term referred to having proper conduct manners, to meet business obligations and to co-operate in treatments (RVZ, 2007, p. 7). We draw out the rationale that is provided for the constitution of such a subject, highlighting how this relates to a number of general challenges. The new subject is a rational consumer, who adopts sovereignty over his/her own health. (S)he is supported by government and society in continuously re-evaluating the quality of providers, in order to put pressure on the walls that surround the healthcare institution.

More control by the citizen on healthcare

The disability rights movement has called for a more influential role of the patient, or citizen. Bulmer, for instance, has formulated the 'cash position' most strongly, arguing that 'cash gives choice and dignity whereas welfare systems enslave' (Bulmer, 2008, p. 47). Many authors take a similar normative stance (see e.g. Morris, 2002; Timonen et al., 2006).

Different ministers positioned the subject as a client of healthcare providers – 'client sovereignty' (TK, 1999/2000, p. 6) – or as a consumer of healthcare products or services – 'consumer sovereignty' (TK, 2004/2005a, p. 13). The notion of self-interested sovereignty is central to modern, liberal conception of subjectivity, as Foucault highlighted (Foucault, 2008). Already in the 1980s, the then-vice-minister argued that: 'even though [the organisations of people with a handicap] prefer the term 'person-bound budget', I will still use the term 'client-bound budget', considering the orientation on the person and the community' (TK, 1987/1988, p. 14). However, is a budget more focused on the person if it is called 'client-bound' rather than 'person bound'?

Alternatively, the subject is positioned in the role of employer of healthcare workers (e.g. TK 1987/1988; 1997/1998c). In the literature, the notion of a citizen-employed personal assistant is often portrayed as an ideal model (e.g. Morris, 2002). It seems, however, that employment is seen as a consequence of accepting the responsibility of a personal budget, rather than an objective that was purposefully sought.

Relations to care providers are primarily conceived of as economic in nature (Kremer, 2006). Two types of relations need to be distinguished. First, there are those that always had an economic component, i.e. formal care providers offered a product or service to a citizen, in return for a financial reimbursement that was received from a third party. The change in such relations is that the payment relation changes: the citizen is now handling reimbursement. When it comes to this type of relationship, the main arguments in favour of this new arrangement that are given are: (i) the sense of self-sufficiency and autonomy that it provides (TK, 1987/1988; MDW-werkgroep AWBZ, 2000b), with a particular focus on choice (TK, 1987/1988; 1997/1998c), (ii) the practical possibility of making effective decisions in terms of organising healthcare (TK, 1987/1988) and (iii) the expectation that the costs of a personal budget will be lower (TK, 1997/1998c).

The second type involves informal care situations, for which, previously, no financial reimbursement was available. When it comes to economising this second category, another set of arguments is provided: (i) informal care is generated on the basis of a 'legitimate need for care' (TK, 1997/1998a, p. 5), (ii) in part of the cases, more expensive professional care can be avoided because of the availability of informal care (TK, 1997/1998a; 1997/1998c; RVZ, 2005a), (iii) informal care is highly valued by the patient, and is made attractive by being financially rewarded (Ramakers & Van den Wijngaart, 2005), (iv) paying informal care givers opens up a previously non-existent labour market (TK, 2005/2006), (v) two third of budget holders paying for informal

care still receive additional unpaid care from the same providers (Ramakers & Van den Wijngaart, 2005), and (vi) the vice minister stressed that we have to take better care of informal care givers, as there are many known cases of burnouts (TK, 2005/2006). Particularly in the light of the new labour market and the potential of a 'free' care surplus, this last issue gains economic relevance: burnouts are expensive for society, as observed in related policy-discussions (TNS NIPO, 2004a). It is telling that informal carers are described as the 'cement of society'.

Replacing supply orientation by demand orientation

Supply-oriented healthcare is perceived as undesirably rigid and ineffective. In international comparison, this qualification is particularly attributed to the Netherlands (Timonen et al., 2006). This second challenge is addressed by positioning the new subjectivity of the patient as an element in the transformation to a demand-oriented system. It is argued that '[t]he personal budget [is] an important instrument to achieve demand-orientation and increasing flexibility in the Exceptional Medical Expense Act' (TK, 1999/2000a, p. 13). This implies 'the strengthening – in a formal sense – of the position of the client in the chain from demand for care to delivery of care' (Ministerie van VWS, 1999, p. 22).

In this role, individual citizens are deemed to be supported by mediating agencies and organisations that represent their interests in discussions with healthcare providers and insurance companies (TK, 2000/2001f; MDW-werkgroep AWBZ, 2000b). The same is noted internationally (Spandler, 2004). With respect to mediating agencies, citizens are attributed the 'agent-role' of monitoring the qualities of their services (College Voor Zorgverzekeringen, 2009b).

Reducing the role of government

Bulmer formulates the third challenge as: getting rid of 'long-term, inflexible, public-sector-style contracts' (2008, p. 48). This is done by reshuffling the relation between government and the new subject. Government will do no more than to set the framework conditions within which the citizen interacts with other players in the healthcare system, or market as it is typically called. Government relates to the citizen mainly in terms of providing support, and

in terms of taking responsibility for cases that can impossibly be handled by citizens themselves (TK, 2004/2005c). This does not imply, however, that government withdraws; government and the active citizen have a relationship of collaboration (TK, 2007/2008c), which is based on support, rather than on a form of dependency (TK, 2003/2004b).

A number of framework conditions are mentioned. First, in order for citizens to be able to monitor price and quality, information should be available (TK, 2000/2001f) for the system to be sufficiently transparent (MDW-werkgroep AWBZ, 2000b), particularly in the form of benchmarks (TK, 2000/2001b; 2003/2004a). Second, sovereignty should be restricted to certain types of care (autism, for instance, is to be excluded) (TK, 1999/2000). A strict demand is that the budget only be used for intended 'spending goals' (TK, 2000/2001e), and on care providers who meet certain minimal quality criteria (MDW-werkgroep AWBZ, 2000b). Ex post evaluation is proposed to assess whether these demands have been met (TK, 2000/2001e),. Finally, a 'money back' policy, or complaint procedure should be created (TK, 2003/2004a).

Reciprocity between citizen and society

Government perceives that it can no longer take full responsibility for steering society, and care in particular. The citizen's responsibility is extended to the macro-level by positioning him/her as an active participant of a wider civil society. First of all, 'citizens and their organisations' are considered the makers of civil society (TK, 2003/2004b, p. 9). At the same time, they stand in a reciprocal relation to it: citizens may expect the support of their surroundings in terms of receiving care from, for instance, family members and voluntary community activities, but at the same time they should return such favours by assuming an active participatory role in these same surroundings (TK, 2007/2008c; 2008/2009d). Reciprocity is also expected in relation to government: in return for its support, government expects citizens to adopt what they call 'good patientship', a term coined by the Public Health Council (RVZ), which implies that 'the client bears responsibility: for a healthy lifestyle, for actively participating during his treatment and for judging, and giving feedback on, the care that was consumed'(TK, 2003/2004a, p. 2).

Ideas about participation are even put into practice by introducing a so-called 'participation budget' (TK, 2006/2007a), for instance for arranging transportation, education and labour integration. The vice-minister states that government appeals to people's 'carrying capacity' (TK, 2004/2005c), and

that 'self-organisation, social adhesion and personal responsibility are the starting-point for a stronger social structure' (TK, 2004/2005c, p. 8).

Cost containment

The constitution of the subject as specified above is supposed to meet the challenge of cost containment (Kerff, 1998; Houtepen & Meulen, 2000). Certain studies suggest that direct payments are more cost effective than other financing models (Spandler, 2004), for instance because overheads would be lower (Timonen et al., 2006).

The new subject is positioned as a rational economic actor; it is argued that '[r]equesting and managing a personal budget requires entrepreneurship' (TK, 2008/2009c, p. 3). In such a role, the citizen is the primary responsible actor when it comes to monitoring price (Ministerie van VWS, 2001a) and quality (TK, 2000/2001b). Demand orientation is introduced on the basis of the general assumption that it 'contributes to quality, effectiveness and efficiency' (TK, 2000/2001e, p. 4). The assumption regarding the positive effects of focusing on demand is based on the reliance on incentives, both for those who request and those who supply care. With respect to the latter, the argument is that 'if the individual can decide for him or herself from which provider to purchase a product or service, an incentive arises for the provider to make a better product' (TK, 2000/2001e, p. 4). It is expected that 'providers have to compete for the customer's favour on the basis of price and quality' (TK, 2000/2001e, p. 2). Research reflects this way of thinking (Carmichael & Brown, 2002). When it comes to incentives for citizens, the argument is that they will be more restrictive in their spending if they manage the budget themselves.

Analysis of critique within the discourse

As noted in the introduction, our approach differs from Foucault's. We also include statements that contradict or criticise the assumptions or expectations that we described in the previous section. The documents that constitute these policy discussions include numerous perceived problems in association with the argumentation highlighted above. We first provide a short overview of the problems that are noted by critics, before exploring the argumentation about them. We examine both criticism by parties that penetrated parliamen-

tary discussions, and academic critique that stayed outside parliamentary circles. Even though we present issues as 'singular' problems here, they are in fact interconnected. We return to the 'cluster' of problems below.

Singled-out problems

The main problem for the 'good patient', both in the Netherlands and in other countries (Glendinning et al., 2001; Carmichael & Brown, 2002; Rummery, 2006a), is the administrative overload to which (s)he is exposed (TK, 2001/2002b), even after fundamental revisions, which were particularly designed to diminish such burdens (TK, 2004/2005a; 2007/2008A). Overload particularly occurs when budget holders formally employ care workers (Van den Wijngaart & Ramakers, 2004).

Another problem is that the support network of representative organisations is not yet in place (TK, 2001/2002C). A number of councils that represent insurance clients are hardly functional, if at all (TK, 2000/2001f); local organisations are not yet in place (TK, 2003/2004b). Also scholars note that, for instance, 'user co-operatives are only likely to work for a small proportion of claimants and would exacerbate a culture in which some claimants are winners at the expense of others who become losers' (Lyon, 2005, p. 247). Transparency is considered inadequate, even though it is not concretely specified what is lacking; the vice-minister perceives an 'excess of financial partitions' (TK, 2003/2004a), referring to administrative separations between different parts of the healthcare system. In addition, there have been cases in which brokering agencies were criticised for committing fraud, or for offering low service quality (Research voor Beleid, 2009). As a result of this, the 'countervailing power' that citizens can generate is considered strongly limited (TK, 2000/2001f; RVZ, 2005a),

Even though the quality of care that was purchased with a personal budget is generally considered high in the Netherlands (TK, 2006/2007a), the fact that citizens are made responsible has created an ongoing concern nonetheless (TK, 1999/2000; 2004/2005a; College Voor Zorgverzekeringen, 2004; IBO, 2006). With respect to threats to quality, the literature notes a lack of training of personal assistants (Pickard et al., 2003; Kremer, 2006) and a devaluation of professional care and care standards (Knijn & Verhagen, 2007). The capability of citizens to behave as rational consumers and assess quality is questioned as well (Kremer, 2006; Knijn & Verhagen, 2007; Prideaux et al., 2009); at best, they are considered quasi-consumers by some (Glendinning et

al., 2001). This goes back to the ambiguous issue of patients' 'health literacy', which we mentioned in the introduction (Rubinelli et al., 2009).

Since its inception, the personal budget has become a popular option for funding informal caregivers who had previously been unpaid (TK, 1996/1997; 1997/1998c; 2001/2002b), which has also been noted internationally (Askheim, 2005; Kremer, 2006). This issue is referred to as the monetisation of informal care (TK, 2004/2005a; 2005/2006; Ramakers & Van den Wijngaart, 2005). This has made public spending grow, which seems to be in direct conflict with one of the original objectives: cost containment. Something similar may be argued when it comes to the risk of fraud or abuse (Askheim, 2005; Kremer, 2006; Ellis, 2007). In the Netherlands, fraud is estimated to occur in 1-5% of the cases (TK, 2004/2005a).

A problem that is indirectly related to the empowered role of the subject is the position of care providers (Ungerson, 1997; 2004). Scholars have reported bad working conditions and an overwhelming sense of responsibility (Spandler, 2004), overburdening and exploitations of informal carers (Kremer, 2006; Rummery, 2006a) and carers being trapped in short-term contracts (Kremer, 2006; Leece, 2010). In the Netherlands, the topic entered political discussion in the second half of the past decade. The minister acknowledged the problem that many employees of traditional home care organisations lost their jobs (TK, 2007/2008c). In addition, many skilled care providers have been forced to accept contracts for unskilled work (TK, 2006/2007b).

Even though it is not specifically mentioned as a problem, it is often acknowledged that difference in capacities of the citizen leads to inequality and/or social exclusion. The international literature pays more attention to this issue (e.g. Lyon, 2005; Rummery, 2006a). It is pointed out, for instance, that there are relatively many budget holders with a higher education background (TK, 1996/1997; 2008/2009d). On top of that, the skills of the applicant in terms of formulating the request for care have an influence on the amount that is awarded (TK, 1998/1999; IBO, 2006).

It is worth noting that scholars have articulated a number of problematic issues that have played only a minor role in Dutch political discussions, if at all. These issues are of a different nature than the fairly practical points that we addressed above. First, it is argued that, with an individualised set-up like the personal budget, economies of scale are likely to be lost compared to collective service provision (Spandler, 2004; Lyon, 2005). Second, the notion of the economic nature of the relations that we discussed is problematised. In a much-discussed paper, Ungerson argues that:

> ''empowerment' is becoming two-pronged: the community care legislation gives disabled people *procedural rights* to an assessment, although not to services; the direct payments legislation will give disabled people the means to enter a *market* for care where they can operate *contractual rights*' (Ungerson, 1997, p. 47, original italics).

The Dutch system is particularly mentioned as an example of 'fully commodified 'informal' care' (Ungerson, 2004, p. 197; see also Timonen et al., 2006; Knijn & Verhagen, 2007), which is reported to be problematic for part of the users. It is articulated, for instance, how 'market logic intrudes into family logic' (Kremer, 2006, p. 396). Furthermore, some have pointed out that, in different countries, funding has proven inadequate and that 'it is vital that the real costs of living with a disability are recognised' (Carmichael & Brown, 2002, p. 807). Particularly market logic is reported to have a detrimental effect on the amount of funding awarded (Spandler, 2004; Scourfield, 2005). Finally, different scholars have pointed at the 'consequences of a state that wanted a market of care but at the same time introduced control' (Kremer, 2006, p. 392; see also Ellis, 2007; Priestley et al., 2007; Prideaux et al., 2009).

Argumentative responses to problems

We have found many ways to argue about such problems. Rather than going over every problem one by one, we go over the different argumentative mechanisms. We have mainly observed mechanisms that effectively evaded problems that are noted by actors in this discussion. This does not necessarily imply that such evasion stems from an intention to not address an issue. We do not discuss motivations, only practices.

The most common way of dealing with problems in the documents that constitute the policy discussion is to acknowledge them, establish their importance, and then move on without offering argumentation or solution. All of the problems mentioned above have been handled this way several times over the past years. Particularly the issues of administrative burdens, limited skilfulness of budget holders, quality of care and the lack of a proper infrastructure are dealt with in this manner.

In case suggestions are offered, they are often insufficient. By this, we mean that the problem in question keeps on being signalled. We provide a number of examples. When it comes to administrative overload and the lim-

ited, or unequally distributed capacities of budget holders, it has been proposed that a personal budget may be refused (TK, 1996/1997) or that a negative recommendation may be given to a particular applicant (TK, 2008/2009d). This approach is not just restricted to the Netherlands (Priestley et al., 2007). Alternatively, a facilitating agency would be formed, of which citizens can make use voluntarily (TK, 2001/2002b), and an instructive DVD will be prepared (TK, 2008/2009d). The international call for simplifying application procedures (Leece & Leece, 2006b) is also recognised in the Netherlands (TK, 2001/2002d). Monetisation and abuse are to be addressed by creating more objective indications (TK, 1997/1998a) and control instruments (TK, 1999/2000), by reclaiming budgets in case of abuse, by obeying informal care providers to show that they have limited other activities for being able to provide (paid) care (TK, 2004/2005a). Abuse by agencies is addressed by restricting payment of the personal budget to the budget holder's bank account and by creating a behavioural code for agencies (TK, 2008/2009d). In spite of these efforts, we continued to observe subsequent worries about the same issues.

We understand ambiguity as a vague use of terms. As the Council of State pointed out, for instance, it is fairly unclear what 'participation of all citizens' means (TK, 2004/2005c). In spite of the vice-minister's clarifications, it remains unclear what is intended exactly. On the one hand, it seems to refer to participation in the care and support process, in the sense of charity or volunteer work (TK, 2004/2005c), but often the vaguer concept of participation in society is allured to. Mostly, this is argued to be inspired by values such as empowerment for people with a disability or chronic illness, but also participation in policy making (TK, 2004/2005d) and labour participation (TK, 2006/2007a) are mentioned. It is noted that local governments, which will execute this policy, should further specify the definition of participation.

There are many ways in which conditionality plays a role in this policy discussion, not only in the Netherlands (Ellis, 2007; Priestley et al., 2007). By conditionality we mean that certain conditions need to be met in order for a policy to be executed. We juxtapose this with the unrestricted adoption of the policy on the basis of the *assumption* that these conditions are met. Most interesting are cases in which certain attributes are described as both a condition and an assumption. Even though it is sometimes acknowledged that positioning an attribute as a condition implies a serious limitation, this does not stop politicians from formulating it as a general assumption as well. With respect to sovereignty, it is argued that the 'starting-point of the personal budget is that the budget owner is reasonably capable of judging the quality of care (consumer sovereignty)' (TK, 2004/2005a, p. 13). This statement puts

the emphasis very differently from saying that sovereignty is 'not equally applicable to everyone and everything' (TK, 1999/2000, p. 6). The emphasis of the latter formulation is on conditionality, which is lacking in the former. Similarly, it is argued that 'requesting and managing a personal budget requires entrepreneurship' (TK, 2008/2009c, p. 3). The question whether this requirement is reasonable was posed in 2009 only, almost 15 years after launching the first experiments. Responsibility is another example. When the personal budget entered the discussion in the late 1980s, the ability to take responsibility was a condition (TK, 1987/1988), suggesting that there would be some sort of judgment of this ability. Later on, more emphasis was placed on the argument that accepting a personal budget implies accepting responsibility (TK, 1997/1998c), i.e. without a judgment of ability.

Another common mechanism is that responsibility for unsolved problems is passed on to another actor; local governments and the individual citizen are the most common candidates for this. In terms of major challenges – inadequate societal participation and excess costs – the Public Health Council posed the question: 'How will we handle this?' The answer given was: '[b]y making the municipality responsible for the societal participation of people with a disability' (RVZ, 2005a, p. 2). In particular, '[r]ealising a social support infrastructure with adequate societal facilities falls under the responsibility of local government. This responsibility should most certainly remain where it is' (TK, 2001/2002c, p. 4).

The citizen is first responsible for assessing the amount of budget that it is needed: 'if desired, an applicant for a personal budget for mental disability can try to manage with a lower norm amount than for which he could receive an indication' (TK, 1996/1997, p. 7). This implies that (s)he can try to purchase a cheaper treatment than what is deemed necessary by experts. It seems to make sense to measure quality from the citizen's perspective (TK, 2003/2004a), but should 'client satisfaction' be the main indicator for quality (Van den Wijngaart & Ramakers, 2004)? When it comes to administrative burdens, government opted for a procedure that gives more freedom, but more burdens at the same time (TK, 2001/2002b). Concerning burdens for care providers, regulations were adapted: 'By this change in the law, the citizen can be confronted with these burdens. This in fact implies a shift of burdens to the right place' (TK, 2008/2009b, p. 8). Whereas lowering burdens was one of the prime objectives of a major revision of the scheme, in 80% of the cases these remained the same or actually increased (TK, 2004/2005a). The conclusion, surprisingly, was that the objective had partially been reached (Van den Wijngaart & Ramakers, 2004). As a reply, the vice minister argued that citi-

zens should not only expect taking the benefits, but also the hardships (TK, 2004/2005a). Taking into consideration that less skilful citizens not only need to hire consultants to deal with the ever-increasing burdens of complexity, but that, in addition, they are expected to monitor the potentially abusive behaviour of such consultants (College Voor Zorgverzekeringen, 2009b), we may wonder how this relates to the freedom that the scheme was meant to promote.

The introduction of new control mechanisms seems to contradict the original principle of patient sovereignty. Already a couple of years after introducing the scheme, it was stated that 'implementing demand-orientation ought to be accompanied by strengthening the set of supervisory instruments' (TK, 1999/2000, p. 3). For instance, house visits are proposed as a mechanism of proper coordination (TK, 2007/2008c). Cost control has led to the lowering of budgets in later updates of the scheme (Van den Wijngaart & Ramakers, 2004), regulations for using personal budgets for paying informal care have been sharpened (TK, 2004/2005a) and the part of the budget (€2500) that was previously exempted from evaluation was cancelled (TK, 2007/2008a). Using a title like 'Liberating Frameworks' (Raad voor Maatschappelijke Ontwikkeling, 2002) for a crucial report in this discourse is telling in this respect.

A final issue relates to not making underlying argumentation explicit; we take the example of monetisation and abuse. Considering that cost containment is always presented as a prime challenge, it seems awkward that few measures are taken to control this. What does the argument look like? First, the negative perception of the issue is downscaled by saying that the scheme is perhaps not 'waterproof' (TK, 2004/2005a, p. 15), but that abuse only happens on a very limited scale (1-5%). Another option is to establish a favourable definition of monetisation, stating that if a personal budget is awarded in a situation in which informal care was previously delivered unpaid, there is still a 'legitimate need for care' (TK, 1996/1997). The vice-minister's argument was: 'We find it normal to pay care providers for delivered services, then why should we not find it normal to pay informal carers for delivering formally required care' (TK, 2005/2006, p. 3). She accepts a narrower definition of monetisation that only considers cases in which the personal budget makes informal caregivers unwilling to continue providing unpaid care (TK, 2005/2006). Even though this is in part speculation, the underlying argument seems to be that new markets may open up and that unpaid care will still be provided on top of paid care.

Clusters of problems

As said, the 'singular' problems are interconnected through measures that are supported by different forms of argumentation. In this section, we provide a few examples to indicate to what extents problems are 'clustered'. Through a description of these clusters, and the evading mechanisms that surround them, we try to highlight a particular form of discursive formation. We still use the singular problems as an 'entry point' to the cluster.

When it comes to *administrative burdens* for the citizen, the existence of the new market for brokering agencies and personal budget consultants is put forward as a *partial solution*. As we have seen, however, this solution raises the problem of potential abuse by such organisations; citizens are now also responsible for *monitoring the quality* of service that they deliver. This new problem is dealt with by two different ways of argumentation: first of all, a *partial solution* is offered by creating a quality mark for such organisations, and secondly, government simply states that it *cannot take responsibility*. The fact that such agencies need to be paid for creates *inequality* between citizens who have the skills to manage a personal budget themselves and citizens who don't. If payment is an issue, assistance of family members is offered as a *partial solution*. Even though issues of inequality are hardly discussed at all, it is argued that selecting care in kind would be a *solution* for those with limited capacities. This option, however, places the responsibility for deciding on the *quality of care* with the patient, which was considered as an issue of concern in the first place. At this point, government *restates the original ideology* by arguing that this is part of the citizen's responsibility, while remaining *ambiguous* about the question whether capacities for handling responsibility are assumed or considered a condition.

Moving on to the problem of the citizen as the prime responsible for the quality of care as an entry point, the argument is that the receiver of care is the most capable to decide what happens to him or her. As we have seen, the way to do this was to *stage a measuring tool* that used citizen satisfaction as the main indicator of quality. This seems problematic, considering that further medical indicators or long-term perspectives are *not considered directly*. A further argument used is that it is necessary to move the monitoring of quality to the demand side if we want to *move from a supply-oriented to a demand-oriented system*. This brings us back to the earlier question regarding the skills of the citizen. That question evokes the elements of the problem cluster discussed in the previous paragraph.

The question of 'system innovation' from supply to demand highlights the lack of a supporting infrastructure. It is *assumed* that self-organisation is the best way to form a stronger social structure. In practice, however, it turns out that citizens neither form collectives, nor are they represented by patient organisations sufficiently. Still, the responsibility for organising this is partially *shifted to the citizen*, even though government states that such an infrastructure is *required* for achieving system change, considering that citizens will not be able to gain sufficient strength otherwise. A partial solution is to *make local governments co-responsible* for creating this infrastructure, while referring to the *ambiguous* term 'participation' as a basis for this. However, this applies only to the social support act, which is just a small part of the entire healthcare sector; therefore, this is certainly *not a complete solution*.

If we look at the issue of monetisation, we have seen that the basic argument was that informal care is provided on the basis of a *legitimate* demand of care. This is based on *redefining* what monetisation is, thereby *downscaling* the number of cases that meet the definition. Still, it seems problematic from the point of view of government's objective of *cost containment*. Even though it is not clearly articulated, it seems there is an *underlying argumentation*, i.e. paying informal care has positive economic effects as well. Whether these benefits outweigh expenditures remains *ambiguous*, however. The notion that monetisation might grow in the future is not articulated. The *solution* that is offered is to increase supervision to single out cases in which monetisation ought to be considered abuse, in line with the new definition. Such an increase in control is again *at odds with the original principle of sovereignty*. The argument here, however, is that this should be regarded as part of new 'liberating frameworks', a fairly *ambiguous* term.

Discussion and conclusions

Even though our main focus has been on the problems that we have identified, it needs to be said that several of these issues have been contested or relativised in the literature. A few examples: first, training has been effective in handling administrative overload. In addition, many receivers of direct payments have voiced the opinion that they gladly accept this load, compared to the downsides of the previous system (Carmichael & Brown, 2002). Third, quality of care has definitely improved in certain respects (Carmichael & Brown, 2002); satisfaction is obviously not completely unrelated to quality. Similarly, there are many known cases of care workers that were happily

employed by holders of a personal budget (Kremer, 2006; Leece, 2010). Just as market logic has a potential 'dark side', so does 'family logic': '[f]amily care may be based on 'warmth', but it is parochial and arbitrary at the same time' (Knijn & Verhagen, 2007, p. 468). With respect to the issue of monetisation, finally, it is suggested by some that informal carers do not in fact change their behaviour because of the financial benefit, but that they appreciate their increase in income and recognition nonetheless (Ungerson, 2004).

Personalised healthcare is not a black and white issue. Our conclusion is similar to what other have argued with respect to the question of attributing 'skills' to the patient (Rubinelli et al., 2009). On the one hand, 'health literacy' is promoted in the framework of patient empowerment. On the other hand, critics argue that it may be undesirable for the patient to take place on the doctor's chair. We do not suggest that personal budgets be cancelled because of the problems we found. Rather, it makes sense to investigate how to better deal with criticism in complex and interconnected arguments. On the basis of our analysis, we conclude that 'clustered argumentation' is associated with mechanisms that evade problems that are raised. This would provide an interesting, but ambiguous case for theorists and practitioners working on the basis of the notion of political responsibility. How could we deal with the question of accountability in such cases?

Returning to the question we posed in the introduction: it seems reasonable to question how realistic the subject is that is portrayed in the dominant discourse. The use of the 'cluster of argumentation' and 'evading mechanisms' concepts highlights more than just the question of how realistic a particular subject is. We have tried to make clear that clustered argumentation is a discursive formation that makes certain things transparent and others opaque. Even though we do not comment on the question of intentionality, we have tried to highlight how clusters are accompanied by mechanisms that effectively imply that criticism is evaded. We may wonder whether the new subject will really be a 'good patient'. Is (s)he indeed a cash-supported, rational sovereign, who constantly shuffles relations with care givers and is putting pressure to break rigid healthcare institutions? On the basis of the problems that participants in the policy discussion raised, another image of the patient-subject appears. It could also be an overburdened individual, constantly involved in unequal power relations, suspect in the eyes of government and society, and, therefore, increasingly constrained. This points at

an entirely different type of subject, a 'problematised subject', so to say. This forms an interesting reflection on Foucault's work on subjectivity[12].

Just like disciplinary societies are not disciplined societies, societies that are characterised by neoliberal governmentality are not neoliberal societies. Therefore, we have to juxtapose the 'neoliberal subject' that I introduced in chapter two with its negation, with the subject of its side-effects. I will call this the 'neoliberalised subject'. This is for two reasons. First of all, it should be clear that this subject category cannot be separated from neoliberalism. This is the reason for maintaining the reference to neoliberalism in the description of this subject-type. On the other hand, it is hard to categorise the subject 'in its own right', i.e. to identify it by the particular problems that (s)he engages. The term 'neoliberalised' suggests that there has been an attempt to do neoliberal subjectivation, but that it failed in a particular way.

At the end of Part 3, we can look back at the effects of the problematic expectations of policies that were imagined to foster innovation. If we take the point of view of innovativeness, the case of the electronic health record is a fairly important indication that failing expectations have an impact. For the personal budget, this may be less clear at first sight. After all, the relation to innovation is rather slight. However, if we go back to chapter one, to question which phenomena are expected to foster innovation, we may place the discussion of this chapter in perspective. After all, care providers were expected to become more innovative – in the sense of adopting innovation – to a great extent because of the critical gaze of the new subject. In the framework of the above, this implies, again, that the good patient – as an instantiation of the 'neoliberal subject' – is expected to take part in jumpstarting innovation. Now that it turns out that the assumptions that underpin this patient type are unrealistic, we may also question the assumed pro-innovation effect. Then, if we examine the overall impact of Part 3, we have to conclude that it is not only the attempts to perform neoliberal subjectivation that failed. In practical terms, we may question the enhancement of innovation itself. Do these policies stimulate innovation at all?

In terms of our theoretical perspective, we can in fact argue that the second and third 'mode of subjectivation' – redeveloping power relations and subjectivation by 'what is not heard' – somehow seem to work in opposition to each other. Part 2 showed that re-shaping power relations can look differently from a Foucauldian analysis if we add subpolitics and other SST points

[12] The remaining paragraph are not part of the publication that constitutes the core of this chapter

of view. However, the 'neoliberal subject'-type that was unfolded there did not contradict what was said about a 'twofold subjectivation' in Part 1. In other words, subjectivation in connection to 'modes of inquiry' and 're-shaping power relations' seemed to be logically in accordance. This is mainly because both modes, as I have regarded them, are *intentional attempts* at subjectivation.

With the addition of Part 3, however, subjectivation was considered in a fundamentally different way. First of all, it offered further nuance with respect to the rather utopian notion of neoliberal subjectivity. Just like in chapter three, I tried to show that it is not likely that the patient will correspond to the neoliberal ideal. In this chapter, however, I *problematised* this notion. Whereas the macro-actor scenarios that I presented earlier were still mainly *alternatives* that might be implemented, what I just called the 'neoliberalised subject' is different. It is not so much an alternative, but rather a subject-type in which the negative side-effects are stressed that are reported to arise when attempts are made to implement neoliberal governmentality. Even though more work is required to get a better understanding of this subject type, I hope to have given a first impression. And, just as I argued in my discussion of multiple macro-actors, the potential of co-existing subject types is applicable here as well.

The notion that the failed attempt to constitute people as neoliberal subjects may in fact result in a different 'problematised' subjectivation is only one side of the story. It is important to realise that the 'neoliberalised subject' is, in a sense, the negation of the 'neoliberal subject'. It is the 'neoliberal subject that failed'. Politicians and other stakeholders have voiced high expectations of the role that people may play in a re-shaped healthcare system. The fact that these expectations turn out to be unrealistic puts serious pressure on patients. As we have seen in the case of the personal budget, receivers of such a budget are increasingly suspect.

Foucault never employed such an angle in his studies of subjectivation. I hope to have shown that it is an important addition to the understanding of our times, of postpanopticism. In addition to that, however, it might just serve as the 'missing link' between Foucault's middle and late work. To many, the transition between Foucault's late-1970s governmentality work and his focus on personal ethics in the 1980s has been somewhat unclear. Through this discussion of questionable expectations, and the problems that are related to this, I hope to have made it clear that we *need* an ethical turn. This is the topic of Part 4.

Part 4

Shaping the self
Interacting with technology

6 Performing *askēsis* with technology
Interacting with healthcare innovations

In Part 2 of this study, I mainly focused the theoretical lens on cases that exemplified what Foucault referred to as technologies of government. In a sense, the same applied to Part 3, even though the practices I described there were somehow a negation, or side-effect of those described in Part 2. In this last Part of the study, I turn to the space that people still have to shape themselves in the mazes of the network of governmental and other practices. I argue that such 'self-constitution' can only be understood against the background of what I explained before. We are faced with a situation in which government is trying to make 'neoliberal subjects' out of people, but fails to do so, due to 'immoderate expectations'. What is more, however, is that an alternative subjectivity is created. This is partly due to the way in which scripts, relations and practice turn out when they leave the designer's desk. Furthermore, the perception that people act differently in practice than 'on paper', and that the effect of their agency does not solve problems as it was expected to, also works in a subjectifying manner. This is the background against which this chapter is set.

This is also the background against which we can revisit some of the arguments concerning reciprocity. In chapter two, I positioned this as a central concept in the understanding of Foucault's governmentality. Neoliberalism implied a particular understanding of reciprocity between a number of actors and society. I tried to indicate a number of problems with this way of reasoning, for instance with respect to reducing the likelihood of resistance. I this chapter, I attempt to draw out an alternative to such a way of reasoning in Foucault's work.

In terms of the practical lens, I tried to indicate how reciprocity formed an organising principle in encoding the electronic health record, and in positioning the personal budget in a framework of civil society. For reasons that I explain below, I turn my attention away from these cases, and focus the practical rooms to other spaces in which technology mediates healthcare practices, such as medical chat rooms.

Toward the end of his life, Foucault turned to self-constitution by means of 'technologies of the self'. After he acknowledged that he had focused too

much on the question of how subjects were dominated by government practices and oppressive moral codes, he started investigating the extent of people's freedom. Freedom should not be conceptualised as the liberal notion of autonomy: the idea that individuals have a space that is completely free of any effects of power. Peter-Paul Verbeek has formulated Foucault's alternative conception of freedom aptly: '[f]reedom [..] is not the absence of factors that steer and shape the subject, but the very relation to these factors' (2008, p. 22). Verbeek argues that the term subject also implies to subject oneself to a particular moral code. Freedom then comes down to the idea that subjects have certain degrees of freedom in establishing themselves in the maze of other relations in which they are engaged.

This implies a positive conception of freedom, in whatever form of governmentality, i.e. in panopticism and postpanopticism alike. Foucault's argument does not seem to be that self-constitution is related to a particular historical period. People could also constitute themselves as subjects of control, as he argues in *Discipline and Punish.* Even there, however, there were degrees of freedom to escape from control. In this respect, I would like to recall Rose's remark that 'Foucault's disciplinary societies were not 'disciplined societies', but those where strategies and tactics of discipline were active' (1999, p. 234). Similarly, neoliberal societies are not 'free societies', if we take a positive conception of freedom. Still, the different conception of freedom has quite some implications for self-constitution. It may be imagined that there is a complex relation between the negative freedom of neoliberalism and the degrees of positive freedom that exists for self-constitution. In a sense, this places much higher demands on the reflexivity of individuals than under panopticism, where freedom was not explicitly constituted as a political discourse.

In the larger framework of the study, therefore, it is important to stress that self-constitution operates differently in postpanopticism than under other governmentalities. When Foucault (1993) argued that he wanted to study governmentality starting from the technologies of the self, he might have meant that technologies of the self could be appropriated as technologies of government. Clearly, neoliberalism propagates its subjects to constitute themselves according to a rather particular, rational-economic conception of freedom. The degrees of freedom that self-constitution offers should be regarded in relation to the factors that create neoliberal freedom. Panopticism, by contrast, implied that people were largely constituted as subjects of surveillance. Self-constitution under such a system is related to the factors that aim to create control. Shaping the self is always done in the framework

of the power relations that characterise a particular mode of governance. Therefore, getting an understanding of self-constitution cannot be separated from its historical setting. It is not a practice that is the same at any time and place.

On the basis of his earlier work in the philosophy of technology, parts of which I have discussed in chapter three of this study, Verbeek adds to this that technology plays a fundamental role in such self-constitution. If technologies are acknowledged as nonhuman actants, with which humans interact, it is inevitable that such interactions also play a role in giving shape to the human self. Based on personal experiences, Verbeek provides an insightful account of the role that ultrasound imaging plays in the manner in which future parents constitute themselves around questions regarding the health of their unborn child. As part of a broader analysis, Verbeek points out that the ultrasound images constitute the foetus as a person and as a patient, which creates a new relation between the unborn child and the future parents. On the one hand, any serious disease that is detected on an ultrasound might probe parents to consider abortion. On the other hand, the newly established relationship may also be a factor against abortion. It is in interaction with ultrasounds that parents constitute themselves as a particular type of ethical actor.

In this chapter, I provide a reading of Foucault's later work that differs from Verbeek's to some extent. While he gives a thought-provoking account of the general notion of self-constitution by subjects, I argue that it seems that Foucault is looking for a a number of characteristics that he deems to be important for every subject. This is not to say that he has a *particular* subject in mind. All individuals should develop an *ēthos* of their own. Nevertheless, Foucault does not entirely relativise ethics. First of all, in line with other commentators of Foucault's work (Simons, 1995; Vintges, 2004; McNay, 2009), I establish the political aspects of the self-constituting subject. I try to indicate that Foucault imagined a political subject that self-constituted in order to 'keep a stand' vis-à-vis the domination of governing institutions, be they panoptical, neoliberal, or the 'problematised' subject that remains from the expectations of neoliberalism. This does not imply that such a subject is the negation of political power. However, it does imply a particular, critical relation to such power. As such Foucault's ethical work may be read as a political philosophy. Secondly, but related, I argue that Foucault attempted to think of self-constitution in such a way that would *minimise* the need to subject oneself to a moral code. Finally, I apply Verbeek's understanding of me-

diation to a particular way of self-constitution, described by Foucault as the care of the self.

The notion of minimal subjection to a moral code is a problem in Foucault's work, as I will try to show. In his series of lectures *The Hermeneutics of the Subject* (2005), which was translated into English only a few years ago, he places his finger on the problematic of ethical conduct without a moral code. Vintges has labelled this idea as 'lived ethics without truth' (2004, p. 284). The question is, however, if, in a given context of a particular set of relations, there is an ethically 'right thing to do'. To return to Verbeek's example: the fact that future parents are probed to consider ethical questions does not give them any handles to decide which decision is the right one for them.

As I highlighted in chapter two already, different authors have pointed out that, in spite of his dismissal of humanism, Foucault seems to maintain a certain loyalty to some of its concepts, such as reciprocity. I try to show how this is articulated in his thinking about taking 'care of others', a value to which he seems committed. Also here, the question is if such values can be assured without a moral code. In relation to this, I review his discussion of a reliance on human nature as an alternative to such a code. As we will see, this evokes at least as many critical questions, if not more.

There is a second problem. Foucault already signalled serious shortcomings of an ethical model that is largely based on self-constitution. He shows that only a minority of the population is likely to act in such a manner. Therefore, if self-constitution were to form the basis for a general ethical theory, it needs to come up with an account of the conduct of the majority that is unlikely to act ethically.

I start by introducing the main concepts of Foucault's political philosophy and some of the replies that Foucault has received. Then I analyse two different ethical 'models' (2005, p. 247) that Foucault discusses: the Platonic and the Hellenistic model. Foucault seems to favour the latter (Simons, 1995, p. 74). I do not discuss the third, Christian, model, considering that Foucault clearly opposed this. I first show how ethics were problematised in Plato's time, and then see which 'solutions' were offered in the Hellenistic model. Throughout, I provide a critical discussion of these problems and solutions, and highlight issues that are underexposed in Foucault's writing. After the discussion of the two traditional models, I turn to question of how society could be organised in such a way that the scope of ethical practices is maximised. I discuss literature that applies Foucault's approach to ethics to the field of health. On top of that, I comment on the role that information technology plays in this respect. Doing so, I particularly articulate the ambiguous

interplay between technologies of the self and technologies of government with which all authors seem to struggle.

Ethics as political philosophy

Foucault positions the notion of personal ethics, or *ēthos*, as a basis for his political philosophy; he regards *ēthos* as a critical attitude (Foucault, 2007b) towards problematic or dangerous issues that occur in the present. He expects different groups of actors to base their conduct on such an *ēthos*: engaged citizens, but also (political) leaders, experts and political philosophers. Crucial for such personal ethics is that it operates relatively independently from moral codes. In a 1983 interview, Foucault asked:

> 'Are we able to have an ethics of acts and their pleasures which would be able to take into account the pleasure of the other? Is the pleasure of the other something that can be integrated in our pleasure, without reference either to law, to marriage, to I don't know what? (1997, p. 258).

Apart from his resentment of institutionalised value systems, Foucault does not believe that ethics can be grounded in some universal truth (Foucault, 2005, p. 112). This is why Vintges refers to Foucault's ideas as a 'lived ethics without Truth' (2004, p. 284). The stress on the ethics being 'lived' signals that morality is not just connected to the content of what one says or thinks. It also relates to the practice that a person connects to this. In very basic terms, Foucault expects a moral person to 'practice what (s)he preaches'.

One way of acting on such an *ēthos* is by speaking out courageously against topical issues that are regarded undesirable from the point of view of the personal ethics. Foucault uses the Greek term *parrhesia* to explain this (Foucault, 2004)[13]. The term may be translated as 'free speech' or as speaking the truth. It is strongly connected to the person that uses it, the parrhesiast. In line with the notion of the personal *ēthos*, it is important to note that *parrhesia* is a personal, self-imposed duty, rather than one that is externally enforced. There is another element to *parrhesia*, which brings it particularly close to matters of resistance or critique, i.e. the much-mentioned notion of danger. When it comes to speaking out against such dangers, the speaker is also

[13] Translations of quotations from this Dutch volume are mine

likely to endanger him/herself. This does not imply that anything that one says that may be used against him or her should automatically be regarded as using *parrhesia*. The danger should come from statements that may be unpleasant for the partner in the conversation. By focusing the *ēthos* on addressing societal problems, Foucault does not intend to argue that 'everything is bad, but that everything is dangerous', adding that '[i]If everything is dangerous, then we always have something to do' (1997, p. 256). In this respect, the topics of resistance, critique and activism becomes increasingly relevant. Foucault is, therefore, considered a proponent of 'agonism' (Simons, 1995; Gabardi, 2001). It is important to note that he is aware of the 'danger of focusing on danger'. He acknowledges that the critique of the anti-psychiatry movement – to which he contributed – of the dangers of psychiatry led to other dangers. In relation to this, he remarks that 'the ethico-political choice we have to make every day is to determine which is the main danger' (1997, p. 256).

As to the question of how one develops an *ēthos*, Foucault points at the necessity to 'take care of the self'. In relation to his earlier work he claims that our personal ethics have been subjected to dominant discourses. In a quest to find technologies of the self that were not dominated by technologies of state-government, or other forms of dominant discourse, Foucault stumbled upon ancient Greek and Roman texts on ethics. He considered Stoic ethics free of normalisation, even if they were not as liberal and tolerant as he had expected or, seemingly, hoped (1997, p. 254). Care of the self aims at self-development through long ascetic practice and daily work. He was certainly not interested in what he calls the 'Californian cult of the self', which aims at discovering one's 'true self'. He denounced the idea of an authentic deep self, in the sense of Sartre's work, for example. Foucault points at the influence of Nietzsche on this part of his thinking (1997). In addition, he claims that we learn from thinkers from antiquity to get an understanding of this laborious notion of self-mastery.

There are strong disagreements on how to interpret Foucault's ethics-based political philosophy. As I indicated before, many commentators argue that Foucault speaks only for a minority. Simons (1995) discusses critiques that argue that Foucault focuses merely on marginal groups and marginal themes. Grimshaw (1993) concludes that Foucault only discusses a male elite. Beiner goes further than that and cynically states that Foucault is interested in a type of ethics that 'simply addressed itself to a small group of individuals seeking to perfect themselves' (1995, p. 361).

Vintges, by contrast, argues that '[c]learly, Foucault wants everyone to have access to the domain of freedom practices' (2004, p. 287). She bases this on Foucault's question: 'couldn't everyone's life become a work of art?' (1997, p. 261). This difference in interpretation is not trivial. Vintges argues that we may interpret the notion of 'freedom practices for all' as Foucault's hinting to an 'ethical universalism' (2004, p. 286). This is an interesting conception, for two reasons. First, it could fill the void that was introduced by the postmodern critique of all forms of universal categories. At the same time, it could maintain the pluralism that postmodernism offers. Vintges argues that this ethical universalism is 'pluralistically enlightened' (2004, p. 278). Second, it could provide an answer to Habermas' critique of Foucault as a 'cryptonormativist' (Habermas, 1994), or to Fraser's request of normative criteria in Foucault's work (Fraser, 1981).

Vintges, however, does not address the issue of the alleged focus on a minority in her article. Although it seems true that Foucault stressed that personal ethics be offered as a principle with 'universal appeal' (2005, p. 120), he gives many examples of barriers to this appeal. He refers to our general principle of 'universality of appeal and rarity of salvation', saying that 'the principle is given to all but few can hear' (2005, p. 119). The awareness that 'the possibility of making one's life into a work of art will be differently distributed' (McCarthy, 1990, p. 462) implies that we have to take a less ethical segment of society into account.

The Platonic model

Foucault traces the first written occurrence of the care of the self in Western culture to Plato's *Alcibiades*, even though he stresses that this is part of an older tradition. The work is largely a dialogue between Socrates and the young governor-to-be Alcibiades. After some deliberation, Socrates establishes that his conversational partner does not have the *technē* to govern the city-state well. In order to develop this, and to develop it better than his competitors and future rivals, Alcibiades is advised to take care of himself. The principle is clear: 'One cannot govern others, one cannot govern others well [..] if one is not concerned about oneself' (Foucault, 2005, p. 36). The defining characteristic of the Platonic conception, therefore, is that it is inextricably related to political action. For Plato, there are three ways of linking the care of the self to the political:

> 'the link of purpose in political *technē* (I must take care of myself in order to know, to have a proper knowledge of the political *technē* that will enable me to take care of others); the link of reciprocity in the form of the city-state, since by knowing myself I save the city and I save myself by saving the city; and finally, the link of implication in the form of recollection' (2005, p. 176).

To govern in Plato's days was an elite affair. The same applies to developing an *ēthos*. To participate in the Athenian democracy required citizenship, which excluded many. A first consequence of this limitation is that there is a majority that does not take care of the self, or develop an *ēthos*. Foucault refers to quite some examples of types of actors which Plato considers to be excluded from taking caring of the self properly. This implies working on the soul (2005, p. 54-60). In the *Alcibiades*, Plato gives examples of different types of actors that are rather oriented to bodies, property or other physical substances: doctors, family fathers, heads of a household, landowners, or lovers (2005, p. 57-58). He argues that the care of the self is fundamentally incompatible with certain other duties in the Platonic conception.

This becomes problematic if such actors succeed in penetrating the political arena. When this happened, it brought about the 'crisis of democratic institutions' in ancient Greece (2004, p. 65). This is an instance where the care of the self is related to *parrhesia*. Foucault refers to a negative understanding of this concept, in which it would imply that anyone can say anything to anyone. This is referred to as the 'dumb right to speak' (2004, p. 49), a problem that is not a result of *parrhesia* as such, but to a problem with overtly free, and diverting lifestyles (2004, p. 70). Foucault's sums the argument up by saying:

> 'Democracy [..] will have to necessarily allow all forms of *parrhesia*, also the worst ones, equally. If *parrhesia* is also given to the worst citizens, the overwhelming influence of bad, immoral and dumb speakers may descend the population into tyranny [..] For us, this is a well known problem' (2004, p. 65).

This conclusion speaks to the present-day reader of his work. Foucault does remind us that this analysis is mainly based on the writings of (ultra-)conservative aristocrats, but does not expand further on the implications for the interpretation of the problem. He proceeds to discuss a 'moderate' text by

Isocrates, in which it is concluded that 'real *parrhesia*, *parrhesia* in the positive, critical sense does not exist in democracy' (2004, p. 69).

Another perceived danger of the poor use of *parrhesia* is populism, of which Foucault shows examples around Plato's time. In Euripides' account of the trial against Orestes, for instance, there is a reference to a speaker who is a 'bluffer'. This is someone who 'has a tongue, but not a door' (Foucault, 2004, p. 53), who mainly speaks to please the crowd. Another speaker, Talthybios, is not so much a populist, but is problematic as a parrhesiast because the opinion he voices is dependent on others. He speaks with 'two tongues'.

Having acknowledged the likelihood of unethical actors in a system, an important question in Plato's era was how we can tell the difference between those who base their action on an *ēthos* and those who don't. Foucault uses Plato's *Laches* or *Peri andreias* to illustrate this dilemma. The basic way, to recognise someone who truly practices *parrhesia* was to consider the 'ontological harmony of *logos* and *bios*', or the 'harmony of words and deeds' (Foucault, 2004, p. 83). It concerns an attitude, a way of life. However, there is little discussion of concrete techniques that may be used.

The Hellenistic model

Already throughout Plato's work, Foucault recognises certain changes with respect to the conception of the care of the self, compared to the original formulation in *Alcibiades*. This development continued for a number of centuries to culminate in what Foucault enthusiastically calls a 'genuine golden age in the history of care of the self' (2005, p. 81), the first and second centuries AD. This leads to a different model of the care of the self.

The first distinction with the Platonic model is that it breaks the links between the care of the self and the political. Particularly the break of the Platonic links of purpose and of reciprocity that I referred to earlier is important here. I start with the link of purpose. Rather than being a requirement for governing others, or taking care of others, in the 'golden age' '[t]he self is the definitive and sole aim of the care of the self' (177). I will restrict myself to one of Foucault's examples that serves as a counterexample to Plato's image of Alcibiades: the emperor Marcus Aurelius. Almost sarcastically, Foucault says to the audience of his lecture:

> 'Well, you will tell me, there is at least one case in society in which the care of others must, or should, prevail over care of the self, because there is at least one individual whose entire being must be turned towards others, and that is obviously the Prince' (2005, p. 198-199).

He then proceeds to argue why even this is not the case in the golden age. '[F]or Marcus Aurelius the primary objective, the very end of his existence, the target to which he must always strive, is not to be emperor, but to be himself' (2005, p. 201). Here, we can hear echoes of what Gros refers to as Foucault's 'governmentality of ethical distance' (Gros, 2005, p. 539), the notion that a governor takes a distant stance with respect to the object of his governance. With respect to the link of reciprocity, Foucault discusses the changing understanding of salvation. Whereas salvation for a governor in Plato's model implied that he saved himself by saving the city state, in the Hellenistic model '[t]he care of others is like a supplementary reward for the operation and activity of the salvation you exercise with perseverance on yourself' (Foucault, 2005, p. 192). It is added that 'all is lost if you begin with the care of others' (2005, p. 198).

The second distinction that is relevant here is the broadening of the care of the self to a universal principle. The focus on youth that ambitioned a leadership position was abandoned in favour of an understanding of the care of the self as a 'general and unconditional principle, a requirement addressed to everyone, all the time, and without any condition of status' (2005, p. 83).

What about the problems that arose in Plato's days because only a minority developed a care of the self and an *ēthos*? The extension of the concept to one with universal appeal seems to provide an answer. For instance, the category of actors that take care of physical or material aspects, rather than for the soul, is also addressed in the Hellenistic model. Foucault claims, referring to Marcus Aurelius' letters, that the physical and material domains 'are reintegrated, but as a reflecting surface, as the occasion, so to speak, for the self to test itself, and develop the practice of itself which is its rule of life and its objective' (2005, p. 162).

With the broadening of the care of the self to a concept for the whole population, some of the elitist tendencies in terms of background and class were in principle transcended. Foucault argues that '[t]here is no *a priori* exclusion of an individual on the grounds of birth or status'. However, as I argued in the introduction 'although access to the practice of the self is open to

everyone in principle, it is certainly generally the case that very few are actually capable of taking care of the self' (2005, p. 118). He attributes this to personal characteristics, such as a lack of courage, strength or endurance, but also to a lack of time to spend on caring for oneself. Foucault also recalls cases in which those that could practice such care required others to work for them to allow them to work on themselves (Foucault, 2005, p. 31). Interestingly, however, he does not seem to acknowledge that this is likely to be related to one's background. Even if we do not consider the implicit reproduction of existing elites, it seems that a new distinction will arise between those that could and those that could not be persuaded. Practically, it seems that this setup may still lead to the development of a 'moral elite' (2005, p. 75), as in the Platonic model, while leaving the unethical masses behind.

How does this relate to the Platonic problems of the 'dumb right to speak'? For this, we must acknowledge the replacement of democracy by monarchy. Indeed, there are no instances of unwanted public speech in Foucault's description of the golden age. However, this seems mostly due to the fact that governors were even less approachable than in the Athenian democracy. This issue also turns up in the discussion of *parrhesia.* In the monarchist era, '*parrhesia* now becomes the central point of the relation between the sovereign and his councillors or court officials' (Foucault, 2004, p. 18). Even though the concept might appeal to the entire population, this does not mean that everyone can make effective use of it, just as in the Platonic model (2004, p. 14). Despite referring to examples such Diogenes requesting Alexander to stop blocking the sun (2004, p. 99-100), it is telling that Foucault also explicitly refers to the 'silent majority: the people in general, who are not present at the exchange between the king and his councillors, but to whom the councillors refer and on behalf of whom they speak when advising the king' (2004, p. 19).

Even though Foucault does not make explicit reference to it, it seems reasonable to also question the dangers of populism and speaking with 'two tongues'. Particularly now that he evokes a situation of *representation*, in which councillors speak on behalf of the silent majority it seems at least pertinent to question the likelihood of populist, or biased councillors, or experts. It is curious that this not turn up in Foucault's account.

Reciprocity, and the problem of normative foundations

A final issue that I want to problematise here is the normative foundation of Foucault's ethics, taking the pivotal example of the care of others. This brings

us back to the topic of reciprocity, which has turned up in a number of chapters so far. Even though the care of others was considered important in the golden age, it is argued that 'all is lost if you begin with the care of others' (2005, p. 198). It is not entirely clear if this is a statement to which Foucault refers, or that it reflections his own opinion. In spite of this ambiguity, claims like these have caused critics to regard Foucauldian ethics as giving rise to egoism or withdrawal (Vintges, 2004). Foucault immediately proceeds to stress, however, that '[t]he benefit for others, the salvation of others, or that way of being concerned about others that will make their salvation possible or help them in their own salvation, comes as a supplementary benefit' (2005, p. 194). This suggests that there is a normative basis for taking care of others in the Hellenistic model, which we have to take into consideration.

The example that is most explicitly analysed from the point of view of reciprocity is the Epicurean conception of friendship. This implies that we do not have friends for the sake of their practical usefulness in our social networks, or in times of hardships, but that usefulness is likely to appear as a 'bonus' nonetheless. The idea is not to take care of friends because of an expectation to get something in return.

A more interesting example, from the point of view of governmentality, is the case of Marcus Aurelius. Foucault concludes: 'It is in caring for himself that he will inevitably care [for others]' (2005, p. 202). Why is this inevitable? This seems to relate to Marcus Aurelius' explanation that a task should always be measured against something that you always remember:

> 'What do you always remember? That you must be a good emperor? No. That you must save humanity? No. That you must dedicate yourself to the public good? No. You should always remember that you must be an honest man and you should remember what nature demands. Moral candor, which in the case of the emperor is not defined by his specific task and privileges but by nature, by a human nature shared with no matter who, must form the very foundation of his conduct as emperor and, consequently, must define how he must care for others.' (2005, p. 201).

All of a sudden, an ontological basis for this ethical claim is introduced: human nature. This issue and the care of others is further developed, albeit somewhat ambiguously, in Foucault's analysis of the Stoic conception of man as a communal being in the *Discourses* of Epictetus. He aims to show that, for Epictetus, human nature is more than the divine creation of humans as ra-

tional animals. In spite of that he continues his discussion of the argument by saying that, unlike (other) animals, '[m]en [..] have not been endowed with the advantages that exempt them from taking care of themselves' (2005, p. 196). In other words, human nature implies that we necessarily take care of ourselves, a notion that seems to contradict Foucault's analysis of both the Platonic and the Hellenistic model. After going through a series of self techniques that I will not quote here, the conclusion is: 'Consequently, the person who takes care of himself properly [..] knows what he should and should not do, he will at the same time know how to fulfil his duties as part of the human community' (2005, p. 197). We might understand this argument as implying that, even though human nature requires that we take care of ourselves, it does not determine how we ought to do this. Also his discussion of Epictetus' example of the mistake of a father who leaves his ill daughter to the care of others out of his love for her is ambiguous. On the one hand, he claims that, had the father taken care of himself, he would have realised it is wrong to leave his daughter behind. No immanent rational nature is required for this. On the other hand, however, Epictetus does argue that the father would have realised that 'love of the family is natural' (2005, p. 197), thereby again referring to a determined nature.

This is certainly an interesting turn, considering the idea of a postmodern 'ethics without truth' (Vintges, 2004). However, just as it is unclear whether the statement that 'all is lost if you begin with the care of others' reflects Foucault's own point of view, it is also unclear how Foucault regards the notion of an underlying ontological motivation. On the one hand, some specifically argue that 'Foucault is well known for his reluctance to rely upon any such universalist concept of human nature or human essence' (Patton, 2005, p. 269). On the other, we have to keep Habermas' (1994) criticism of Foucault as a 'cryptonormativist' into consideration. Habermas has the opinion that Foucault simply doesn't voice his normative principle. To some extent, I agree with this point of view. From his discussion of the care of others, it certainly seems that he is committed to such values. However, it is unclear how Foucault regarded the Hellenistic notion of human nature. If he does not take this element over, it seems that he adopts an ethical system, while leaving its 'basis' behind. Without such a base, Foucault's system is considerably more relativist than authors like Vintges (2004) suggest. From such a point of view, the care of the self simply becomes a 'stimulator'. It cannot give any fundamental guarantees of ethical conduct.

Institutionalising the care of the self

The question that remains after the previous section is what is it that makes us take care of ourselves. And if we do, how does it influence our conduct? Foucault is clearly occupied with these questions as well. In his studies he pays particular attention to ways in which society was geared toward the learning and facilitation of the practices that constitute the care of the self. He even talks about the 'institutionalised dimensions of the care of the self' (2005, p. 116). Nevertheless, he never stresses the question of organisation as a central element of this ethical tradition. I first provide an overview of both elements – organising and practicing – in the tradition. Afterwards, I comment on the implications that this may have for the field of health. In this discussion, I pay particular attention between the interplay of technologies of government and technologies of the self.

The tradition

There are a number of ways in which Greeks and Romans organised for ethical conduct. Foucault pays attention to questions of education and tutoring and to the role that particular groups and networks of friends may play.

Both the Platonic and the Hellenistic model include a conception of education and tutoring, albeit in quite different ways. The main distinction is that the former is considered as an alternative pedagogical activity, while the latter involves spiritual guidance throughout the course of one's whole life. Again, Foucault seems to favour the second option. There is a difference, however, between the Greek and the Roman model of organising this. While the Greeks created philosophical schools like the Pythagorean or the Epicurean (2005, p. 136), the Romans typically applied a model of commercial private counselling. Foucault presents the latter as 'almost the reverse of the school' (2005, p. 142). In any case, there is the notion that taking proper care of oneself needs to be learned and practiced laboriously.

Closely related to this is the notion that the care for the self is typically organised in the framework of egalitarian groups. Foucault names 'institutionalized religious groups organized around definite cults' (2005, p. 114) and philosophical communities like the Therapeutae (2005, p. 116). In this respect, Foucault's interest in the practice of Zen is noteworthy (Foucault, 1978b). Foucault also gives clear examples of 'wrong' ways in which the care of the self has sometimes been organised. He points at Marxism and psycho-

therapy, to show how membership – be it of a group, a school, a party or a class – can require subjects to transform their selves to 'access the truth' of the larger whole of which they are part in an unfavourable manner (Foucault, 2005, p. 29). In contrary, also pre-existing networks of friendship may be considered as a way of organising care of the self. I will not develop this issue further, as I have discussed it at some length before.

Moving over from institutionalisation to the question of practice, Foucault discusses a number of approaches. I focus on what is called *Askēsis.* The importance of ascetic practices lies in the complex notion of having 'access to the truth'. This requires a bit of elaboration. Foucault argues that, in modern times, it is assumed that we can recognise that something is true merely by the act of knowing. The only thing we need to do is to meet the conditions that modern philosophy devised for what it is to really know something (2005, p. 18). Foucault refers to requirements such as 'one must not be mad'. On top of that, there are cultural conditions. We must have enjoyed a certain level of education and operate within a particular scientific consensus. Finally, a number of moral conditions apply. We must make an effort, must not deceive anyone and must not have a personal interest in the outcomes of the study. Such conditions are either intrinsic to knowledge or extrinsic to the subject. What is missing, in comparison to ancient times, is the requirement to transform ourselves, our being as subjects, in such a way that we will be able to know properly. Knowledge is not the general objective of taking care of the self. Referring to the often-used metaphor of the athlete, the purpose of transforming ourselves is 'to be stronger than anything that may happen in our life. This is the athletic training of the sage' (Foucault, 2005, p. 321-322). This is related to Foucault's view on philosophy and spirituality:

> 'We will call 'philosophy' the form of thought that asks what it is that enables the subject to have access to the truth and which attempts to determine the conditions and limits of the subject's access to the truth. If we call this 'philosophy', then I think we could call 'spirituality' the search, practice, and experience through which the subject carries out the necessary transformations on himself in order to have access to the truth. We will call 'spirituality' then the set of these researches, practices, and experiences, which may be purifications, ascetic exercises, renunciations, conversions of looking, modifications of existence, etc.' (2005, p. 15).

I mainly focus on Foucault's descriptions of ascetic exercises, such as 'listening, reading, writing, and the activity of speaking' (Foucault, 2005, p. 333). I have noted before that taking a somewhat distant stance is of great importance. Listening requires a good deal of skill and practice in order to avoid listening unproductively, or even counterproductively. The same applies to reading. There are strong ideas about not reading everything that comes your way, but to make a deliberate selection. However, even well-selected speakers or writers can use certain techniques that can divert the recipient into undesirable territory. Ascetic practice is required to guard oneself against such influences. A practice that is not immediately taken up in Foucault's list of listening, reading, writing and speaking is the notion of contemplation. At numerous points in his lectures, Foucault's raises the audience's attention to the exercise of reflecting on the achievements of the day when lying in bed. The same thing can be achieved in writing, or in speaking to a friend or counsellor. The objective here is to critically assess to what extent you are in reach of the goals that you set out.

Institutionalising the care of the self around health

A question to start with is whether it makes sense at all to consider care of the self in relation to physical health. As a reminder: doctors were only considered capable of taking care of their selves from the Hellenistic period onwards. However, the earlier-mentioned Therapeutae restrict themselves to the work on the soul. This is in line with the older Platonic model. At the same time, dietics – the care of the body – would become 'one of the crucial forms of the care of the self' (2005, p. 59). The point here is that the care of the body is an application domain, an occasion to test oneself, a way of reflection. Since the late 1990s, Foucault's work in this area is frequently cited by authors in the field of health and care (Coveney, 1998; Frank, 1998; Crossley, 1999; Kerr, 2001; Parr, 2002; Hughes et al., 2005; Heyes, 2006; Armstrong, 2007; Frohmann, 2007).

Most authors that take the angle of technologies of government to examine healthcare note a highly complex ambiguity. The question that returns in virtually every article is whether such work on the self ought to be regarded as self-development or as 'government at a distance' by means of internalised self-control. There is never a straightforward answer, but some are more pessimistic than others. Crossley, for instance, describes it as 'one of the ways in which power operates by convincing people to seek certain parts of them-

selves and institute practices [..] to effect a transformation of self' (1999, p. 1686). Such a view seems to stem from a reading of Foucault's middle work. There is a range of examples in the field of healthcare in which self-techniques are considered as subjection, rather than as subjectivation. We may think of self-control and self-discipline by means of: community-based health promotion (Coveney, 1998), telling stories about one's health (Crossley, 1999; Frank, 1998), charts that patients can use to get a grip on mood disorders (Kerr, 2001), the practice of weight loss (Heyes, 2006), standardised cervical cancer screening (Armstrong, 2007) and the worker-citizen model that is often associated with self-care by means of direct payments (Hughes et al., 2005).

At the same time, a number of these practices are also considered as approaches to genuine self-development, or even resistance of dominant discourse. Cressida Heyes has written a brave paper on this topic that challenges a number of the axioms of the feminist community with which she associates. In fact, the paper may be regarded as an act of *parrhēsia.* In her discussion of Weight Watchers she discusses the 'paradox that Foucault highlighted so well: that normalizing disciplinary practices are also enabling of new skills and capacities' (2006, p. 128). She proceeds by saying that:

> '[o]n the one hand, deliberately loosing weight by controlling diet involves the self-construction of a docile body through attention to the minutest detail. On the other hand, becoming aware of exactly how and what one eats and drinks, realizing that changing old patterns can have embodied effects, or setting a goal and moving toward it, are all enabling acts of self-transformation'.

A finding that many authors have pointed out is the notion of self-development in recognition of the potentially repressive effects of their practices. Heyes explains this as follows:

> 'the real women I met were often aware that they could learn from Weight Watchers without becoming the projected unified subject of its regime. Central to this awareness is the possibility of uncoupling new capacities from docility, and of recruiting those capacities to the care of the self' (2006, p. 146).

Something similar applies to the notion of medical narratives. While telling stories about one's health may be a way of 'turning the medical gaze on one-

self', it may also be considered as a 'reaction of the individual's experience, often constructed in opposition to the largely objectifying and deindividualising `voice' of medical technology' (Crossley, 1999). Stories can be a way of articulating the uniqueness of one's particular situation. However, also stories that particularly address the non-specificity of someone's case may in fact be liberating. Crossley uses the example of someone with H4 who gains strength by continually stressing his own 'normality' to illustrate this. Armstrong sticks to the notion of uniqueness in her study of how women relate to the normalising practice of cervical cancer screening. Her objective is to

> 'explore some of the ways in which individual women interpret, negotiate and make sense of screening through a consideration of their own personal circumstances, experiences and/or characteristics. Through doing so, [she] inend[s] to argue that women engage in the production of alternative conceptualizations of, and discourses on, cervical screening that differ from those contained within the official discourse' (2007, p. 76)

It is questionable whether Armstrong's account serves as a good example of what Foucault intended with the care of the self. In addition to that, I wonder whether the production of personal conceptualisation about this medical procedure is indeed a 'practice of resistance', as Armstrong claims. However, it is interesting to note that the same account of reflexivity with respect to dominant discourse turns up here as well. A last example that I will raise here relates closely to the topic of chapter five: the notion of employing a personal assistant (PA) by means of a personal budget. On the one hand, Hughes and others argue that,

> '[a]s 'master' of 'his' own destiny and PA at 'his' command, the disabled person is able to acquire control over many of the mundane but vitally important aspects of everyday existence which, hitherto, were delivered, if at all, to a timetable that suited the 'carer'' (2005, p. 263).

On the other hand, similarly to what I have argued before, they note that '[t]he idea of all disabled persons as fully fledged 'worker citizens' is still an enormous challenge' (2005, p. 263).

There are a number of things that I want to stress in reference to the way the tradition of the care of the self imagined the institutionalisation of these

practices. First of all, Heyes' article clearly stresses the role that dedicated organisations can play. From the discussion above, it may be clear that there is a certain ambiguity about this role. However, is this really that different from Foucault's examples of organising self care practices in the framework of a religious cult? Obviously, it is easy to imagine organisations or groups in which there is significantly less domination than in the case of the Weight Watchers. Particularly because of that, it is interesting to note that even in groups that are hardly ideal, it is still possible to do critical self-development to some extent.

This is related to the second point: the question of educating or counselling. It is clear that none of the examples I have provided here fit well with the way this was presented in Greek or Roman times. Nevertheless, there is certainly a counselling aspect in these different health-related cases. The case of Weight Watchers does not require much further explanation. Turning to another example: even though community-based health promotion (Coveney, 1998) may be regarded as a disciplinary technique, we might also attempt to imagine ways in which this could be turned into a positive practice. It should be clear that this case has a distinctive educative aspect, even if it is not purely education in the sense of learning how to care of the self. Obviously, these types of communities can not immediately be compared to a community of Weight Watchers. This is mainly because the reasons for joining such communities are very different. Still, we can imagine that counselling in the sense of health promotion may also contribute to positive self-reflection to some extent. The role of counselling in relation to medical narratives is perhaps even clearer. By giving an ear to people's health-stories, a process of reflection may be stimulated. Particularly in the case of HIV/AIDS, which Crossley (1999) discusses, this seems to have materialised to some degree in the buddy system. Finally, I wonder to what extent we may regard the notion of a personal assistant in the role of counsellor. Clearly, there are a number of objections to be made here. The label of 'assistant' does not associate well with the label of 'counsellor'. The tasks of such an assistant are also typically related to the practice of providing physical care. On the other hand, we could imagine that an informal relation might develop that has aspects of reflecting on the person's being. Even the role of 'personal budget consultant', which I outlined in chapter five, could be thought along these lines. This is currently 'trapped' in a neoliberal setup, which approximates what Hughes and others called the 'citizen worker' model. Nevertheless, we could imagine a broader role of 'health counsellor' that would be a step in the direction of the topic of the present discussion.

The final point I articulate here is the particular ascetic practices that are associated with the care of the self in a health-related setting. Clearly, the notion of medical narratives could be imagined along the lines of the practice of careful *speaking*. Crossley argues that ''narrateve ethic' incorporates a conception of morality which requires a 'commitment to shaping oneself as a human being'' (1999, p. 1687). As the examples above indicate, this does not imply that any form of speech about the self is beneficial. Another common practice that is mentioned is the meticulous process of monitoring self-development, often captured in *writing* or some form of 'code'. Mood charts (Kerr, 2001) and food journals (Heyes, 2006) are good examples that illustrative the complexity of the way self-reflection and attempts of normalisation and surveillance are interrelated. The same ambiguity turns up in the practice of *reading.* Particularly the role of informational leaflets are articulated (Heyes, 2006; Armstrong, 2007), a notion that is strikingly similar to my discussion of the 2008 brochure about the Dutch electronic health record. Even though such leaflets may stimulate self-reflection, they often stem from a broader governmentality discourse.

Mediating the care of the self by technology

The last paragraph of the previous section provides a good link to the theme that Peter-Paul Verbeek (2008) highlighted: the role that technology might play in Foucault's ethics. It may be clear that the way 'mood charts' and 'food journals' are set up is not neutral. It is not the same if someone writes a few lines a day about his/her mood or diet experiences in a personal diary or if (s)he did that on a printed table composed of categories, fields and codes. It would be different again if this were done with dedicated software that uploads the data to another computer where it is monitored. Diaries, printed tables and software all have their own scripts, in the sense in which Latour (1992) uses the term. What I want to suggest is that it is helpful to regard technology as an actant in the care of the self, as a mediator. Artefacts not only mediate the formation of groups, but also notions of counselling and particular ascetic practices. In this last section, I take up the role of information technology in the discussion around care of the self and health.

A good part of this study has focused on the governmentality that is mediated through a nation-wide infrastructure that constitutes an electronic health record. A direction that diverts from such 'public health records' is what has been called 'personal health systems'. Considering the difference in

terms, one may be inclined to think that this is more in line with a focus on self-reflection and self-development. However, authors who study such systems often come to an analysis that is in keeping with Foucault's governmentality work. Particularly products of such companies like Google and Microsoft receive a good deal of negative attention. Wright and others, for instance, argue that

> 'the growing digitalisation of everyday life furthers the creation of comprehensive profiles across all aspects of one's daily routines [..] Health records are being not only increasingly digitised, but also often outsourced to commercial third party providers (e.g., Google Health or Microsoft's HealthVault) and thus stored 'in the cloud'' (2010, p. 346).

Rich and Miah (2009) hint at the type of ambiguity that I highlighted above with respect to the interplay between technologies of the self and technologies of government:

> 'By linking with clinics, this opportunity should [..] be situated in concerns about the monopoly of Google over online searching. Its attempt to provide online tools that rival Microsoft's Office, along with a whole host of technologies that do not make explicit the possibility to opt out of – such as automatically tracking and storing web browsing history – provides a double edge to this opportunity to empower ourselves through the technology' (2009, p. 170).

The possibility of empowerment is acknowledged, but in return for possibilities of extended surveillance. This recalls the discussion of reciprocity of chapter two.

An element of electronic health records that has not been picked up by research with a Foucauldian angle is the notion of record keeping as an ascetic practice. Particularly personal health systems tend to contain a feature that allows people to keep a diary of developments in their health. Providing an empirical analysis of such a feature falls outside the scope of this chapter. However, it can easily be imagined that it would bring forward a similar ambiguity as I have discussed before. A micro-analysis would be good to illustrate the complexities of such issues.

Considering that I cannot expand further, I provide some comments on research that does connect the themes of health and information technology to the care of the self. An interesting example of this is an article by Hester Parr (2002) that discusses chat rooms for people with multiple sclerosis (MS). Even though she mainly focuses on ways in which the members of such forums are politicised, she also sees room for self-development and resistance. On the one hand, she notes how the 'medicalised nature of the health knowledges on the Internet may be leading (at worst) to a mass hypochondria' (2002, p. 86). On the other hand, she points out how seeking medical knowledge online can in some ways 'be argued to be a form of resistance to medicalisation and medical power where subjective, embodied experiences rather than conventional medical knowledges are privileged' (2002, p. 88).

Parr's study highlights elements that are similar to the before-mentioned institutionalisation of care of the self practices in the health domain. She discusses the issue of organising practices in the framework of a particular group, as well as the notions of counselling and ascetic practices. To start with the former, she indicates how '[t]he question 'community' is powerfully present here as users talk of emotional attachments to the chat rooms which they access daily' (2002, p. 91). The main purpose of joining this community is to gain 'nonmedical but still in effect 'expert' advice' (2002, p. 89). The role of others, then, may indeed be described as counselling. In relation to Foucault's discussion, the chat room is easier to link to the Greek way of educating people to take care of themselves than to the Roman notion of private guides. On the other hand, the relations on such chat rooms are probably more distant than in collocated communities like the Therapeutae. In addition, Parr remarks that '[i]n some chat rooms there even seems to be input from medical workers' (2002, p. 90). In such cases, the issue of trust become very important. With respect to ascesis, finally, it is clear that writing/speaking and reading/listening are both practiced. In this respect, Parr argues that '[t]he way in which health and medical knowledge are 'consumed' through collective debate in such sites may be notably different from the lonely absorption of health and medical information through individual virtual travel' (2002, p. 87).

What is the role that technology plays in this respect? Does it make a difference that care of the self is practiced online, rather than with paper tools at home? Parr provides a number of interesting comments in this area. Most importantly, she shows how the use of the internet for forming health communities defies traditional medical geographies. This is particularly interesting considering the weight that Foucault gave to the role of geography in

developing the 'medical gaze' (Foucault, 2003). Parr speaks of an 'emancipatory disruption of traditional canons and geographies of medical power' (2002, p. 86). The notion that the internet may be regarded as an actant that pushes the quest for 'new localities' is considered an interesting prospect by philosophers of technology like Andrew Feenberg (1999). Another effect that relates to space is more closely connected to the position of the individual patient. By using chat rooms, '[t]he social isolation which many of those with MS feel in 'real space' is compensated for in virtual space' (Parr, 2002, p. 88). Obviously, it would also be possible to arrange physical meetings for people with MS. However, the particular medium of the internet has fewer constraints in terms of time and space. The fact that Parr stresses that compensation takes places in 'another space' articulates the mediating character of the technology that is applied.

Frohmann (2007) provides a similarly critical discussion of the relation between information technologies and working on the self, without focusing specifically on health. He poses interesting questions regarding the ascetic practice of using information technology as a 'digital writing machine'. He argues against an instrumental view of technology by posing that computers in a network do more than communicate and record. They process data as well. He states that '[w]e do not so much use digital writing machines to record and disseminate >>information<< as we feed machines that write us in scripts far removed from our knowledge and control'. This dark image is inspired by Deleuze's concept of the control society. Despite its exaggeration, this relates to a remark that I quoted earlier about such systems as Google Health and Microsoft Health Vault. Data is often re-used for other purposes, potentially outside the frame of influence of the person who entered it. The fast-written narratives that one composes in chat rooms are a different type of mediator than a fully coded medical record. Re-use of such data for purposes of generating generic images of the population of such a community would require software that is currently still in development. Nevertheless, it is good to note that Parr was able to research all that was said 'undercover', without the consent of other users. She acknowledges the ethical issues that this entails. The mediation of the internet adds additional openness to the way in which certain ascetic practices are performed. There is certainly a difference between speaking and listening with a particular counsellor who is sitting at the other side of the table and reading and writing in the openness of a chat room.

Discussion and conclusions

At some level, the subject that Foucault identified in the 'golden age' is comparable to the neoliberal views that I outlined in chapter two, although there are strong differences as well. The similarity is that, in both approaches, there is a certain reliance on what is 'natural'. In neoliberalism, it is considered natural that the good for others will be the spontaneous outcome of the conduct of self-interested individuals. In the Hellenistic model, the good for others depends on the natural tendency of those who take care of themselves, to care of others as well. It seems reasonable to argue that there is a certain danger to both these assumptions, considering that it relies on macro-level models of human interaction that are hard to prove or falsify. The major difference, obviously, is that the Hellenistic approach does include values such as reciprocity and taking care of others. In the neoliberal conception, such values are regarded as implicit and indirect, based on the assumption of a particular macro-model of self-interested human interaction. Neoliberal individualism, according to some commentators, has destroyed social bonds and cohesion (Lazzarato, 2009).

The background of self-constitution

From all the examples that I discussed in this chapter, it may be clear that it would be a mistake to examine self-constitution as an isolated phenomenon. These types of practices always stand in relation to a 'set of other practices'. In more general terms, we could argue that we should always examine the institutional context, or networks, within which people attempt to shape themselves. Given the previous discussions, it may be clear that this 'context' be explicated in terms of basic descriptions of the practices that it entails. I agree with Latour that it is not desirable to use words like 'context' or 'background' in order to avoid having to explain what this actually entails. Still, once we have made a description – as I have tried to do before – such terms are well-suited. On the basis of the preceding chapters, I could distinguish two of such 'backgrounds'.

First, what we are faced with is a situation in which governments *attempt* to constitute their citizens as neoliberal subjects, while these citizens *may* attempt to constitute themselves according to their own insights. This implies that people need to find space to reflect on the manner in which they are constituted by the standards of 'neoliberal freedom'. As I said in the in-

troduction to this chapter, this relation is crucial in the understanding of postpanopticism. People need to consider whether their relations are reciprocal indeed. They need to consider whether critical consumption is in line with the way they regard their own role in society, and in relation to others. Constituting oneself in relation to a personal assistant (Hughes et al., 2005) is a good example. It shows that reflection is aimed at the tension between the freedom that such an assistant provides and the worker-employer model that government imposes. To return to Verbeek's claim: '[f]reedom [..] is not the absence of factors that steer and shape the subject, but the very relation to these factors' (2008, p. 22).

As we have seen, however, the constitution of neoliberal subjects is not very effective. Therefore, as a second, self-constitution should rather be regarded in relation to what I have called the 'neoliberalised subject'. People *may* attempt to shape themselves within the space of a governmentality that places unfeasible expectations on their conduct. Interestingly, in the examples that I found in international literature, I did not find clear indications of this type of self-constitution. This may be for different reasons. It could imply that it simply doesn't exist. Alternatively, it could be that research is still insufficiently geared towards understanding this type of relation.

On the basis of this chapter, however, we can add a third way of considering the background against which self-constitution is set. It would be tempting to assume that this chapter has offered an entirely different perspective. I could argue that taking self-constitution as a starting-point brings forward a set of surprising issues that are not easily linked to my discussion of neoliberalism and its effects. Certainly, the examples of medical chat rooms, and weight watchers were not on my mind when studying electronic health record policy. However, such cases were clearly triggered by my decision to examine cases in the domain of healthcare and dietics. To some extent, these overlapped with considerations of neoliberalism. Nevertheless, they also portrayed a relation between self-constitution and the logic of health and care. Similarly, had I focused on governmentality in relation to consumption or education, the logic of these sectors would have provided a relevant background. An analysis that is limited to studying 'top-down' governmentality will imply that parts of the story will be left out. A focus on self-constitution can help to bring them 'back in'.

What is important in this respect, is that the examples that I raised both concern cases in which self-shaping is induced by practices *from* the healthcare domain and by practice to *escape* the healthcare domain. Ideas such as community-based health promotion (Coveney, 1998) and charts that patients

can use to get a grip on mood disorders (Kerr, 2001) may be regarded as attempts that stem from the healthcare sector, which aim to facilitate self-reflection by the self and for the self. Medical chat rooms (Parr, 2002), by contrast, are position vis-à-vis the sector. Nevertheless, websites that offer such chat rooms are probably better understood if they are regarded in connection to the background against which they are set.

A fourth, and final, way of thinking about the background to which self-constitution is set, is by taking the mediating relation of technology into consideration. Just like it turned out that that the choice for a particular standard for the electronic health record 'matters' when it comes to installing postpanoptical governmentality, the availability of technologies for self-constitution matters as well. Technologies like chat rooms, blogs and other Web 2.0 platforms are more suitable for mediating ascetic self-practices. Still, the fact that such technologies operate in digital networks makes the information that is processed on them susceptible for alternative use. When I argue to regard the technological background, I suggest a similar analysis as I have performed in my study of the electronic health record. In order to grasp technology-mediated self-constitution, we have to improve our understanding of the concrete processes and artefacts that are applied here.

A universal ethical theory?

Is Foucault's constitution of an ethical subject 'strong' enough to form a basis for a universal ethics without truth, as Vintges (2004) suggests? I have indicated how Foucault already noted that only a minority is likely to live according to the practices that he unfolds. This is undeniably a limitation. On the other hand, it is reasonable to ask whether ethical conduct ought to be considered as such a black and white issue. Does it make sense to argue that people are either ethical or that they aren't? Shouldn't the notion of a lived ethics be regarded as a sliding scale? As a situation in which people struggle and sometimes do something for better or for worse? Particularly if we take into consideration that Foucault considers all of our actions to take place in the interplay of what we try to do ourselves and what others are trying to make us do, the idea of a sliding scale seems to make a lot of sense.

The notion of universal appeal is important in this respect. In this chapter, I have focused on health as an issue to apply to care of the self to. On the one hand, it seems clear that the examples I raised involve minorities, usually constituted by a particular condition of the body: MS, obesity, HIV/AIDS, etc.

Out of all the people with such a condition, it is again a minority that joins a community that actively engages with practices that could contribute to the care of the self. We are dealing with minorities of minorities. The question is what happens if we add all these little groups up.

I could add to that that health is only one application that could be associated with the care of the self. Foucault has already given examples that relate to sexuality. Others have commented on how it may be related to the development of citizenship (White & Hunt, 2000), education (Peters, 2003; Drummond, 2003; Ball, 2003), consumption (Du Gay & Salaman, 1992) and music (DeNora, 1999), to name a few. It seems likely that all of us are to some extent part of such a community, or have such practices that involve self-constitution. For some this is probably minimal, others do it more. The appeal may be universal, but in a very fragmented way. Such an explanation fits quite well with Foucault's idea that the subject does not have a 'deep self', but that it is highly discursive and contingent.

Obviously, this makes it difficult to study the care of the self. 'Where to look?' becomes a difficult question, as it is likely that such communities, counsellors and ascetic practices turn up at most unexpected sites. Obviously, some options are more likely than others. I have already indicated some application themes.

I hope to have made clear that also nonhuman actors ought to be followed when it comes to studying the care of the self. There is still a lot of work to be done to establish the impact of technology on the way we relate to each other, form communities and practice our daily lives. Verbeek (2008) has provided very interesting ideas about ways in which technologies relate to self-constitution, without mediating in institutionalising or practicing *askēsis*. This shows that there are many more ways in which technologies relate to human subjectivity. I can return here to a remark by Latour that I mentioned earlier: technologies could be considered as plug-ins or attachments to our selves. Clearly, there is still a lot of work to be done in this area.

Finally, in spite of all of this, it is questionable if we can rely on self-constitution as the main basis for an ethical theory. Particularly considering the minority issue, it could be argued that a complementary conception of government is required as well. Foucault seems to acknowledge this by saying that, in order to keep a stand in the games of power that he has analysed, one not only needs to develop self practices, but one also needs to 'to give one's self the rules of law, the techniques of management [..] which would allow these games of power to be played with a minimum of domination' (Foucault, 1988, p. 18).

7 Democratisation as self-constitution
Influencing technological development[14]

I use this last chapter to discuss the theme of democratisation, which is relevant for both the legacy of Foucault's work and for the theme of innovation. Let me start with the practical lens. In the field of innovation, there has been renewed interest in citizen participation. I do not intend to develop the question of whether this is a 'bottom-up' or 'top-down' development. Probably it is both. In any case, the current situation is that participatory innovation is high on the agenda of the private and the public sector alike. This shift in attention is often discussed in relation to a wider change in focus: from emphasising the supply-side of innovation to emphasising the demand-side. In reference to the two traditions of thinking about innovation that I presented in chapter one, I now shift to the second tradition. This focuses on innovation as the output of new products, rather than on innovation as input to a production process. As I said before, this also brings me into the domain of 'general' innovation policy, rather than in the domain of innovation in healthcare policy. This general policy has an impact on healthcare nonetheless.

Also governments seem to go through a development to focus more on 'users' than on 'producers' (for an example at the level of the European Union, see: Commission of the European Communities, 2009). This is often shared under the heading of 'democratising innovation'. Against the background of what I discussed in Parts 2 and 3, such developments seem to imply a move away from large infrastructural projects, in which there is no chance for societal participation. People won't 'see' the electronic health record before it is implemented, assuming that it will. Efforts to arrange end-user involvement are positioned as a way out of this approach to innovation. However, on the basis of the previous chapters, it seems justified to question whether such involvement, participation or even democratisation will in fact offer people a chance to escape being constituted as subjects. Does end user involvement imply a chance to develop 'technologies of the self', or is it a way of extending governmentality by managing when and how people are involved? Particularly considering the stress that is placed on demand, parallels with the constitution of a 'neoliberal subject' are evoked. The question for

[14] This chapter draws on earlier work (Dutilleul et al., 2010)

this chapter is to what extent people have the chance to do self-development in innovation projects in which they are asked to *participate.*

Nevertheless, there is certainly an argument for looking at participation and democratisation from the point of view of self-development. The influence that people exert in innovation projects is sometimes related to matters of identity formation (Dinka & Lundberg, 2006). This invites a comparison of the premises of self-constitution and democratisation in theory and in practice.

Turning to the theoretical lens, it becomes apparent that many have made a connection between Foucault's notion of self-constitution and exerting democratic influence (Pickett, 1997; Gabardi, 2001; Parchev, 2008; Walter, 2008; Shinko, 2008). If Foucault's work is brought into this context, it is often under the heading of 'radical' (Parchev, 2008; Walter, 2008) or 'agonistic' (Gabardi, 2001; Shinko, 2008) democracy. The emphasis is on direct forms of influence, which often take the form of resistance. Others, however, have a less political reading of Foucault in which the aesthetic dimension of self-constitution is emphasised over the democratic project. In such a view, the subject constitutes the self purely for the sake of the self, and for nothing more than that. Close readings of his work have been performed to assess which interpretation is 'correct' (e.g. Pickett, 1997). We have to admit that Foucault was often ambiguous. I would not like to attempt to read Foucault's mind posthumously. For me, it seems reasonable to assume a connection between the idea of self-fashioning and the inclination to exert political influence in certain situations. Our political acts might well accord with the way we attempt to shape ourselves. Resistance or other forms of political influence could be a manifestation of self-constitution.

This does not imply, however, that there has to be an essential agonistic relation between the self and government. A good deal depends on the definition of resistance. If we think about examples in popular culture: should we consider only Bob Dylan's agonistic lyrics – think of *Masters of War* (1963) – as an example of resistance, or also the self-fashioning of gays in the subculture that arose around 1970s disco music?[15] If the latter is also an example of resistance, then the perceived opposition between the 'agonistic' and 'aesthetic' reading of Foucault's work is perhaps less of a divide.

Another major question in democracy-oriented discussions of Foucault's work is whether or not he defied liberal democracy and its institutions (see, e.g., Flyvbjerg, 1998). Clearly, there are arguments in favour and against such explanations. Pickett (1997) shows that Foucault often contradicted himself

[15] Thanks to Darryl Cressman for bringing the example to my attention

on this issue. Without claiming to have the correct reading, his later work makes more sense to me if self-constitution and political influence are imagined to be entangled with technologies of government and other power relations. Resistance does not necessarily mean to 'fuck the system', even though resistance is often aimed at system-level. Barry comments that '[i]n investigating opposition and protest it is important neither to romanticise protest nor to view it simply as an expression of a pre-existing antagonism or a manifestation of an underlying historical logic' (2001, p. 6). I believe that such a point of view is in line with Foucault's argument. Flyvbjerg argues that, for Foucault,

> ''the political task' is to criticise the working of institutions which appear to be both neutral and independent; to criticise them in such a manner that the political violence which has always exercised itself obscurely through them will be unmasked, so that one can fight them' (1998, p. 223).

As I said before, Foucault thought that the idea of a power-free sphere was an illusion. Nevertheless, practices of domination ought to be resisted. As Gabardi puts it:

> 'Democracy today comes more to mean the struggles of ordinary people to create a free way of life in a world of complex and productive power networks. In short, democracy is about local and micro level struggles and strategies operating within an inescapably technologized world of disciplinary governance' (2001, p. 564).

In this quotation, however, I would replace 'disciplinary governance' by 'governance by freedom', in keeping with the postpanoptical focus of this study. It explicitly states that democracy 'comes *more* to mean', implying that this way of thinking is not a negation of other forms of democratic process. I agree with Foucault that 'the laws of the state are needed, first and foremost, to ensure the realization of personal wills' (Parchev, 2008, p. 846). The question whether laws are problematic or not 'depends on ''whether the system of constraints in which a society functions leaves Subjects the liberty to transform the system'' (Foucault quoted in Parchev, 2008, p. 843). Gabardi claims that Foucault's contribution to this field is his study of particular strategic practices: 'transgressive negation, self care, performative action, agonistic praxis, parrhesia, and local resistance' (2001, p. 565).

The aim of this last chapter is to explore the interconnectedness of self-constitution and democratic action in relation to the development of technology. Studies of technology and innovation have their own approaches to democracy. In this context, self-constitution needs to be conceptualised somewhat differently here than in the previous chapter. The development of technology is not likely to provide the type of setting in which one would unfold ascetic practices – writing, reading, speaking, listening – that have the sole aim of developing the self. Nevertheless, it could be argued that relating yourself to the design of a technology provides grounds for reflecting on the type of person that you want to be. For example, the much-praised example of domotics – 'smart' houses, or household automation – evokes questions about the subjectivity of elderly people. Do seniors indeed value self-sufficiency, and how does this relate to the loss of their social interactions that often comes with it?

Since the 1960s, there has been an active discussion regarding the need to give people more influence on the technologies with which they interact in their daily lives. This type of democratisation is to be regarded as a form of direct influence on particular issues, rather than as political representation. Many proponents of democratisation have advocated a conflict-model for citizen participation. The emphasis is often put on the question of 'who participates?' (Gomart & Hajer, 2002). The different perspective at democratisation that I discuss in this chapter relate to a particular conception of the participant. What is often ignored by authors in this tradition, however, is how the setting in which this participation occurs has an impact on the democratisation process. Referring to work by Annemarie Mol, Gomart and Hajer 'emphasize the importance of forms of participation that do no just allow access but also fabricate the very capacities of participants', focusing on 'processes through which 'the public' is constructed and transformed' (2002, p. 37). Such a point of view is much in line with the Foucauldian approach that I have outlined in this study. This implies that I scrutinise a number of approaches to democratisation that focus on the question 'who participates?'

Many of the attempts that stem from such efforts are heavily institutionalised. They are more easily described in a framework of governmentality, than in a framework of self-development. This is not necessarily problematic from the Foucauldian framework that I have tried to unfold. It is an illusion that self-development occurs in a state of autonomy anyway. Nevertheless, if the exertion of democratic influence is turned into a technology of government, self-constitution is less likely to develop as a freedom practice. In addition to this, there are also situations in which questions of the 'setting of de-

mocratisation' are rather irrelevant. If relevant groups of people are fundamentally excluded from participation, the focus on 'who participates?' seems to make full sense.

This chapter has a two-fold approach. I discuss both institutionalised and less institutionalised approaches to participation in innovation and technology-development, and analyse them from the points of view of self-constitution and democratic agency. The question is less which participants are imagined, but *how they are constituted*. As an example of the institutionalised form, I choose the contemporary case of 'Living Labs'. Living Labs are local environments in which citizens are involved in innovation. The main premise is to include them in local R&D and product-development projects. After it was launched, the idea was adopted by industrialists, multinational corporations and some academics. It is endorsed by the European commission to foster participatory or user-centred innovation. The Living Lab 'movement' now involves a network of 212 local or regional partners[16]. I discuss three 'functions' of Living Labs, which relate to a particular participant-subject.

I continue the discussion by investigating less institutionalised, and more 'bottom-up' types of participation in innovation. To connect to the discussion of Living Labs, I review the conceptions of participant-subjects that underlie three influential approaches. First, I examine Eric Von Hippel's *lead user*. Even though Von Hippel's work is an important theoretical basis for Living Labs (Følstad, 2008), it is surprising to note that lead users have hardly been involved so far (Schuurman & De Marez, 2009). The logic for discussing them here is to understand the reasons for this discrepancy. I then consider what I call the Scandinavian *emancipating worker*, because it is from this tradition that alternative angles for Living Labs are suggested (Thiesen Winthereik et al., 2009; Molin-Juustila et al., 2008; Budweg et al., 2008; Ståhlbröst, 2006). Finally, I include Andrew Feenberg's *subjugated activist*, because Feenberg claims that democratisation cannot occur without certain types of 'counter-tendencies'.

A few more comments on the approach of my discussion. Living Labs and the approaches to democratisation generally take place at the level of concrete technology projects. Nevertheless, there tend to be ideas of the impact of democratisation beyond the project level. This recalls a discussion that I started in the previous chapter. Just like the appeal of the care for the self might not be 'heard' by everyone, it is clear that these views of democratisation do not necessarily aim at including all humans. By discussing the

[16] For the European Network of Living Labs (ENoLL), see: http://www.openlivinglabs.eu/

democratic ambitions beyond the project-level, I continue the discussion of self-constitution from the minority-majority point of view. I argue that the constitution of a participant subject also tends to imply the constitution of a non-participant.

Three types of Living Lab participants

Living Labs are particularly relevant in the context of this study, considering that healthcare technology is a focal area of the movement (Katzy et al., 2007; e.g. Almirall, 2008; Kanstrup, 2008; Pitse-Boshomane et al., 2008; Mulder et al., 2008). Some regional Living Labs even explicitly focus on electronic health records and on the EN13606 standard (Jara et al., 2009), which I discussed extensively in earlier chapters. Standardisation is earmarked as a potential output of the movement. The outcome of a Living Lab process is regarded as a user-tested 'pre-standard' (Kipp & Schellhammer, 2008).

There are a number of reasons for examining this movement in the context of democratisation. Even though Living Labs are not solely dedicated to this purpose, many authors argue that it does, or at least, it may operate as such. Different reasons are provided. For instance, Living Lab governance structures are considered democratic (Romero et al., 2009), participants perceive a sense of democratic influence (Pallot et al., 2008; Ståhlbröst & Bergvall-Kåreborn, 2008), and, perhaps most directly, democratisation is simply regarded as a main feature of a Living Lab by some (Wolkerstorfer et al., 2009; Lepik et al., 2010; Dlodlo et al., 2008). Also conceptually, there is a connection to democracy: authors generally point at Von Hippel's work on lead user innovation, as articulated in his book *Democratising Innovation* (2005), (Schaffers et al., 2007).

On the other hand, those who particularly stress the democratisation angle often point at the deficit of Living Labs in this respect. Such authors are typically associated with what is often called the Scandinavian tradition of participatory design (Thiesen Winthereik et al., 2009; Molin-Juustila et al., 2008). Interestingly, in 2007, the European Commission also financed a project (TELL ME), which particularly targeted 'Democratising Living Labs Innovation in Europe'[17]. This suggests that they are considered to be insufficiently democratic now. Others do not explicitly refer to democratic deficits, but do

[17] see: http://ec.europa.eu/information_society/activities/eten/library/news_release/doc/tell_me.pdf

note a surprising lack of methods for user involvement (Følstad, 2008). This is curious, considering that it is one of the core features that the movement stresses. This democratic gap, contrasted with the sheer volume and the extent of political support it receives, also give such an analysis of Living Labs significant practical relevance. In this chapter, I provide a closer examination of this democratic deficit.

This deficit is mainly due to the manner in which the participant is constituted in the discourse that was crafted by Living Lab theorists, practitioners and supporters in publications. Building on earlier work (Dutilleul et al., 2010), I discuss three subjectivations of the participant that may be identified in the Living Lab discourse. These roles are connected to three functions that a Living Lab may take. First, Living Labs may function as a governance unit of (cross-) regional innovation systems. Second, they may enable *in vivo* experiments. Finally, they may operate as product development platforms. These functional roles are analytical, rather than empirical categories. In practice, Living Labs may combine several of such functions. These functions are supported by networks and methods that are particularly crafted for this purpose. From a Foucauldian point of view, these Living Lab functions may be regarded as apparatuses that comprise interconnected power relations. I analyse how the participant is constituted within these relations.

Participants as members of innovation system governance

I will be relatively short about citizen-participation in the first function of Living Labs: sustaining a European Living Lab movement and the 212 regional innovations systems of which it consists. The reason for this is that, on the basis of articles and policy documents, citizens have hardly been given any role. It seems that no participation was imagined in this Living Lab function.

At the regional level, Living Labs are often considered as innovation systems, involving a broad variety of stakeholders, including businesses, public sector organisations and researchers (see e.g. Følstad, 2008). Democratisation, if any, would thereby take place at the level of managing regional activities. Even though user involvement is generally labelled as a defining characteristic of Living Labs, only one mention of citizen-participation in the governance of these regional innovation systems could be found (Santoro & Conte, 2009).

At the level of the European network, no involvement or representation of citizens is mentioned whatsoever. Instead, large companies are mentioned as influential players in terms of governance (European Commission, 2009). It is hard to decide whether to consider the international network as a movement with broad societal impact, or simply as a project with a larger scale than the local activities. This different understanding also has an impact on the way we think about democratisation. On the one hand, any participation of citizens in governance mechanisms would be restricted to the confined scope of Living Lab activities. This would plead for the 'project view'. On the other hand, it may be argued that democratising the governance of an international movement with 212 local partners has major potential in terms of general societal impact, which extends way beyond the level of any project. Obviously, this also depends on the influence of the international association, the European Network of Living Labs (ENoLL), over its members. I have not found any studies that comment on this.

Hypothetically, if participation *did* take place in such a setup, how could we regard it from the points of view of self-constitution and exerting democratic influence? Clearly, such a role would be characterised by a rather high degree of professionalism. The governance of a regional or even cross-regional innovation system is necessarily a complex affair. Citizens would need to acquire expert knowledge, to a certain degree, to be able to communicate with other stakeholders. People are often ready to do this, but usually when they are inspired by a particular topic that holds great importance to them (Hager, 1992; Doppelt, 2001). It is questionable whether participation in *general* governance discussions provides such a motivation. From the point of view of self-constitution it is likely that the abstraction of governance matters would not invite for contemplation on the self. Obviously, it may be imagined that citizens could attempt to address or resist a particular subjectivation of seniors, for instance. In the current setup, however, political advocacy is hard to imagine, let alone agonistic forms of democratic influence.

Participants as objects of study

Citizens may also participate in Living Labs by taking part in experiments in real life situations. Their interaction with new technologies is recorded by a dedicated technological infrastructure. Even though such studies are often labelled as user research, it should be clear that citizens that participate in this setup are not in fact the actual future users of the technology that is be-

ing experimented with (Jensen, 2010). Applying the user concept is rather awkward way of framing a particular sample of people. This is a prime example of using categorisation as a technology of government.

Living Lab research chiefly provides data for designers (Intille et al., 2005) or researchers. This type of participation is also primarily located within concrete projects. Different settings have been mentioned, including apartments (Intille, 2002), digital workspaces (Schaffers et al., 2009), or any setting that may be monitored by a portable device (de Leon et al., 2006). Such set-ups evoke a fairly panoptical image, if we regard it from a Foucauldian perspective (Foucault, 1977). Foucault has often stressed the power that the human sciences exert in our societies. Experimental Living Labs may well be a further step in securing this position. Research opportunities are said to be unprecedented (Eriksson et al., 2005). The possibilities of technology-enabled data-gathering within large user populations over extended periods of time are considered less obviously obtrusive and more cost-effective and reliable than other methods (Markopoulos, 2001; Intille, 2002; Mulder & Velthausz, 2006). The main idea is that the raw reality of a citizen's lives may be monitored and translated into hard data by means of technology (Mulder & Velthausz, 2006). This would avoid biases both on the side of the researcher and of the participant. Finally, it allows for repeating the observations in others settings, for sharing research data with other researchers and for *ex post* evaluation with participants.

Within this Living Lab type too, there are ambitions that stretch out beyond the level of local projects. In line with my earlier comments on the European association, it is good to note here that international networking also enables large multi-contextual and multi-cultural data collection campaigns suitable for extensive and rapid scaling (European Commission, 2009) and contextualised mass deployment of products (Eriksson et al., 2006; Eriksson et al., 2005; Schumacher & Feurstein, 2007). Even though this might suggest a widespread societal impact, it is hard to frame such notions as a case of global democratisation. While participation in the governance of the European movement may have actual democratic effects, the impact that citizens may have through international industry studies is minimal. Articles about Living Labs also provide little information on such issues. Therefore, the analysis of barriers that citizens may encounter also applies to the level of concrete projects. These may operate internationally as well.

In contrast to the previous Living Lab type, there is more to say about the participant in this setting, who is constituted as an object of study. Even though it is stressed that '[t]he basic idea is not about using the users as

'ginny pigs' for experiments', it is stated that 'it's about getting access to their ideas and knowledge' (Eriksson et al., 2005, p. 3). This role certainly does not invite self-constitution and exerting democratic influence. As I said before, it has been noted that only few methods are available for user-involvement in Living Labs (Følstad, 2008). One example is to pay people for participating (Schaffers, 2009). Other than that, we may assume that similar motivations apply as in other types of research projects. On the basis of this, it may be wondered whether it is feasible to attract '[h]undreds of thousands of final users' (Santoro & Conte, 2009, p. 2).

Living Labs are supposed to meet the same ethical principles as other research methods. The notion of informed consent is an important guideline. Neuman defines this as follows: '[n]ever coerce anyone into participating; participation *must* be voluntary. It is not enough to get permission from people; they need to know what they are being asked to participate in so that they can make an informed decision' (2005, p. 135). It is acknowledged by some that user involvement in Living Lab research entails ethical issues (Eriksson et al., 2005). This particularly applies to home environments where 'informed consent is trickier [..] because of the presence of children and the centrality of children to home life' (Hindus, 1999, p. 202). There are also types of Living Labs in which informed consent is nearly or completely impossible, for example in public spaces: '[i]n theory it might be possible to opt out of the experiment [...] in practice it is unlikely that you would be able or willing to do so' (Sarewitz, 2005, p. 14). However, most Living Lab studies that are published do not mention such ethical concerns.

In addition to this, the possibility of exerting effective influence is limited by the adoption of particular research methods. Considering that most technology-enabled methods for data-gathering are automated processes, 'communication' between researcher and the object of study (the participant) is typically a one-way process. Particularly considering that there is a natural knowledge asymmetry between participants and researchers, such methods make it harder to exert democratic influence.

Participants as partners in product development

Within the Living Lab movement, there is a strong expectation that citizens have an intrinsic motivation for participating in product development: '[f]or users the main motivation to be active partners is a passion to develop the products and the services they use' (Helsinki Living Lab, 2010, p. 4). Just like

in research-oriented Living Labs, the 'users' that are involved are typically not the actual persons that will user the actual product that is being developed. Again, the term user is an analytical category.

The way in which the participant's 'needs' are presented is an important element in the construction of a particular subjectivity. From a Foucauldian point of view, the notion of *real needs* is rather problematic as it evokes an understanding of a free and autonomous subject. Similar to Foucault, various scholars acknowledge that needs may be *constructed*, for instance by marketing (Buttle, 1989). Living Labs are said to foster both 'the co-production of technologies between developers and users, and the production of users by technologies' (Tan et al., 2006, p. 13). In terms of the former, some Living Labs proponents expect to be able to serve real needs (European Commission, 2009; Mulder & Stappers, 2009; Santoro & Conte, 2009) by meetings users' expectations (European Commission, 2009; Kolaczek et al., 2008). The opposite may be true as well, however. Referring to conflicting interests between users and public/business stakeholders in the case of innovation for improving the quality of life of seniors, Thiesen Winthereik and others indicate that

> 'the wish and hope that follow, by which some Living Lab managers believe to be able to find answers about the 'real needs', are to ignore the complex realities influencing the practical set up of the Living Lab, its innovation methods and its outcome' (2009, p. 180).

Other authors too have pointed at Living Labs as instruments for the construction of needs (Lindgaard & Dudek, 2003), or for 'managing adoption' (Sung et al., 2009). The latter may be described as the attempt to construct positive perceptions of an existing innovation.

The earlier-mentioned focus on *involving* users in Living Lab is echoed in the opposition between the concepts 'user-centred' and 'user-driven' innovation. Even though the European Commission proposes Living Labs to 'put the user in the driver's seat' (2009, p. 8), many Labs take a user-centric approach (Følstad, 2008). This term suggests that the user's interests are at the centre of the innovation process. The notion that these interests may be constructed within the framework of a particular lab setup makes this idea ambiguous. From this point of view, it may also be questioned to what extent user-driven innovation is in fact what it suggests to be. Let's not forget that the notion of framing a person as a user already places him/her in a rather particular role.

A final point that I want to make in this respect is that product development Living Labs may be considered as part of the broader business trend to shift work to consumers (Dujarier, 2008). We might say that Living Labs externalise innovation efforts to users. In such setups, however, there is usually no financial reimbursement to citizens for their contribution. This issue is also noted in the Living Lab community:

> '[a]n area of importance when bringing the citizens/consumers into the Living Lab innovation system described is how to handle the ethical and IPR issues. As private persons become a source of ideas and innovations, there should be an appropriate rewarding and incentive system in place that secures pay-back to all the actors involved' (Eriksson et al., 2005, p. 9).

Such a reimbursement system might make users part of the profit schemes that the innovation may generate. However, from the point of view of democratisation, this is hardly a step in the right direction. If users turn into 'paid product developers', their subjectivity is likely to shift to such an extent that the original situation changes completely.

Even though it could be imagined that we could shape or transform ourselves to some extent by reflecting on the types of technologies that we use and want to use, the product-development Living Lab seems to operate as an apparatus that does not necessarily bring this quality forward. People tend to be drawn into a product development process with its own dynamic and methods, which is geared toward the aims of a company or a group of companies.

Three types of 'democratic' participants

I have tried to indicate, using the example of the massive Living Lab movement, that institutionalised forms of democratisation tend to involve a set of practice that do not invite self-constitution or a critical attitude. Other approaches to democratisation of technology do tend to be more in line with such a conception. Some focus more on self-constitution and others more on the resistance aspect. As in the previous section, I focus on the way in which people are constituted in the context of democratisation. Similar to Living Labs, most of the approaches below apply to the level of concrete projects. On top of that, however, I do indicate the expectations that different authors

have of broader impacts. Often it is questionable whether these expectations are realistic.

Von Hippel's lead user

I start with Von Hippel's approach, because it is closest to the Living Lab conception of democratisation. He talks about democratising 'the opportunity to create' (2005, p. 123), the notion 'that users of products and services—both firms and individual consumers—are increasingly able to innovate for themselves' (2005, p. 1). The focus on creativity makes it relatively easy to draw a parallel with the aesthetic dimension of Foucault's work. Nevertheless, Von Hippel's work does not so much discuss creating the self, as creating products that one would like to use. The participants in his conception of the democratisation process are 'lead users'. They may either be individuals or companies, who are 'at the leading edge of an important market trend(s), and so are currently experiencing needs that will later be experienced by many users in that market'. They are expected to 'anticipate relatively high benefits from obtaining a solution to their needs, and so may innovate' (2005, p. 22). Another aspect that sets lead users apart from others, even though it is not explicitly included in Von Hippel definition, is what economists refer to as 'willingness to pay'. Lead users have the resources for innovation, and are willing to apply them. The underlying assumption is that people have a need for uniqueness. Even if his constitution of the lead user as chief participant is relevant, what can we say about his implicit constitution of the non-participant? This relates to the discussion of the minority issue in Foucault's work: just like the care of the self might be reserved for a minority only, the same is likely to apply being a lead user. On top of that, it has been noted by others that 'it is not obvious that all users share the same interests: specialised groups of enthusiasts are rather different from users of more mundane consumer products' (Heiskanen et al., 2007, p. 498).

Von Hippel points out that users and manufacturers may have different interests and that information asymmetries may apply. Nevertheless, his approach basically seems to imply what is sometimes called a 'harmony perspective' (Gregory, 2003). At many intervals throughout the book, Von Hippel argues that, in spite of differing interests, paths of users and manufacturers converge. Heiskanen and others argue, albeit not in direct reference to Von Hippel, that it is often 'assumed that harnessing the creative potential of users through user-inclusive innovation is a win–win proposal: users gain

solutions to their problems, producers gain new commercial opportunities, and all gain the intrinsic pleasure of participating in creative work' (2007, p. 497). The example of what is called 'free revealing' is telling here. Even though one might be inclined to think that it is not in the interest of users to reveal their innovations to manufacturers, Von Hippel argues that this is often not the case. He gives a number of arguments that sound reasonable on some level. First, users may gain reputation in their communities if the news of their innovation comes out. Second, adoption of the outcome may increase to the advantage of the user-innovator. Finally, further innovation in the field may be spurred. The manufacturer, by contrast, has the benefit of additional profit. Other arguments are more questionable. Von Hippel also argues that users may freely reveal their innovations because patents are too costly. One might wonder whether a change in patent regulations would not be a better solution to this problem. Such an institutional support system may be compared to the notion of financial reimbursements that certain authors suggested for Living Lab product development (Eriksson et al., 2005). A second example is that innovations are often so specific that they only suit the interest of a single user. In such cases, manufacturers do not have an interest. Converging interests are certainly not self-evident. Heiskanen and others argue the same:

> 'Studies show that there is no pre-existing alignment between users' and producers' interests. Companies may have strategic interests that do not coincide with users' needs (Namioka and Schuler 1993; Ivory 2004). Working with nonexpert users may challenge the professional authority of designers (Suchman 1994) or simply wreck tight schedules. Conversely, it is not obvious that the thrill of creativity and the possibility to gain better products will always motivate users to co-operate with producers (Brockhoff 2003). Users may be interested in innovating, but not exactly what, when and where producers desire them to innovate' (2007, p. 497-498).

Just like Von Hippel treats differing interests as unproblematic, the same applies to his brief investigation of information asymmetries. The only mentioned consequence of their different informational background is that users and manufacturers tend to come up with different types of designs, and tend to play a different role when working together. A final point regarding the user-manufacturer relation is, similarly to Living Labs, that Von Hippel's focus on users' *real needs* overlooks the notion that needs are often con-

structed (Buttle, 1989). Even though constructing needs may be more difficult in the case of lead users than in other cases, this issue cannot be ignored.

A modest way of formulating the 'horizon' of Von Hippel's project is to say that lead users engage in innovating products as to better suit their needs. The comments so far have applied exclusively to democratisation at project level. He is more ambitious than that, however. The stakes are raised in two respects. First, he argues that his 'findings offer the basis for user-centered *[sic]* innovation systems that can entirely supplant manufacturer-based innovation systems under some conditions and complement them under most' (2005, p. 121). Von Hippel suggests that his conception of democratisation has the potential to reshuffle industry structures. Such an expectation takes the influence of the participants far beyond the project level. His argument is that user involvement is already very common. Based on a survey of a 'wide range of industrial product types' (2005, p. 19), he shows that 'user engagement' levels range between 10-40%. Two critical comments may be made on this finding. First, engagement is conceptualised rather broadly in different studies that are surveyed. Exploitative forms of engagement may also be included. Second, even though he takes a cross-industry sample, most, if not all, products stem from niche markets. Von Hippel's most attractive examples are found in what may be called 'extreme sports', for which mountain bikers and wind surfers tweak the designs of their gear depending on personal experiences. An innovated gear may be a great achievement for sportsmen, even life-saving in some cases. It may be regarded from the point of view of self-constitution, even though it obviously does not meet Foucault's focus on ethics. However, is it reasonable to prophesise that 'the innovations that lead users develop should later be attractive to many' (2005, p. 23)?

Von Hippel is not satisfied with changing industry structures. Raising the stakes a second time, he points out that 'social welfare is likely to be higher in a world in which both users and manufacturers innovate than in a world in which only manufacturers innovate' (2005, p. 107). Particularly his explicit reference to the 'world' might be taken to suggest that this is another effect that is expected to occur beyond the project level. Welfare should be understood as an economic concept, not to be confused with wellbeing. What is striking, however, is that Von Hippel stresses the welfare benefits that manufacturers may experience. He argues, for instance, that '[r]esearch indicates that the major reason for the commercial failure of manufacturer-developed products is poor understanding of users' needs by manufacturer-innovators' (2005, p. 108). In this respect 'innovations by lead users can pro-

vide very useful information to manufacturers that they would not otherwise have' (2005, p. 109). Clearly, such a formulation is somewhat at odds with an advocacy model of democracy, such as Foucault's.

The Scandinavian emancipating worker

The Scandinavian tradition of participatory design offers a perspective that differs from Von Hippel's approach at many levels. As this 'tradition' spans the past five or so decades, I base this exposition on review articles (such as Bjerknes & Bratteteig, 1995; Gregory, 2003), rather than on original statements.

The democratic participant in the Scandinavian model is not as explicitly labelled as Von Hippel's lead user, but may be referred to as the 'emancipating worker'. Workers are considered as people with particular expert knowledge (Gregory, 2003). On top of that, they are traditionally constituted as part of a collective: the trade union that represents their interests (Bjerknes & Bratteteig, 1995).

While Von Hippel discussed power relations between users and manufacturers, the Scandinavian approach emphasises the employee-employer, or worker-manager relation. The tradition has brought forward a number of approaches, which may be categorised under the harmony-conflict divide. The 'Socio-Technical Approach' (Bjerknes & Bratteteig, 1995) stresses common interests of workers and managers. Here, however, I focus on the 'Collective Resource Approach' to emphasise the contrast with Von Hippel's views. Besides, it is this approach that is presented as the quintessential Scandinavian angle in international literature. It regards the worker-manager relation as essentially conflicting, framing it as the Marxist opposition between labour and capital. Particularly in the early days of the tradition, the strong and militant position of unions was a factor in this model. This influence has strongly diminished since the mid 1980s, to the verge of disappearing almost completely, according to some (Gregory, 2003).

Scandinavian democratisation at project level typically relates to the development of information systems. The ultimate goal is to improve the work situation. Similarly to Von Hippel, there is a general 'assumption that there is a connection between a democratic process and a democratic result' (Bjerknes & Bratteteig, 1995, p. 91). Nevertheless, it is acknowledged that it is not always true that 'computer systems developed in a cooperative manner have a liberating power' (Bjerknes & Bratteteig, 1995, p. 79). Motivations are to 'im-

prove the knowledge upon which the systems are built', 'enabling people to develop realistic expectations and reducing resistance to change' and 'increasing workplace democracy by giving the members of an organisation the right to participate in decisions that likely to affect their work' (Bjørn-Andersen & Hedberg in Bjerknes & Bratteteig, 1995, p. 74). Apart from mere engagement in decision-making, the Collective Resources approach also entails the creation of 'alternative technologies' and 'imagined futures'. This is a point where the notion of self-constitution and resistance seems to come in. Particularly given the emphasis on conflictual relations, the idea of ethical reflection seems more likely than in Von Hippel's setup. 'Post-design evaluation is not enough' as a study on Living Lab product development concludes (Thiesen Winthereik et al., 2009, p. 178). The concrete context of the Scandinavian tradition is not easily explained, as it has undergone a number of changes throughout its development. There has been a shift of focus from organisations and working life in general to specific workplaces, and a shift from a political to an ethical orientation. Rather than attempting to politically influence the preconditions for systems development, the purpose was to professionally apply ethical codes to particular situations. There is a taste of dissatisfaction in some of the review articles (e.g. Bjerknes & Bratteteig, 1995) regarding the decreased influence of unions and political aspects in general.

The sense of emancipation is strong in the tradition, which is based on a general appeal to democratic values, something that is not present in Von Hippel's work. These democratic values are also framed in a discourse of emancipation and (class) conflict:

> 'Democratic ideals emphasise the right to maintain a different opinion than those in power to forward opposing positions and to build knowledge on an alternative basis to support a different view. In a democracy those affected by a decision take part in the making of the decision. Historically this means giving equal rights for people with little or no power' (Bjerknes & Bratteteig, 1995, p. 74).

The 'horizon' of this democratisation approach is quite different from the previous one. The belief that working life as a whole ought to be democratised has remained a core belief all along. Therefore, apart from 'local' projects, global actions are considered as well (Gregory, 2003). This may either include influencing laws that impact working life in general, or actions that target concrete technologies that have a societal impact. Roads, railways,

telephone and mass media serve as examples (Bjerknes & Bratteteig, 1995). To some extent, such concrete actions may be considered as project-level democratisations again. Authors reporting on the tradition, however, deal with such topics under the heading of 'the social and working life level'. The Scandinavian approach started at a time when it was 'generally agreed that industry should level the general democratic principles in society' (Bjerknes & Bratteteig, 1995, p. 75). This commitment translates into a model in which roles are created to facilitate such a process. This suggests an impact beyond project level. System developers, for instance, were considered to have particular ethical tasks. In addition, it is argued that 'it is the researchers' duty to support the weaker party, i.e. the employees' (Sandberg in Bjerknes & Bratteteig, 1995, p. 83). This is an interesting move, considering that researchers are introduced as stakeholders with a strong value position. Clearly, this sets the approach apart from Von Hippel's work. A crucial question that is not particularly addressed, however, is whether such researchers have any stakes in the process.

Feenberg's subjugated activist

Critics hail Feenberg's work as 'a powerful contemporary exemplar of critical theory' (Doppelt, 2001, p. 157) and as 'one of the most sophisticated theories of the technology-society nexus' (Veak, 2000). In terms of the previous approaches, Feenberg is distinctively closer to the Scandinavian approach than to Von Hippel's. I will also try to show that his approach is closest to Foucault's, even though there are differences as well. His approach certainly has broader societal aspirations than the previous two. Nevertheless, it is grounded in local actions.

I have chosen to label the participant that Feenberg constitutes as the 'subjugated activist'. Despite being subjugated, Feenberg's participant is an active subject. He does not agree with dystopian views of 'total administration', in which citizens are left totally powerless. Instead, he uses the concept 'technological hegemony', which is defined as: 'domination so deeply rooted in social life that it seems natural to those it dominates' (1999, p. 86). Such a view seems to be in line with the Foucault's middle work (e.g. 1977). In fact, the notion of 'subjugated knowledge' stems from Foucault. It shows how measures of control are fundamentally internalised. Still, this does not imply that people are powerless.

The pivotal concept that underlies Feenberg's view on democratisation is what he calls 'participant interests'. Particularly in his examples of the activism of people with HIV, or a physical disability, it becomes clear to what an extent their democratic influence is entangled with the shaping of their selves. Advocating the accessibility of public buildings for wheel chairs is advocating for the scope within the self can operate. His view is that, '[i]nsofar as one is enrolled in a technical network, one has specific interests corresponding to the potential for good or harm that such participation entails. These interests are often served by the existing technical arrangements, but not always, not inevitably' (2001, p. 187). He argues that interests are expressed in protest groups or grassroots organisations that resist developments that conflict with their interests. He makes it quite clear that 'democratic reform from above is uncommon' (2001, p. 193). This focus on activism is found in other democratisation studies as well (e.g. Hager, 1992). Given the earlier discussion about the construction of interests, this appears to be a problematic starting-point for a theory of democratisation. A Foucauldian account of democratisation would, therefore, be based on the notion of self-constitution. The notion of interests might form a good starting-point for a description of democratisation processes, but maybe less for a normative theory. Later, I explore what Feenberg has to say on this.

In Feenberg's case, the 'adversary' is not easily framed in a straightforward dichotomy, as in Von Hippel's user-manufacturer relation or in the Scandinavian worker-manager opposition. We might use the term 'technocrat' to denote Feenberg's opponent. With respect to his focus on technocracy, Doppelt argues that Feenberg ignores 'Locke's moral code of private property' (Doppelt, 2001, p. 158), which he takes to structure our societies to a significant extent. It has been suggested that capitalism ought to be the adversary structure, rather than technocracy (Veak, 2000; Doppelt, 2001). Doppelt is probably right in arguing that:

> 'claims may be discredited or undermined not simply by experts' judgment concerning what is and isn't feasible, efficient, etc. but by owners' or top-managements' 'right' to reject such changes as unprofitable, unnecessary, or incompatible with company policy as they define it' (2001, p. 163).

Feenberg partly agrees with this, and stresses his notion of 'operational autonomy'. He defines this as 'the freedom of the owner or his or her representative to make independent decisions about how to carry on the business

of the organization, regardless of the views or interests of subordinate actors and the surrounding community' (2001, p. 186). Not only do certain actors have conflicting interests, they also have the power to ignore the interests of others. Nevertheless, Feenberg argues that 'today the bias against agency designed into technical arrangements is a more important issue than moral claims based on [property] rights' (Feenberg, 2001, p. 186). Apart from owners, also technical personnel, scientists, experts, mass media, the production system as a whole and technology-based organisations and their leaders may be considered as part of the technocracy. In this respect, all three Living Lab functions may be argued to contain technocratic elements. It seems reasonable to argue that both property-rights-based arguments and expert-knowledge-based arguments ought to be considered, rather than selecting one of them.

In their attempts to interact with experts, subjugated activists often have to become experts themselves. This has also been noted by others (Hager, 1992; Doppelt, 2001). The result of this is that they partly join the technocracy they originally opposed. This notion provides a critical reflection on another of Feenberg's core concepts: 'democratic rationalisation'. Feenberg's claim is that, contrary to the Weberian notion of expert rationality as a closed system, non-experts can join technical discussions in a rational sense, yet in an alternative manner. Similar to the Scandinavian model, the rationale seems to stem from the idea that alternative technologies and futures are proposed. Feenberg is quick to note that that '[l]ay initiatives usually influence technical rationality without destroying it' (1999, p. 89), even though there are cases in which this may apply. Nuclear energy in the US is used an example of this. In his work, however, Feenberg draws mainly on successful cases.

Largely in reaction to comments by Doppelt, Feenberg attempts to unfold a value position to ground his work. He attempts to justify which technologies require democratisation and which subjugated interests need to be defended. Here we return to the question I raised earlier with respect to the notion of interest as a basis for a normative theory of democratisation. According to Feenberg, participant interests ought to be regarded from the broader point of view of the 'intrinsic value of human capacities' (2001, p. 183). Referring to the humanistic tradition, Feenberg argues that 'our destiny as human beings is a progressive unfolding of capacities for free self-expression, the invention of the human' (2001, p. 183). He describe it as 'a third conception of liberty[, which] is distinct from the traditions emphasizing agency and equality privileged by political philosophy' (2001, p. 182). The issue is not that the humanistic tradition proposes different values than

liberal or socialist philosophies. The distinction is that values are related to the development of human capacities. Feenberg does not develop an account of how we may judge which capacities are to be favoured, or when capacities are repressed. This should probably be imagined in the interplay with the humanist values to which he refers. Feenberg acknowledges that his account 'does not directly address Doppelt's concern for justifying some claims over others' (2001, p. 191). He does argue that this is only possible within the context in which a dispute is set.

Also here, we see similarities and differences between Feenberg's work and Foucault's. The focus on self-expression and self-invention resonates quite strongly. However, even though Foucault discusses human development, his approach is more aimed at the individual than at the advancement of human capacities in general terms. The notion of a 'progressive unfolding of a human destiny' is foreign to Foucault's work. Nevertheless, in the previous chapter, I tried to explain that the referral to human nature as a basis for ethical conduct is also a problematic way of dealing with this problem. Feenberg's work raises the question how participant interests could be regarded in relation to technologies of the self, or freedom practices. Do we need to develop our interests reflexively, potentially in conflict with existing technologies of government?

The focus on the interests of the participant evokes the minority topic again, which figured both in Foucault's work and in the democratisation approaches that I discussed so far. If Feenberg's participant is constituted as a subjugated activist, how does that constitute non-participants? A first category of actors, whose participation is not very clearly delineated, is the group of nonhumans. Even though Feenberg discusses Latour's work at some length, and acknowledges that not only humans can 'do' things, he only discusses nonhumans as concrete technological artefacts with which human participants interact. Marc Berg offers a much more elaborate account. He goes as far as criticising the bulk of democratisation theories for their attempt to 'restore the human – both as designer and as user – in a position of 'control'' (1998, p. 479). There is a distinction that should be made here, however. There is a difference between the 'ontological' statement that nonhumans are actors (in democratisation processes) and the 'normative' statement that (particular) humans *should* have a certain amount of control. The extent to which this wish is realised in the actual process remains to be seen. I do not agree that such normative statements necessarily 'invoke the classical, autonomous, and free Subject whose existence is a chimera' (in reference to Gerard

de Vries: Berg, 1998, p. 479). The constituted subject is certainly 'made to act' by others (Latour, 2005b) to a certain extent.

Also with respect to the inclusion of humans certain limitations are noted. Veak, for instance, remarks sharply that 'many of the subjugated cannot even step up to the table and make their voices heard' (2000, p. 232). With respect to the internet, for instance, he points out that the digital divide still implies the exclusion of a large portion of the world. Referring to Albert Borgmann, Veak remarks that there are two other 'important hindrances to reform: (1) the fact that the majority of people choose affluence over autonomy, and (2) the enormous cost in terms of time and money that is required to effectively engage technology' (Veak, 2006, p. xix). Again, this provides a possibility to reflect on Living Labs. There too it is questionable whether citizens will take the effort to get involved, assuming that they *could* be involved. Feenberg admits that, indeed, his view of democratisation does not include all people, just like the appeal of the care of the self will not be heard by everyone. Perhaps because of that, he argues that 'we should not completely abandon concern for classical democratic controls in the technical sphere' (1999, p. 145). He suggests we look for alternative models. In Feenberg's work, however, it is questionable, whether 'collegial organisation' and the introduction of elections in major technical institutions are the most effective options. Another fundamental critique is provided by Doppelt. He points out that there are likely to be differences between participant interests and what we might call 'non-participant interests' (see also Berg, 1998). Doppelt notes that:

> '[t]he fact that one sub-group of users of technology gains some power [..] should not necessarily count as democratization, especially if the change comes at the price of dis-empowering or excluding other broader groups of users with basic rights, opportunities, or interests at stake' (Doppelt, 2001, p. 166).

Feenberg defends his position by arguing that the humanistic tradition provides 'criteria under which we can easily dismiss regressive attitudes and movements such as racism and Nazism as obstacles to the realizations of human capacities, while praising other attitudes and movements for their positive achievements' (2001, p. 184). This statement is too vague to assess its practical applicability. Besides, the question is probably not whether or not to dismiss extreme movements, such as Nazism, but rather developments with less clear premises. Certainly, Feenberg would agree that there is always an

element of debate in struggling over opposing ethical positions. Such a way of looking at interests draws out another question, however. Considering that interests are likely to be constituted in power relations, there is no way of examining if certain interests do not stem from internalised technologies of government. This again evokes the necessity of discussing the interrelation between interests and Foucault's ideas about self-constitution.

So far, I have discussed aspects of Feenberg's work that largely apply to local actions. The 'technical code' concept is crucial in understanding the role of such actions on the global horizon of Feenberg's project. He defines this as 'those aspects of technological regimes which can best be interpreted as direct reflections of significant social values' (1999, p. 88). His examples are clarifying. He discusses how there was a heated debate about regulating 'bursting boilers' on steamboats in the first half of the 19th century, which killed over 5000 people. While the debate was going on, there was an actual trade-off between saving human lives and cost efficiency. However, when a new standard, or technical code, was implemented in 1852, complaints against high costs of safe boilers were rarely heard. The technology had become a black-box, in which certain values that used to subject to a good deal of discussion were 'cast in iron'. Despite Feenberg's positive remarks about the Scandinavian tradition, he criticises it for having had 'little impact on any advanced society' (1999, p. 146). Participatory design projects often do not target the changing of technical codes. He does agree with the Scandinavians, and Foucault for that matter, that the only way to generate change is by looking at local sites. These may range from communities that are affected by plans to develop a polluting factory to disability activists that advocate for making the public space accessible for wheel chairs. Feenberg sees great potential in the internet, as a place where new networked localities may arise. Looking at it this way, the term 'local' is no longer limited by geographical boundaries. In a similar vein, others have indicated that resistance often takes place 'largely outside the established political institutions' (Hager, 1992, p. 47). As a result of that, legitimation is often an issue. Others have pointed at another disadvantage of Feenberg's focus on local resistance, which is in a sense comparable to his own critique of the Scandinavian tradition:

> 'Even if we grant that some of these movements have been successful, to whatever degree, is there a danger in celebrating these important but nevertheless local victories? [..] He seems to argue that if a particular design process is 'democratic,' then it is good' (Veak, 2000, p. 231-232).

Feenberg provides the resistance of technocracy as a more general frame in which local resistance should be regarded. His argument is as follows:

> 'We live in a society based on vast technical macro-systems and huge organizations, controlled ideologically by a highly concentrated media industry. Despite brave attempts to show that this system adequately represents a wide variety of needs and views, it seems fairly obvious that we are headed for a less democratic future under this dispensation [..]These are matters of concern not just for the oppressed minorities who occupy Doppelt's attention, but for everyone in technologically advanced societies' (2001, p. 194).

It is questionable, however, whether the connection between voluntary local resistance and such abstract counter-tendencies are clear enough to provide a general trend towards societal democratisation. Perhaps it was like this in the 1960s, to which Feenberg refers frequently, but it is probably less the case nowadays. Despite its shortcomings in terms of focusing almost exclusively on labour, perhaps the Scandinavian tradition of facilitated democratisation could provide the alternative model that Feenberg says to seek.

Feenberg's model provides an interesting reflection on the democratic deficit of Living Labs. He shows that a cry for democratisation can also stem from dissatisfaction. This angle is completely disregarded in Living Labs. This is not very surprising, considering the goals of the movement. However, given that different authors have noted that Living Labs are insufficiently democratic, this might be a point of view to take into consideration.

Discussion and conclusions

In the larger framework of the study, the aim of this chapter was to assess to what extent participatory innovation projects allow 'citizen-participants' to develop themselves. On the basis of the discussion in previous chapters, it seems reasonable to question if business- and government-supported projects might have a tendency to imply technologies of government instead. After all, also in notions such as 'demand-driven' and 'user-driven' innovation, the neoliberal subject seems to be reflected. This shows that, also here, the context that is provided by postpanopticism is important. Given the no-

tion of governing-by-freedom, a focus on participation should be critically examined. To what extent is it a governance strategy? To what extent does it allow genuine degrees of freedom?

What is interesting in this respect is that the claim of 'placing the user in the driver's seat' tends to turn out differently in practice. Also here, 'immoderate expectations' seem to be an issue. It is questionable if users are willing and capable of taking up the task that is imagined for them. In this respect, the parallel with the neoliberal vs. the neoliberalised subject seems to be justified. We may wonder if there are cases in which the user is rather 'used'. Particularly in the example of Living Labs, possibilities to perform self-constitution seem to be considerably restrained by the way the different settings are conceived, to say the least.

In this respect, it seems relevant to continue a recent trend in SST scholarship to establish links between research on science & technology and political sciences. This approach to democratisation seeks to move away from proposing a particular participant type. Over the past decade, philosophers such as Bruno Latour (2007) and Gerard de Vries (2007) have proposed a merger between the notion of 'object-oriented politics' and the pragmatism of authors like John Dewey. Noortje Marres, who developed this relation, described the approach by saying that it deals with the 'practices of public involvement in politics as dedicated to the articulation of public issues' (2007, p. 761). The term 'public issue' is a reference to Dewey's notion of 'publics' (Dewey, 1954). His political work in the tradition of American pragmatism implies a focus on problems with consequences beyond the private sphere, i.e. for more than two people. A public is the set of people affected. Marres summarises this point as 'no issue, no public', and Latour expands by saying 'no issue, no politics'. Back in 1927, Dewey already paid serious attention to material artefacts, such as the emerging rail networks, as the source of such an issue. This fits well with the SST notion of object-oriented politics. The role of public involvement then, is to *articulate* such objects of politics, to define them, to turn them around, to demarcate them. Elsewhere, Bruno Latour has argued that politics is about 'making things public' (Latour, 2005a). 'Things' have to be turned into 'matters of concern' in order for them to gain political recognition (Latour, 2004). Marres shows, however, that SST studies tend to get cramped by focusing too much on pre-defined procedures. This is particularly what pragmatism set out to overcome. Public involvement was considered necessary, particularly because existing institutions failed to address issues in a satisfactory manner. Alternatively, research omits the material dimension that was such a distinguished quality of studies of science & tech-

nology in the first place. Finally, public involvement is often considered in other relations than in issue articulation. For proper SST work, the articulation of issues is regarded as a question of constructivist ontology. Interestingly, Marres argues that pragmatists like Dewey 'moved away from the modernist idea that public involvement in politics is dedicated to expressing popular will. They proposed a shift in the 'purpose of public involvement from will formation to issue formation' (Marres, 2007, p. 768). Pragmatism points at co-construction, in the sense that we ought to treat both the 'definition of public affairs and the organization of affected publics as practical *achievements* of issue articulation' (Marres, 2007, p. 771). Obviously, to connect this to the broader approach that was unfolded in this thesis, we would need to establish the links between Foucault's and Dewey's work. This, however, falls outside the scope of this study.

Nevertheless, it may be clear that there are approaches to the democratisation of technology and innovation that are much closer to the spirit of Foucault's ideas in this area than the way it is currently institutionalised in Living Labs. It seems fair to point out again that Living Labs are not necessarily dedicated to democratisation, however. In this sense, it would be awkward to blame them for not doing something that did not intend to do in the first place. Still, many proponents regard Living Labs as democratic and refer to Von Hippel's work *Democratizing Innovation* as a basis for their argument. Others advocate for more democracy. Because of this, I believe the discussion of Living Labs makes sense in this context.

Question is how to regard the perceived democratic deficit of Living Labs in the light of the other approaches that I have discussed, including Foucault's. One way of arguing would be to attempt to make Living Labs more democratic by discussing structural changes that would allow for the uptake of alternative participant-subjects. Authors such as Roberto Mangabeira Unger have proposed to create rule-free zones in which people could experiment with new democratic institutions (Dijstelbloem, 2008). However, fact of the matter is that Living Labs have often been described as such zones, of 'free havens'. So far, this has not led to very satisfactory results. It is tempting to imagine if the *lead user*, the *emancipating worker* and the *subjugated activist* could operate in a Living Lab context. Such an approach would not fit well with the Foucauldian approach that I have attempted to unfold, however. This might make sense from a Habermasian angle, for instance, where an attempt could be made to constrain the power that is exercised in order to get to a more ideal public sphere. From a Foucauldian point of view, another approach seems more likely. By exposing the way subject-roles are consti-

tuted in Living Labs, and making this analysis available to (potential) participants, they are given the opportunity to reflect on their involvement. Even though Living Labs have received broad attention from policy makers, entrepreneurs and corporations, they are still hardly known to the general public. As I said before, I could only find one case in which activists were involved.

We could wonder whether there might be a middle-ground between a Habermasian and a Foucauldian reading of this phenomenon. Without striving to dissolve power relations in Living Labs, we could perhaps claim that, as a minimum, it is demanded that participants be given space for self-constitution. At the same time, it is questionable to what extent such a measure would be effective.

The discussion of democratisation, in particular Feenberg's angle, allows for an interesting comparison with Foucault's work. All of the approaches that I have discussed were based on notions such as 'needs' or 'interests'. This turned out to be problematic in the case of Living Labs. Participant-subjects were deemed to be involved on the basis of what was allegedly their 'real' need or interest. Closer observation showed that these needs were in fact largely constituted by other stakeholders. The notion of interests also plays a role in the creativity of lead users, the representation of workers and the activism of those who are subjugated. How should this be regarded in such cases? Certainly, we cannot automatically assume their interests to be more 'real' than the interests of Living Lab participants. Lead users might be blinded by the fanaticism of their involvement in extreme sports, workers might be enticed by the revolutionary spirit of Marxist trade unions, and activists might be (rightfully) infuriated by being maltreated. Therefore, it seems that the use of interests requires a notion of self-constitution like Foucault's. Perhaps, the reverse applies as well: Foucault has never dealt with interests much. Even if they are constituted in power relations or in discourse, it seems a pity to ignore them. The authors that I have discussed here are probably right in saying that democratisation often starts from a perception that one's interests are misrepresented. On top of that, there are certainly 'real' interests as well, and violations of these. Even cynics like Diogenes found certain phenomena to be 'basic' (Geuss, 2001). It would be arrogant to discuss primary needs from a discursive point of view. By making interests and needs a surface of applications for the care of the self, like health, their nature could potentially be assessed.

The last thing I want to note here is the complicated issue of who is imagined to take part in democratisation. Just like Foucault's acknowledge-

ment that the appeal of the care of the self will never be heard by everyone, neither will all humans be involved in democratization in the sense as I have described here. Nevertheless, all the approaches discussed have the ambition of extending democratic effects beyond the project level. Two ways of reasoning may be distinguished. On the one hand, the number of participants could increase, and on the other hand, the effects of the efforts of a minority could be beneficial for non-participants as well. In the previous chapter, I argued that technologies could be designed that would invite more people to take care of themselves properly. On the basis of the discussion of this chapter, however, we might also investigate to what extent the self-constitution of some can have beneficial outcomes for others as well.

Having reached end of Part 4, we may quickly peek through the theoretical lens again, looking back at the fourth mode of subjectivation that I promised to study, i.e. self-constitution. We might conclude that, it would be misleading to speak of a 'self-constituted subject'. This would give the suggestion that self-constitution occurs in isolation. In the previous chapter, I highlighted the importance of examining the background against which self-constitution is set. Both this chapter and the previous one suggest that we can at best speak of a 'subject of compromised self-constitution'. Fashioning the self remains a struggle, essentially.

These are also relevant insights for the practical lens of the study, i.e. the focus on technology and innovation. Not only is technology an important mediator for technologies of government, the same applies to technologies of the self. I have discussed two manners in which this applies. First of all, technologies may mediate ascetic practices, such as reading, writing, listening or speaking. Secondly, they may function as objects that stimulate reflection. On the basis of imaging a future technology, we could imagine people to reflect on their lives. In both these cases, however, we have to keep in mind that this can only be assessed to a particular background. Technologies are often produced to serve particular interests, such as making people more productive. In this sense, constructing technologies is a highly political affair.

Conclusions

Now we are in a position to summarise how to question subjectivation in relation to technology and innovation. In this last part, I propose an approach that I call the study of 'materialising subjectivation'. I distinguish this term from what you might call materialising *subjectivity.* This, in a sense, is an expansion of Latour's (2005b) account of the plug-ins or attachments to the human subject. While this is included in the approach I have tried to unfold, the focus here is on the materialisation of the *process* of subjectivation, rather than on subjectivity as some sort of entity. After discussing the method, I will attempt to answer the main question: how does the subjectivation of the patient occur in postpanopticism, in relation to questions of technology and innovation.

Materialising subjectivation

In his attempts to further the understanding of the ethics of technology, Peter-Paul Verbeek (2006) coined the term 'materialising morality' to denote attempts to endow artefacts with ethics. I take his cue, and connect this to the approach that I have taken in this study. If we acknowledge that technology 'have' ethics, it is a small step to consider that there may also be attempts to embed them purposefully. In this study, I made the connection to the subjectivity of individuals. Not only do technologies relate to us in a moral way, they also are part of a complex of relations that give shape to who we are. In reference to Verbeek's (2005) discussion of 'what things do', I pose that we have to ask a number of additional questions to understand the relation to the subject. These questions are derived from establishing the relation between technologies and the four modes of subjectivation that I distinguished. Consequently, I propose that we may understand subjectivation better by asking four questions about technology. These questions are universally applicable. They are not limited by a particular time and space context. The answers, however, inevitably are. Subjectivation is highly contingent with historical developments, as Foucault has shown in his work. In this study, I have taken ideas on postpanopticism as a starting-pint to assess subjectiva-

tion in our times. Before I draw conclusions about that, I expand on the questions first. I just provide the main threads, in order not to be repetitive.

What do things do in 'social' inquiries?

The tools and instruments that we use in our inquiries are not neutral. We know that 'grids of specification' (Foucault, 1972) and even methods that claim an 'objective' lens at reality (Bourdieu et al., 1991) have a great impact on the object of inquiry. To go even further, they play a role in reconstructing this actual reality (Latour & Woolgar, 1986; Latour, 1999). Doing so, they play an indirect role in subjectivation, considering that submitting people to inquiries is one way of shaping them. We ought to study the concrete role that things play in studying individuals, groups and societies. This shows us how people are categorised, what parts of their lives are emphasised over others, which of their relations are given attention, etc.

What is expected from things in governing relations?

Questioning inquiries is likely to bring us in the domain of what we normally call politics. Often, the distinction between subjectivation by 'modes of inquiry' and 'dividing practices' is rather vague. In order to remedy this, I proposed to focus on the 'government of relations' as an alternative to 'dividing practices'. However, as we have seen in chapter one, also this way it is not entirely possible to separate it from 'modes of inquiry'. The reason for this is that the instruments that were developed for research purposes are often staged as political tools as well. In many cases, the assumption that there is a clean divide between science and politics is incorrect (Latour, 1993b). Research instruments in health economics, or innovation, are often authorised, or even co-developed by political institutions.

In order to grasp what things are expected to do in attempts to change relations between individuals, and within society at large, we first have to examine political ideas about these relations. Despite the legitimate aversion in the Science & Technology Studies community against social determinism, or technological instrumentalism (Achterhuis, 2001), it would be a mistake to ignore the fact that many politicians still believe in social engineering. In addition to that, nowadays they often believe in the notion that technical infrastructures provide a way of setting framework conditions without interfering directly (Dix, 2010). I argue that it is crucial to understand *attempts* at subjectivation, at least for the reason that these attempts are broadly published in

political statements and broader communication. This way, attempted subjectivation becomes part of societal images of political relations.

By studying macro-actors, we do not only question what things are expected to do in governing 'micro-relations' between humans, or between humans and 'things'. In addition to that, we study the role that a network of such mediated relations is expected to play in addressing macro-political issues. Being aware that there are likely to be conflicting paradigms, I propose to assess whether there are multiple macro-actor configurations 'under design' by different groups. An aspect that I have not taken up in my discussion is to what extent this opposition is picked up beyond the subpolitical level. Considering that ideas about reciprocity have always played an important role, I propose to examine to what extent this is an issue in a particular discussion. Teasing out 'unfulfilled designs' might be turned into a way of doing politics, asking questions like: 'why are the relations that this design proposes more desirable that those of other designs'? Research can play a role in this process.

What may/do things do differently than expected?

Even though it is important to take *attempted subjectivation* into consideration, it is at least as important to question the discrepancy between what things are expected to do and what they actually do. Inevitably, this question can only be addressed once the things are actually in place. If this is not the case, it is still possible to question what they *may* do differently. In practice, this question is often asked. By studying critical reviews of proposals, it is possible to get a feel for the discrepancy between plans and outcomes that may arise after implementation. Apart from studying criticism within the political debate and within academia – as I have done – also public opinion may be taken into consideration. In addition to this, it is interesting to assess how criticism is received. What are the argumentation mechanisms that are put in practice? It is likely to be impossible to 'prove' intentionality in these mechanisms. Therefore, the objective should rather be to describe the practice of argumentation. It is likely that such practice is set in what I have called a 'cluster of argumentation'. Apart from the subjectivation that may occur in the discrepancy between expectations and outcomes, also the argumentation that is provided to fill this gap is likely to shape the subject. It may result in policy changes, or it 'hides' the subject behind a virtually impenetrable cloud of interconnected arguments. One of the instantiations of this is that *people*

may be blamed for causing the discrepancy, rather than blaming the *expectations*.

What do things do when we work on ourselves?

The final mode of subjectivation involves purposeful *attempts* to work on ourselves. There are a number of aspects to be taken into consideration when we think about technologies and self-constitution. First, it is easily imagined that practices like reading, writing, speaking and listening are likely to be mediated by technology. Second, technologies may stimulate self-reflection, also in the sense in which Verbeek puts it (Verbeek, 2008). Finally, the material setting within which we reflect on ourselves and our goals is likely to have an impact on the way this practice is performed.

This does not necessarily imply, however, that technologies will always mediate a 'free' form of self-constitution. Self-practices may also be subject to the interests of others, or may in fact be applied as extension of the techniques of governmentality.

The approach that I summarise here is to be regarded holistically. There are structural links between the different questions. The questions about expectations and 'unmet' or 'unrealistic' expectations are a pair. At the same time, the question about self-constitution is only understood in connection to either, or both, of these questions. Our self-constitution is set against the background of other subjectivating practices, either or not intentional, or even 'failed intentional'. We must not, however, make these questions rigid. There is a danger in stabilising a certain governmentality account, and then assuming that all forms of self-constitution that we see appear relate to it somehow. We must keep our eyes open for other 'backgrounds' against which self-constitution is set. In this sense, Latour's (2005b) 'follow the actors' paradigm provides a good additional approach to keeping the study flexible. The actors might 'show' backgrounds that were not imagined previously.

We have never been panopticised

Boyne (2000) asserted that Foucault's governmentality work is, in fact, post-panoptical. With this study, I hope to have provided more foundation for this statement.

It is not that we haven't known what sets postpanopticism apart from panopticism. Isms like post-Fordism (De Giorgi, 2007), neoliberalism, global-

ism (Fraser, 2003) and 'informationism' (Munro, 2000) are by now colloquial terms to express the state of our times. Add concept like flexibility and 'liquidity' (Bauman, 2000a), or even 'foam' (Bauman, 2000b), and the world seems to have, or be given, a different form.

The issue is rather that Foucault's account is favourable over some of the others that I have mentioned. On the basis of this study, I would argue that accounts that attempt to *update* the subject of panopticism to our times are incorrect. The issue is not that the need for disciplinary measures is reduced, because of anticipation techniques like foresighting simulation and prediction. Neither is panopticism simply *redundant* because we have all been disciplined and have reached a state of normality (Boyne, 2000). Such views maintain the objective of fully disciplined citizens. I hope to have shown that political attempts at subjectivation are actually different under neoliberalism than before.

Also views that imagine the postpanoptical subject as fundamentally new are insufficient at parts. Bauman's account is rather similar in its focus on the production of freedom, and on the way seduction is used as a mechanism. However, when he refers to Mathiesen's *Synopticon* (Mathiesen, 1997b) – a 'viewer society' instead of a 'viewed society' – to argue that the direction of the gaze has inverted in postpanopticism, he misinterprets the argument. Mathiesen shows that there have always been practices that are based on the 'many watching the few' scheme, also in the era that Foucault describes as panoptical. Bauman is certainly right in arguing that there are many developments that make it difficult for the few to watch the many. However, the same applies as well, as the example of the electronic health record shows. It is interesting that different authors provide completely opposing accounts in this respect: think of Mathiesen *Synopticon* on the one hand and Zuboff's *Information Panopticon*, or De Landa's *Panspectron* (Munro, 2000) on the other. In certain contexts, these accounts probably apply rather well. If we take a step back to simply assess how certain relations work, or how they are imagined to work, we are likely to end up finding examples of both. I have tried to bring together a number of elements in Foucault's work and that of others to provide such a generic, yet potent angle.

What we have to consider, however, is how fortunate the term 'postpanoptical' actually is. In this respect, I would first like to recall Rose's remark again, that 'Foucault's disciplinary societies were not 'disciplined societies'' (1999, p. 234). Panopticism is a governmentality that has disciplinary tendencies. For some authors (e.g. Munro, 2000), however, postpanopticism does not refer to such tendencies. Munro refers to the idea that postpanopti-

cal subjects escape effective discipline, because they cannot be monitored sufficiently anymore. This implies that, for him, postpanoptical societies are not post-*disciplinary* societies, but post-*disciplinable* ones. This is largely attributed to the rise of the information and network society. Effectively, this is a technological determinist way of reasoning: technology changed, so society changed. This does not at all imply that there are no more disciplinary tendencies, but just that they are no longer effective. I have tried to show, relying on Foucault, that the governmental tendencies of our societies are actually different as well. Therefore, the first lesson could be to speak of post-disciplinary societies, instead of postpanoptical ones. However, doesn't Foucault's notion of panopticism cover more than just discipline?

There is a more fundamental question underlying this, however. I try to explain this by referring to Bruno Latour's (1993b) statement that 'we have never been modern'. This has proven to be a good stick to stir up fundamental questions (see e.g. Sloterdijk's assertion that 'we have never been revolutionary': Latour, 1993a). Postmodernism is one of the objects to receive blows in Latour's essay. For him postmodernism is problematic, because it still acknowledges that there was such a thing as a 'modern constitution'. He does not believe that modern man is different from traditional man, in a philosophical sense. Neither is western man different from non-western man.

This way of thinking cannot be 'mapped' onto Foucault's work without some adaptations. My claim is not that we have never had panopticism. In reference to Rose, however, we can argue that we have never been panoptical subjects, if that is understood as saying that we were once fully disciplined or normalised. If we followed this way of reasoning, panoptical subjects would actually be a different type of people than postpanoptical subjects. The formed would be disciplined, or disciplinable, and the latter wouldn't. Such a way of reasoning introduces an artificial schism in history.

Should we drop the term postpanoptical altogether? If we consult with Latour, it seems that he does not entirely make the disconnection that you might expect: his solution is to consider a 'nonmodern constitution'. First of all, it would be pointless to make an analogy to this and argue for 'nonpanopticism'. As I said, the thesis of panoptic governmentality still makes sense. One solution would be to just start using different terms, by speaking of neoliberal governmentality, for example.

Is that entirely satisfactory, however? If we look at Latour's statement from another angle, we might wonder if it is actually weird to speak of postmodernism. Perhaps he is right in saying that we have never been modern, but does the statement still hold if we were to change it to 'we have never

been modernists'? Latour does not deny that there were people who called themselves that, and that they were rather influential at it. From that point of view, it does not seem unreasonable to call oneself 'postmodernist', in the sense that one is a thinker who is faced with the consequences of the 'modern constitution'. Following this logic, there also seem to be benefits to the term postpanopticism, in the sense that it describes a society and a governmentality in which the traces of panopticism are still visible. Postpanopticism is no radical break with the past.

My suggestion would not be to get rid of grand narratives, as many authors associated with postmodernism, or with certain branches of Science and Technology Studies have suggested. Rather, we need to reconsider how we deal with them. Even if we don't study whether or not we are, or have been, modern, we should most certainly continue our studies of having called ourselves modernists. We should not proceed to call ourselves 'non-disciplinable', to set ourselves apart from previous generations. What we should do is to study to what extents there are, and have been disciplinary tendencies in our societies.

In order to do this, we need to acquire another vocabulary. Throughout this study, I have struggled with formulations like 'attempted subjectivation', 'attempted self-constitution' and 'failures'. When discussing grand narratives, we have to take into consideration that big ideas are often attempts to do something, and that such attempts may fail. There is more to it though. If there is one thing to take from the Science and Technology Studies in this regard, it is that grand narratives are not to be understood from a social determinist point of view. Modernism was not merely an intentional creation. Countless mediations and translations took place to generate what we now call modernism. On the other hand, we should also take care not to fall back into post-structuralism and assume that grand narratives are only the effect of historically contingencies.

A postpanoptical subjectivation: subject of innovation

Then, let's turn to the main question that has occupied us in this study: how does the subjectivation of the patient occur in postpanopticism, in relation to questions of technology and innovation.

The first thing to be stressed here is that this concerns *a* postpanoptical subjectivation. Some choices were made that necessarily limited the scope. Foucault also partly worked in such a way. In some respects, he restricted his

reach by researching the subjectivation of 'the insane' (2004), criminals (1977), patients (2003) and 'dangerous individuals' (1978a), to name a few. Other modes of limitation were to restrict the scope by examining the subjectivation through a particular set of practices, such as the confession (1993) or sexuality (Foucault & Hurley, 1990). On the other hand, in his studies of panopticism (1977), governmentality (1991), neoliberalism (2008), and to some extent of self-constitution (2005), the focus on the subject was relatively unrestricted.

In this study, postpanopticism was narrowed down in several ways. First, I focused on technology and innovation. I have not meant to suggest that postpanopticism equals a 'technological society', as some do (e.g. Barry, 2001). In chapter one, I showed that technological change in economic processes was already discussed in the 18th and 19th century. In order to discuss this in a framework of postpanopticism, I connected it to neoliberalism. As we saw, this implied a surprising 'merge of discourses': neoliberal ideas proved to match better with a slightly 'older' tradition of thinking about innovation. It would seem relevant to assess whether other innovation traditions have postpanoptical tendencies as well. In a more normative sense: focusing on the second tradition of innovation theory – innovation as new products – would have an important advantage. The fact that this tradition takes the actual innovated artefact into consideration provides possibilities to open up the 'black box' that the first tradition keeps closed. Focusing on how new technologies are made allows us to ask the type of questions that have been central to this study. The first tradition merely asks questions regarding the impact that such artefacts may have *once completed.*

A more general way of addressing the issue of studying alternative traditions is: are there political discourses besides neoliberalism that have postpanoptical tendencies? Communitarianism seems to be a highly relevant candidate, particularly considering its 'affair' with neoliberalism over the past decade (Fyfe, 2005). Then, within the broad scope of neoliberal ideas about technology and innovation, I focused on a number of practices within the domain of healthcare: Diagnosis Treatment Combinations, the function-oriented description technique for health insurance policies, the Quality-Adjusted Life Years (QALY) calculation, the electronic health record, the personal budget, medical chat rooms and healthcare innovation projects in Living Labs.

What can we say now, about the 'subject of innovation'? A combination of a Foucauldian account of neoliberal governmentality and certain concepts from the Science and Technology Studies proved fruitful in understanding *attempts* to engineer a new set of relations between individual and society.

Staging perceptions of reciprocity embedded the ideas of the patient as a 'principal' and as a productive member of society in a way that would be mutually beneficial. Delving beyond the written accounts of policy papers, however, revealed a more complex image. The neoliberal version was only one of four possible 'futures' of the electronic health record. Given developments in standardisation and political preferences, it seemed a likely one, however. On the other hand, the recent refusal of EHR policy proposal by the Dutch senate seems to point in other directions. Rather than opting for the broad technical setup that would allow for macro-issues to be addressed, a more 'moderate' regional system seems to be favoured now.

The discussion of opposing macro-actors brought other issues forward, however. On the one hand, it seems likely that subjectivation is strongly related to a particular subset of patients. 'Expert patients' are likely to have a different status, just like young and higher educated ones. On the other hand, it seems that one patient can be subjectivated in multiple ways. In this sense, Deleuze's remark that '[i]ndividuals have become *'dividuals'* (1995, p. 180) seems to be rather appropriate. The same applies for Rose's assertion 'we are dealing [..] not with subjects with a unique personality that is the expression of some inner fixed quality, but with elements, capacities, potentialities' (1999, p. 234).

The notion that the 'neoliberal option' is only one possible future does not mean that it loses its importance, even if it is finally not adopted. This is part of what the discussion of 'failing expectations' brings forward. The example of the personal budget shows that implementation is different than policy papers suggested. The patient is then subjectivated in relation to the perceived gap between expectations and outcomes. (S)he is met with increasing governmental control, and societal distrust (Linders, 2010). An interesting hypothesis would be that failing postpanoptical techniques lapse back into panoptical ones.

On top of that, (failed) neoliberalism provides the background against which *attempts* at self-constitution are set. No matter whether this concerns technology-mediated ascetic practices, or technology-induced self-reflections, these are framed in relations with existing technologies of government. This shows that the material conditions of self-development are important. This should not imply, however, that the question of *who* is able to perform self-constitution or democratisation is no longer to be considered.

In the end, the best description of *this* postpanoptical subject is probably the 'subject of compromised self-constitution'. More emphasis on practices to give shape to the self are important in this respect, particularly in relation to

technology. However, this is only effective if we understand the 'background' better. Freedom practices are a complex phenomenon in a governmentality that promotes freedom. As Foucault already said, it is important to assess where the boundaries are, and to struggle for them.

And innovation?

What does all of the above mean for the practice of innovation? I have tried to position self-constitution as a pivotal construct in the making of new technologies. This has a number of implications, which we should regard with a certain degree of scepticism. First of all, self-constitution applies to all actors involved. There is no reason to argue that only users need to work on themselves. The same applies to designers, politicians, experts, etc. Formulated in such a general way, however, this is no more than somewhat naïve idealism.

This relates to a second point, which in itself is no less problematic than the previous statement. As Foucault has argued, in ancient Greece and Rome, there was a culture that expected people to develop themselves into ethical human beings. Presently, we have no such culture. Without concrete ideas of implementation, a normative claim that we would need to reinstate such a culture, transformed in line with the currents of our times, is equally empty as much-heard management parlour to 'change mindsets' or 'empower workers'.

The third point, however, is that technology can play a role in such implementation. Let me add immediately that it is only a small step. Changing a culture requires much more than that. Technology plays a role in two respects. First of all, there is a relation to the *type* of technology that is produced. In line with Verbeek's notion of 'materialising morality', we can devise more technologies that stimulate people to reflect, to discuss, to listen, to read, to write, but *in a particular manner*. What this particular manner is, still requires more discussion. Especially for media students, there are challenges to understand how new technologies mediate the transfer from consuming information to producing it. What is called Web 2.0 seems to have aspects that move in the direction that I present here, but there are counter indications as well. Anonymous reactions that are used to spill one's gut are hardly examples of ethical self-constitution. It is not enough to just write up anything that comes to mind. Self-constitution requires a controlled and reflective way of doing this. More effort could be put into developing technologies that invite such behaviour. There are still many questions in this area: for

instance, are recent media like facebook and twitter the best ways of communicating reflectively? There are many sides to such a debate. The same applies to healthcare. The keeping of health diaries is just one example.

Also the *process* of developing technology is important from the point of view of a culture of self-constitution. In the last chapter, I mainly paid attention to the extent to which the self-constitution of *users* could be an organising principle for 'participative' forms of technology development. Allowing people to play a role in the technologies that they will, or might, use, requires a different attitude of other stakeholders as well. The case of Living Labs shows that participative trials are often primarily conceived from the perspective of designers, entrepreneurs, researchers or politicians. If we want to take the self-constitution of users as an end in such processes, Foucault's ideas about self-development ought to apply to all actors in the process.

This, again, has the ring of a lofty, yet empty ideal. How do we go about putting this in practice? I believe this to be one of the major struggles that we face. The basic premise would be to *inscribe* the *goal of the self-constitution of future users* and the *principle of self-reflection of other actors* in the methods, charters or codes of conduct of innovation bodies like Living Labs. This would provide a foundation for participants to refer to, if they felt that these principles were violated.

Despite the practical attractiveness of such an idea, alarm bells start ringing when proposing it as a 'solution'. First of all, it might suggest the potential of institutionalising an 'ideal speech situation', in the vein of Habermas' work. Clearly, it is a utopian idea that Living Labs could be turned into free public forums by a set of guidelines. On the other hand, it is a starting-point. Methodologies like value-sensitive design (Friedman, 1996; van der Hoven & Manders-Huits, 2009) go into a similar direction.

A more Foucauldian approach to this problem is to create a facilitator position in innovation platforms to serve the process of self-reflection and self-constitution. This could be a modern-day 'master of the care of the self'. Perhaps this sounds like a potentially archaic solution to a topical issue. On the other hand, the role that a facilitator of value-sensitive design plays is not all that different. A potential additional task for such a facilitator would be to question the origin of these values. We can translate abstract accounts of Foucauldians like Tully (2002) into a more practical role. Tully hold a plea for including philosophers to provide genealogies of the discourses that are at play in the context of a particular practice. In the context of an innovation project, we could imagine a role for a facilitator in questioning potential underlying motivations that different stakeholders are likely to have: consumer-

ist ideals, profit-orientation, a need for scientific output, etc. In the previous chapter, I argued for regarding self-constitution in relation to the development of 'interests'. Something similar applies to values. In value-sensitive design, we need to reflect on the source of the values we apply.

Inscribing innovation platforms, and roles within them, in such a way brings another danger forward, however. Even though it wouldn't seem to hurt if designers, entrepreneurs, researchers and politicians would 'care' more for the people who would end up using their innovations, we have to bear the much-discussed dictum 'all is lost if you begin with the care of others' in mind. Installing a position for additional reflection runs into dangers like thinking for the other, or expecting something in return. The relation between the care of the self and the care of others is a precarious one that requires reflection in itself. The ancient principle of 'ethical distance' seems to be an important one in this respect.

References

Achterhuis, H. (1998). *De erfenis van de utopie*. Amsterdam: Ambo.

Achterhuis, H. (2001). *American Philosophy of Technology: The Empirical Turn*. Indiana University Press.

Ajana, B. (2005). Surveillance and biopolitics. *Electronic Journal of Sociology, 7*.

Akrich, M. (1992). The De-Scription of Technical Objects. In J.Law & W. E. Bijker (Eds.), *Shaping Technology/Building Society: Studies in Sociotechnical Change* (Cambridge, Massachusetts: MIT Press.

Almirall, E. (2008). Living Labs and open innovation: roles and applicability. *The Electronic Journal for Virtual Organizations and Networks, 10,* 21-46.

Amadae, S. M. (2003). *Rationalizing capitalist democracy: The cold war origins of rational choice liberalism*. University of Chicago Press.

Anderson, R. M. & Funnell, M. M. (2005). Patient empowerment: reflections on the challenge of fostering the adoption of a new paradigm. *Patient Education and Counseling, 57,* 153-157.

Anderson, R. M., Funnell, M. M., Barr, P. A., Dedrick, R. F., & Davis, W. K. (1991). Learning to Empower Patients - Results of Professional-Education Program for Diabetes Educators. *Diabetes Care, 14,* 584-590.

Armstrong, N. (2007). Discourse and the individual in cervical cancer screening. *Health, 11,* 69.

Arendt, H. (1959). *The human condition*. Chicago: University of Chicago Press.

Askheim, O. P. (2005). Personal assistance - direct payments or alternative public service. Does it matter for the promotion of user control? *Disability & Society, 20,* 247-260.

Bachelard, G. (2002). *The formation of the scientific mind*. Clinamen Press Ltd.

Ball, S. J. (2003). The teacher s soul and the terrors of performativity. *Journal of education policy, 18,* 215-228.

Barry, A. (2001). *Political machines: governing a technological society*. Athlone Pr.

Bauman, Z. (2000b). *Liquid modernity*. Polity.

Beale, T. (2001). *Archetypes - Constrained-based Domain Models for Future-proof Information Systems* www.deepthough,com.

Beck, U., Giddens, A., & Lash, S. (1994). *Reflexive Modernization - Politics, Tradition and Aesthetics in the Modern Social Order*. Oxford & Cambridge: Polity Press.

Becker, G. S. (1976). *The economic approach to human behavior*. University of Chicago Press.

Beiner, R. (1995). Foucault's hyper-liberalism. *Critical Review, 9*, 349-370.

Berg, M. (1998). The Politics of Technology: On Bringing Social Theory into Technological Design. *Science, Technology & Human Values, 23*, 456.

Berg, M. (1999). Accumulating and coordinating: occasions for information technologies in medical work. *Computer Supported Cooperative Work (CSCW), 8*, 373-401.

Berg, M. (2002). Patients and professionals in the information society: what might keep us awake in 2013. *International Journal of Medical Informatics, 66*, 31-37.

Berg, M. & Goorman, E. (1999). The contextual nature of medical information. *International Journal of Medical Informatics, 56*, 51-60.

Berg, M., Goorman, E., Harterink, P., & Plas, S. (1998). De nacht schreef rood: Informatisering van zorgpraktijken (No. Studie 37). *Den Haag: Rathenau Instituut*.

Beun, J. G. (2003). Electronic healthcare record; a way to empower the patient. *Int J Med Inf, 69*, 191-196.

Bianchi, M. & Henrekson, M. (2005). Is neoclassical economics still entrepreneurless? *Kyklos, 58*, 353-377.

Binkley, S. (2009). The Work of Neoliberal Governmentality: Temporality and Ethical Substance in the Tale of Two Dads. *Foucault Studies, 6*, 60-78.

Birrer, F. (1993). Counter analysis: Toward Social and Normative Constraints on the Production and Use of Scientific and Technological Knowledge. *Controversial science: From content to contention*, 41-55.

Birrer, F. A. J. (2000). Computer technology, subliminal enticement, and the collectivisation of ethics. In D.G.Johnson, J. H. Moor, & H. T. Tavani (Eds.), *Computer ethics: Philosophical enquiry* (pp. 29-42). Dartmouth: Dartmouth College.

Birrer, F. A. J. (2007). Hidden obstructions in discussions involving conductive argumentation: core and surface in the U.S. debate on the use of data mining techniques in the fight against terrorism. In F. H. Eemeren, J. A. Blair, & B. Garssen (Eds.), *Proceedings of the Sixth Conference of the International Society for the Study of Argumentation* (pp. 137-143). Amsterdam: SicSat.

Birrer, F. A. J. & Pranger, R. (1995). Complex Intertwinements in Argumentation: Some Cases from Discussions on Biotechnology and their Implications for Argumentation Studies. *Special Fields and Cases, 4*.

Bjerknes, G. & Bratteteig, T. (1995). User participation and democracy: A discussion of Scandinavian research on system development. *Scandinavian Journal of Information Systems, 7,* 73.

Blobel, Bernd (2007, December). Vergelijking van EPD-modellen. openEHR, HL7 V3, EN/ISO 13606 en CCR. *HL7 magazine, 6,* 7-17.

Borup, M., Brown, N., Konrad, K., & Van Lente, H. (2006). The sociology of expectations in science and technology. *Technology Analysis & Strategic Management, 18,* 285-298.

Bourdieu, P. (1998). *Practical reason: On the theory of action*. Stanford Univ Pr.

Bourdieu, P., Chamboredon, J. C., Passeron, J. C., & Krais, B. (1991). *The craft of sociology: epistemological preliminaries*. Walter de Gruyter Inc.

Boyne, R. (2000). Post-panopticism. *Economy and Society, 29,* 285-307.

Brown, N. (2003). Hope against hype: accountability in biopasts, presents and futures. *Science Studies, 16,* 3-21.

Budweg, S., Törpel, B., & Pipek, V. (2008). Design Communication & Communication DesignûSetting Up a Virtual Living Lab Across Distributed Spheres of Design & Use. *IRIS, Åre, Sweden*.

Bulmer, F. (2008). A new model for public services. *Economic Affairs, 28,* 47-51.

Bush, V. (1945). Science: The Endless Frontier. *Transactions of the Kansas Academy of Science (1903-), 48,* 231-264.

Buttle, F. (1989). The social construction of needs. *Psychology and Marketing, 6,* 197-210.

Cadman, L. (2010). How (not) to be governed: Foucault, critique, and the political. *Environment and Planning D: Society and Space, 28,* 539-556.

Callon, M. & Latour, B. (1981). Unscrewing the big Leviathan: how actors macro-structure reality and how sociologists help them to do so. *Advances in Social Theory and Methodology: Toward an integration of micro and macro-sociologies, London: Routledge and Kegan Paul,* 277-303.

Carmichael, A. & Brown, L. (2002). The future challenge for direct payments. *Disability & Society, 17,* 797-808.

Caudill-Slosberg, M. & Weeks, W. B. (2005). Case study: Identifying potential problems at the human/technical interface in complex clinical systems. *American Journal of Medical Quality, 20,* 353-357.

Coleman, R. W. (2004). Translation and interpretation: The hidden processes and problems revealed by computerized physician order entry systems. *Journal of critical care, 19,* 279-282.

College Voor Zorgverzekeringen (2004). *Kernmonitor PGB nieuwe stijl*. 196. Diemen: College voor zorgverzekeringen.

Collier, S. J. (2009). Topologies of Power: Foucault's Analysis of Political Government beyond'Governmentality'. *Theory, Culture & Society, 26,* 78.

Commission of the European Communities (2009). *Design as a driver of user-centred innovation*. SEC (2009) 501 final. Brussels: Commission of the European Communities.

Coveney, J. (1998). The government and ethics of health promotion: the importance of Michel Foucault. *Health Education Research, 13,* 459.

Crawford, T. H. (1993). An Interview with Bruno Latour. *Configurations, 1,* 247-268.

Crossley, M. L. (1999). Stories of illness and trauma survival: liberation or repression? *Social Science & Medicine, 48,* 1685-1695.

Currie, C. and Allart, D. (2012). The Brueg(H)el Phenomenon. Paintings by Pieter Bruegel the Elder and Pieter Brueghel the Younger with a Special Focus on Technique and Copying Practices. *Scientia Artis*, 8 (forthcoming).

DBC Onderhoud. (2011). DBC-Onderhoud and innovations. http://www.dbconderhoud.nl/Over-de-DBC-systematiek/Information-in-english/DBC-Onderhoud-and-innovations. 3-2-2011.

De Clercq, E., Bangels, M., & France, F. R. (2004). Integration of Electronic Patient Record Context with Message Context. In *11th World Congress on Medical Informatics* (pp. 1028). Ios Pr Inc.

De Giorgi, A. (2007). Toward a political economy of post-Fordist punishment. *Critical Criminology, 15,* 243-265.

De Leon, M. P., Eriksson, M., Balasubramaniam, S., & Donnelly, W. (2006). Creating a distributed mobile networking testbed environment – through the Living Labs approach. In *2nd International Conference on Testbeds and Research Infrastructures for the Development of Networks and Communities (TIRDENTCOM 2006), Barcelona, Spain, 1-3 March 2006*.

De Mul, M. & Berg, M. (2007). Completeness of medical records in emergency trauma care and an IT-based strategy for improvement. *Medical Informatics & The Internet in Medicine, 32,* 157-167.

De Vries, G. (2007). What is Political in Sub-politics? *Social Studies of Science, 37,* 781.

Deleuze, G. (1995). *Negotiations, 1972-1990*. Columbia Univ Pr.

DeNora, T. (1999). Music as a technology of the self* 1. *Poetics, 27,* 31-56.

Dewey, J. (1954). *The public and its problems*. Athens: Swallow Press / Ohio University Press.

Dijstelbloem, H. (2008). *Politiek vernieuwen: op zoek naar publiek in de technologische samenleving*. Van Gennep.

Dinka, D. & Lundberg, J. (2006). Identity and role - A qualitative case study of cooperative scenario building. *International Journal of Human-Computer Studies, 64,* 1049-1060.

Dix, G. (2010). Interveniërende voorwaarden. Procedures en problemen op de markt voor re-integratiedienstverlening. *Beleid en Maatschappij, 2010,* 246-258.

Dlodlo, N., Ford, M., & Marques, L. (2008). Utilising the living labs approach in the design of a digital platform for SINGA. In (pp. 35-40). ACM.

Dolin, R. H., Alschuler, L., Boyer, S., Beebe, C., Behlen, F. M., Biron, P. V. et al. (2006). HL7 clinical document architecture, release 2. *Journal of the American Medical Informatics Association, 13,* 30-39.

Doppelt, G. (2001). What Sort of Ethics Does Technology Require? *The Journal of Ethics, 5,* 155-175.

Drummond, J. (2003). Care of the Self in a Knowledge Economy: Higher education, vocation and the ethics of Michel Foucault. *Educational Philosophy and Theory, 35,* 57-69.

Du Gay, P. & Salaman, G. (1992). The cult [ure] of the customer. *Journal of Management Studies, 29,* 615-633.

Dujarier, M. A. (2008). *Le travail du consommateur*. Paris: La Découverte.

Dutilleul, B., Birrer, F. A. J., & Mensink, W. H. (2010). Unpacking European Living Labs: Analysing Innovation's Social Dimensions. *Central European Journal of Public Policy, 4,* 60-85.

Eerste kamer (2010). *Gewijzigde motie van het lid Tan c.s. ter vervanging van die gedrukt onder letter K*. Eerste Kamer, vergaderjaar 2009-2010. 31466 O. 's Gravenhage: Sdu uitgevers.

Eichelberg, M., Aden, T., Riesmeier, J., Dogac, A., & Laleci, G. B. (2005). A survey and analysis of Electronic Healthcare Record standards. *ACM Computing Surveys (CSUR), 37,* 277-315.

Ellingsen, G. & Monteiro, E. (2003). A patchwork planet integration and cooperation in hospitals. *Computer Supported Cooperative Work (CSCW), 12,* 71-95.

Ellis, K. (2007). Direct Payments and Social Work Practice: The Significance of 'Street-Level Bureaucracy' in Determining Eligibility. *British Journal of Social Work, 37,* 405.

Eriksson, M., Niitamo, V.-P., & Kulkki, S. (2005). *State-of-the-art in utilizing Living Labs approach to user-centric ICT innovation - a European approach*.

Lulea, Sweden: CENter for Distance-spanning Technology, Lulea University of Technology.

Eriksson, M., Niitamo, V.-P., Kulkki, S., & Hribernik, K. A. (2006). Living Labs as a Multi-Contextual R&D Methodology. In *12th International Conference on Concurrent Enterprising (ICE 2006), Milan, Italy, 26-28 June 2006*.

European Commission (2007). *eHealth priorities and strategies in European countries* Luxembourg: Office for Official Publications of the European Communities.

European Commission (2009). *Living Labs for user-driven open innovation: An overview of the Living Labs methodology, activities and achievements* Brussels: European Commission, Information Society and Media.

Evans, Rian (2002, July 15). Electrification of the Soviet Union. *The Guardian*.

Fagerberg, J. (2003). Schumpeter and the revival of evolutionary economics: an appraisal of the literature. *Journal of Evolutionary Economics, 13,* 125-159.

Fagerberg, J. & Verspagen, B. (2009). Innovation studies--The emerging structure of a new scientific field. *Research Policy, 38,* 218-233.

Feenberg, A. (1999). *Questioning technology*. London and New York: Routledge.

Feenberg, A. (2001). Democratizing technology: interests, codes, rights. *The Journal of Ethics, 5,* 177-195.

Fetter, R. B., Shin, Y., Freeman, J. L., Averill, R. F., & Thompson, J. D. (1980). Case mix definition by diagnosis-related groups. *Medical Care, 18*.

Flyvbjerg, B. (1998). Habermas and Foucault: thinkers for civil society? *British Journal of Sociology,* 210-233.

Følstad, A. (2008). Living Labs for Innovation and Development of Information and Communication Technology: A Literature Review. *eJov - The Electronic Journal for Virtual Organizations and Networks, 10,* 99-131.

Foucault, M. (1972). The archaeology of knowledge. *London: Tavistock*.

Foucault, M. (1977). *Discipline and punish: the birth of the prison*. London: Penguin Group.

Foucault, M. (1978a). About the concept of the' dangerous individual' in 19th-century legal psychiatry. *Int J Law Psychiatry, 1,* 1-18.

Foucault, M. (1978b). Michel Foucault and Zen: a Stay in a Zen temple. In J.Carrette (Ed.), *Religion and Culture by Michel Foucault* (pp. 110-114). New York: Routledge.

Foucault, M. (1979). Omnes et singulatim: towards a criticism of political reason. *The Tanner Lectures on Human Values, 2,* 223-254.

Foucault, M. (1982). The Subject and Power. *Critical Inquiry, 8*, 777-795.
Foucault, M. (1984a). Confronting governments: human rights. *Power: Essential Works of Michel Foucault, 1984*, 474-475.
Foucault, M. (1984b). What is enlightenment? *The Foucault Reader, 43*.
Foucault, M. (1988). The ethic of the care of the self as a practice of freedom: An interview with Michel Foucault conducted by Paul Fronet-Betancourt, Helmut Becker and Alfredo Gomez-Muller on January 20, 1984. *The final Foucault*, 11-20.
Foucault, M. (1991). Governmentality. In G.Burchell, C. Gordon, & P. Miller (Eds.), *The Foucault Effect: Studies in Governmentality* (pp. 87-104). Chicago: University of Chicago Press.
Foucault, M. (1993). About the beginning of the hermeneutics of the self: Two lectures at Dartmouth. *Political Theory, 21*, 198-227.
Foucault, M. (1997). On the Genealogy of Ethics: An Interview of Work in Progress. *Ethics: Subjectivity and Truth.P.Rabinow.London, Allen Lane Penguin Press*, 253-280.
Foucault, M. (2002). *The order of things: An archaeology of the human sciences*. Brunner-Routledge.
Foucault, M. (2003). *The birth of the clinic*. Routledge.
Foucault, M. (2004). *Parrèsia, vrijmoedig spreken en waarheid*. Amsterdam: Uitgeverij Parrèsia.
Foucault, M. (2005). *The hermeneutics of the subject: Lectures at the College de France (G. Burchell, Trans.)*. New York: Palgrave Macmillan.
Foucault, M. (2007a). *Security, territory, population: lectures at the College de France 1977-1978*. Palgrave Macmillan.
Foucault, M. (2007b). *The politics of truth*. Los Angeles: Semiotext.
Foucault, M. (2008). *The Birth of Biopolitics. Lectures at the College de France, 1978-79*. Palgrave MacMillan.
Foucault, M. & Hurley, R. (1990). *The history of sexuality. Vol. 1. An introduction*. Penguin Books Harmondsworth.
Frank, A. W. (1998). Stories of illness as care of the self: A Foucauldian dialogue. *Health, 2*, 329.
Fraser, N. (1981). Foucault on modern power: Empirical insights and normative confusions. *Praxis International*, 272.
Fraser, N. (2003). From Discipline to Flexibilization? Rereading Foucault in the Shadow of Globalization. *Constellations, 10*, 160-171.
Freeman, C. (1994). The economics of technical change. *Cambridge Journal of Economics, 18*, 463.

Freeman, R. (2002). The Health Care State in the Information Age. *Public Administration, 80,* 751-767.

Friedman, B. (1996). Value-sensitive design. *interactions, 3,* 16-23.

Frohmann, B. (2007). Foucault, Deleuze, and the ethics of digital networks. In R. Capurro, J. Frübauer, & T. Hausmanninger (Eds.), *Localizing the Internet: Ethical issues in intercultural perspective* (pp. 57-68). Munich: Fink Verlag.

Fyfe, N. R. (2005). Making Space for 'Neo communitarianism'? The Third Sector, State and Civil Society in the UK. *Antipode, 37,* 536-557.

Gabardi, W. (2001). Contemporary models of democracy. *Polity, 33,* 547-568.

Gane, M. (2008). Foucault on Governmentality and Liberalism: The Birth of Biopolitics: Lectures at the College de France, 1978--1979 by Michel Foucault, trans. Graham Burchell Basingstoke: Palgrave Macmillan, 2008, pp. 346 Security, Territory, Population: Lectures at the College de France, 1977--1978 by Michel Foucault, trans. Graham Burchell Basingstoke: Palgrave Macmillan, 2007, pp. 401. *Theory, Culture & Society, 25,* 353.

Garde, S., Knaup, P., Hovenga, E. J. S., & Heard, S. (2007). Towards Semantic Interoperability for Electronic Health Records: Domain Knowledge Governance for openEHR Archetypes. *Methods of Information in Medicine, 46,* 332-343.

Garde, S., Knaup, P., Schuler, T., & Hovenga, E. (2005). Can openEHR Archetypes Empower Multi-CENtre Clinical Research? *Studies in Health Technology and Informatics, 116,* 971.

Geuss, R. (2001). *Public goods, private goods*. Princeton Univ Pr.

Giddens, A. (1984). *The Constitution of Society; Outline of a Theory of Practice*. Cambridge & Oxford: Polity Press.

Glendinning, C., Halliwell, S., Jacobs, S., Rummery, K., & Tyrer, J. (2001). Bridging the gap: using direct payments to purchase integrated care. *Health & Social Care in the Community, 8,* 192-200.

Godin, B. (2006). The linear model of innovation: The historical construction of an analytical framework. *Science, Technology, & Human Values, 31,* 639-667.

Godin, B. (2008). In the Shadow of Schumpeter: W. Rupert Maclaurin and the Study of Technological Innovation. *Minerva, 46,* 343-360.

Godin, B. (2009a). National Innovation System: The System Approach in Historical Perspective. *Science, Technology & Human Values, 34,* 476.

Godin, B. (2009b). *The Making of Science, Technology and Innovation Policy: Conceptual Frameworks as Narratives, 1945-2005*. Montreal: CENtre - Ur-

banisation Culture Société de l'Institut national de la recherche scientifique.

Godin, B. (2010a). 'Innovation Studies': The Invention of a Specialty (Part 1). *http://www.csiic.ca/PDF/IntellectualNo7.pdf*.

Godin, B. (2010b). 'Innovation Studies': The Invention of a Specialty (Part 2). *http://www.csiic.ca/PDF/IntellectualNo8.pdf*.

Gomart, E. & Hajer, M. A. (2002). Is that politics? For an inquiry into forms in contemporary politics. *Looking back, ahead.The 2002 yearbook of the Sociology of the sciences*, 88-118.

Goodyear-Smith, F., Grant, C., York, D., Kenealy, T., Copp, J., Petousis-Harris, H. et al. (2008). Determining immunisation coverage rates in primary health care practices: A simple goal but a complex task. *International Journal of Medical Informatics, 77*, 477-485.

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25*, 161-178.

Gregory, J. (2000b). *Sorcerer's apprentice: Creating the electronic health record, reinventing medical records and patient care. A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Philosophy in Communication.* University of California, San Diego.

Gregory, J. (2003). Scandinavian approaches to participatory design. *International Journal of Engineering Education, 19*, 62-74.

Grielen, S. J., Boerma, W. G. W., & Groenewegen, P. P. (2004). Unity or Diversity? Task profiles of general practitioners in Central and Eastern Europe. *European Journal of Public Health, 10*, 249-254.

Grimshaw, J. (1993). Practices of freedom. *Up against foucault.Explorations of some tensions between Foucault and Feminism*, 51-72.

Grit, K. & Dolfsma, W. (2002). The Dynamics of the Dutch Health Care System-A Discourse Analysis. *Review of Social Economy, 60*, 377-403.

Gros, F. (2005). Course Context. In Foucault, *The Hermeneutics of the Subject* (pp. 507-550). New York: Palgrave MacMillan.

Habermas, J. (1985). *The theory of communicative action: Reason and the rationalization of society*. Beacon Pr.

Habermas, J. (1987). The theory of communicative action, volume 2: the critique of functionalist reason. *Polity, Cambridge, UK*.

Habermas, J. (1994). Some questions concerning the theory of power: Foucault again. *Critique and Power: Recasting the Foucault/Habermas Debate*, 79-108.

Hager, C. J. (1992). Democratizing Technology: Citizen & State in West German Energy Politics, 1974-1990. *Polity, 25*, 45-70.

Hamann, T. H. (2009). Neoliberalism, Governmentality, and Ethics. *Foucault Studies*, 37.

Hanseth, O., Jacucci, E., Grisot, M., & Aanestad, M. (2006). Reflexive Standardization: Side Effects and Complexity in Standard Making. *Management Information Systems Quarterly, 30,* 19.

Hanseth, O. & Monteiro, E. (1997). Inscribing behaviour in information infrastructure standards. *Accounting, Management and Information Technologies, 7,* 183-211.

Heiskanen, E., Hyysalo, S., Kotro, T., & Repo, P. (2007). Constructing Innovative Users and User-Inclusive Innovation Communities. Submitted to. *Technology Analysis & Strategic Management*.

Helderman, K., Schut, F. T., Van der Grinten, T. E. D., & Van de Ven, W. P. M. M. (2005). Market-Oriented Health Care Reforms and Policy Learning in the Netherlands. *Journal of Health Politics, Policy and Law, 30,* 189-209.

Helsinki Living Lab (2010). *Helsinki Living Lab Vol. 2: Convergence of Users, Developers, Utilizers and Enablers* Helsinki: Helsinki Living Lab.

Henman, P. & Adler, M. (2003). Information technology and the governance of social security. *Critical Social Policy, 23,* 139.

Heyes, C. J. (2006). Foucault goes to weight watchers. *Hypatia, 21,* 126-149.

Hindus, D. (1999). The Importance of Homes in Technology Research. In *Lecture Notes in Computer Science; Vol. 1670, Proceedings of the Second International Workshop on Cooperative Buildings, Integrating Information, Organization, and Architecture* (pp. 199-207). Berlin / Heidelberg: Springer.

Hoogervorst, H. (2006a). *Beantwoording e-mail Medisoft bv*. Kamerstuk. DBO-CD-U-2647946.

Hooke, A. E. (1987). The Order of Others: Is Foucault's Antihumanism against Human Action? *Political Theory, 15,* 38-60.

Horn, S. D. & Schumacher, D. N. (1979). An analysis of case mix complexity using information theory and diagnostic related grouping. *Medical Care, 17,* 382.

Houtepen, R. & Meulen, R. (2000). The Expectation (s) of Solidarity: Matters of Justice, Responsibility and Identity in the Reconstruction of the Health Care System. *Health Care Analysis, 8,* 355-376.

Hughes, B., McKie, L., Hopkins, D., & Watson, N. (2005). Love's labours lost? Feminism, the disabled people's movement and an ethic of care. *Sociology, 39,* 259.

IBO (2006). *Zelf zorg inkopen: persoonsgebonden bekostiging. Is het volledig invoeren van persoonsgebonden bekostiging in de AWBZ haalbaar?*

ICT Zorg (2007, May 31). O.I.Z.: 'Schep duidelijkheid over standaarden uitwisseling patiëntgegevens'. *ICT Zorg*.

Illich, I. (1976). *Limits to medicine: medical nemesis: the expropriation of health*. McClelland and Stewart; London: M. Boyars.

Intille, S. (2002). Designing a Home of the Future. *Pervasive Computing, April-June 2002*, 80-86.

Intille, S., Larson, K., Beaudin, J. S., Munguia Tapia, E., Kaushik, P., Nawyn, J. et al. (2005). The PlaceLab: A Live-in Laboratory for Pervasive Computing Research (Video). In *Lecture Notes in Computer Science, Vol. 3468, Proceedings of the 3rd International Conference on Pervasive Computing (PERVAS4E 2005), Munich, Germany, 8-13 May 2005*.

Jacobson, R. (1992). The' Austrian' school of strategy. *Academy of Management Review, 17*, 782-807.

Jara, A., Zamora, M., & Skarmeta, A. (2009). An Architecture for Ambient Assisted Living and Health Environments. *Distributed Computing, Artificial Intelligence, Bioinformatics, Soft Computing, and Ambient Assisted Living*, 882-889.

Jensen, T. E. (2010). The New User. In *EASST 2010: Practicing Science and Technology.Performing the Social*.

Jones, A., Henwood, F., & Hart, A. (2005). Factors facilitating effective use of electronic patient record systems for clinical audit and research in the UK maternity services. *Clinical Governance: An International Journal, 10*, 126-138.

Jones, C. & Spicer, A. (2006). Outline of a Genealogy of the Value of the Entrepreneur. *Language, communication and the economy*, 179-197.

Kanstrup, A. M. (2008). Living Lab Skagen 2008. In.

Kaplan, B. (1995). The Computer Prescription - Medical Computing, Public-Policy, and Views of History. *Science Technology & Human Values, 20*, 5-38.

Kaplan, B. (2001). Evaluating informatics applicationsùsome alternative approaches: theory, social interactionism, and call for methodological pluralism. *International Journal of Medical Informatics, 64*, 39-56.

Katzenbauer, Maartje (2009, May 14). Te vroeg voor landelijk EPD. *Medisch Contact*.

Katzy, B. R., Mensink, W. H., & Sikkema, K. (2007). Living Labs - Implications for the public innovation agenda. In *eChallenges Conference Paper, The Hague, 2007*.

Kerff, R. G. H. G. (1998). Het persoonsgebonden budget in de thuiszorg. Bestuurskundige aspecten van een nieuwe financieringsvorm. *Bestuurskunde, 8*.

Kerr, L. K. (2001). Foucault and the Care of the Self: Educating for Moral Action and Mental Illness. *Philosophy of Education yearbook, 2001,* 229-237.

King, J. L., Gurbaxani, V., Kraemer, K. L., McFarlan, F. W., Raman, K. S., & Yap, C. S. (1994). Institutional factors in information technology innovation. *Information Systems Research, 5,* 139-169.

Kipp, A. & Schellhammer, S. (2008). Facilitating Standardization through Living Labs-The Example of Drug Counterfeiting. In *Proceedings of the 21th Bled Conference. eCollaboration: Overcoming Boundaries Through Multi-Channel Interaction* (pp. 15-18).

Knijn, T. & Verhagen, S. (2007). Contested Professionalism Payments for Care and the Quality of Home Care. *Administration & Society, 39,* 451.

Kohn, L. T., Corrigan, J., & Donaldson, M. S. (2000). *To err is human: building a safer health system*. Natl Academy Pr.

Kolaczek, G., Turowiec, A., Kasprzak, D., & Holubowicz, W. (2008). e-collaboration Platform for the Development of Rural Areas and Enterprises. In *Proceedings of the International Multiconference on Computer Science and Information Technology (IMCSIT 2008), 20–22 October 2008. Wisla, Poland* (pp. 397-401).

Kremer, M. (2006). Consumers in charge of care: the Dutch personal budget and its impact on the market, professionals and the family. *European societies, 8,* 385-401.

Kwiatkowska, M., Riben, P., & Kielan, K. (2009). Interpretation of Imprecision in Medical Data. *Advances in Data Management,* 351.

Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Harvard Univ Pr.

Latour, B. (1988). Mixing humans and nonhumans together: The sociology of a door-closer. *Social problems, 35,* 298-310.

Latour, B. (1991). Technology is society made durable. *A sociology of monsters: essays on power, technology and domination, 38,* 103-131.

Latour, B. (1992). Where are the missing masses? The sociology of a few mundane artifacts. In W.E.Bijker & J. Law (Eds.), (pp. 225-258).

Latour, B. (1993a). *We have never been modern*. Harvard Univ Pr.

Latour, B. (1994). On technical mediation: philosophy, sociology, genealogy. *Common Knowledge, 3,* 29-64.

Latour, B. (1999). *Pandora's hope: Essays on the reality of science studies*. Harvard Univ Pr.

Latour, B. (2003). The Promises of Constructivism. In D.Ihde & E. Selinger (Eds.), *Chasing technoscience: matrix for materiality* (pp. 27-47). Bloomington: Indiana Univ Pr.

Latour, B. (2004). *Politics of nature*. Boston: Harvard University Press.

Latour, B. (2005a). From Realpolitik to Dingpolitik or How to Make Things Public. In B.Latour & P. Weibel (Eds.), *Making Things Public: Atmospheres of Democracy* (The MIT Press.

Latour, B. (2005b). *Reassembling the social: an introduction to actor-network-theory*. Oxford University Press, USA.

Latour, B. (2007). Turning Around Politics. *Social Studies of Science, 37*, 811.

Latour, B. & Woolgar, S. (1986). *Laboratory life: The construction of scientific facts*. Princeton Univ Pr.

Lazzarato, M. (2009). Neoliberalism in Action: Inequality, Insecurity and the Reconstitution of the Social. *Theory, Culture & Society, 26*, 109.

Lee, H. & Oh, S. (2006). A standards war waged by a developing country: Understanding international standard setting from the actor-network perspective. *Journal of Strategic Information Systems, 15*, 177-195.

Leece, D. & Leece, J. (2006b). Direct payments: creating a two-tiered system in social care? *British Journal of Social Work, 36*, 1379.

Leece, J. (2010). Paying the piper and calling the tune: Power and the direct payment relationship. *British Journal of Social Work*.

Lepik, K. L., Krigul, M., & Terk, E. (2010). Introducing Living Lab's Method as Knowledge Transfer from one Socio-Institutional Context to another: Evidence from Helsinki-Tallinn Cross-Border Region. *Journal of Universal Computer Science, 16*, 1089-1101.

Linders, L. (2010). *De betekenis van nabijheid. Een onderzoek naar informele zorg in een volksbuurt*. 's Gravenhage: Sdu uitgevers.

Lindgaard, G. & Dudek, C. (2003). What is this evasive beast called user satisfaction? *Interacting with Computers, 15*, 429-452.

Lyon, J. (2005). A systems approach to direct payments: a response to 'Friend or foe? Towards a critical assessment of direct payments'. *Critical Social Policy, 25*, 240.

Maarse, H. & Ter Meulen, R. (2006). Consumer choice in Dutch health insurance after reform. *Health Care Analysis, 14*, 37-49.

Maarse, J. A. M. (1989). Hospital budgeting in Holland: aspects, trends and effects. *Health policy, 11*, 257-276.

Mahoney, C. D., Berard-Collins, C. M., Coleman, R., Amaral, J. F., & Cotter, C. M. (2007). Effects of an integrated clinical information system on medication safety in a multi-hospital setting. *American Journal of Health-System Pharmacy, 64*, 1969-1977.

Markopoulos, P. (2001). Towards a Living Lab research facility and a ubiquitous computing research programme. In *Position paper for the CHI 2001 workshop on 'Distributed and Disappearing UI's in Ubiquitous Computing', Conference on Human Factors in Computing Systems, Seattle, Washington, 31 March-5 April 2001*.

Marres, N. (2007). The Issues Deserve More Credit. *Social Studies of Science, 37*, 759.

Mathiesen, T. (1997b). The Viewer Society: Michel Foucault's Panopticon'Revisited. *Theoretical Criminology, 1*, 215.

McCarthy, T. (1990). The critique of impure reason: Foucault and the Frankfurt school. *Political Theory*, 437-469.

McDonald, C. J. (2006). Computerization can create safety hazards: A bar-coding near miss. *Annals of Internal Medicine, 144*, 510-516.

Mckee, K. (2009a). Post-Foucauldian governmentality: what does it offer critical social policy analysis? *Critical Social Policy, 29*, 465.

McNay, L. (2009). Self as Enterprise: Dilemmas of Control and Resistance in Foucault's The Birth of Biopolitics. *Theory, Culture & Society, 26*, 55.

MDW-werkgroep AWBZ (2000a). *De ontvoogding van de AWBZ*.

Mensink, Wouter H. and Birrer, F. A. J. (2010). The role of expectations in system innovation: the Electronic Health Record, immoderate goal or achievable necessity? *Central European Journal of Public Policy, 4*, 36-59.

Meyer, G. (2005). 7 Some aspects of the relationship between the Freiburg school and the Austrian school. *Modern applications of Austrian thought*, 139.

Ministerie van VWS (1997). *Informatievoorziening in de Zorg*. Kamerstuk 1997-1998, 25669, nr. 2, Tweede Kamer. The Hague: Tweede Kamer.

Ministerie van VWS (1999). *Zicht op Zorg. Plan van aanpak Modernisering AWBZ* Den Haag.

Ministerie van VWS (2001b). *Vraag aan bod. Hoofdlijnen van vernieuwing van het zorgstelsel*.

Ministerie van VWS (2002). *Minder regels, meer zorg. Eindrapportage van de Commissie terugdringing administratieve lasten zorgsector* Den Haag: Ministerie van Volksgezondheid, Welzijn en Sport.

Ministerie van VWS (2005b). *ICT in de Zorg. Implementatieplan EMD/WDH.* IBE/I-2588978. 's Gravenhage: Ministerie van VWS.

Ministerie van VWS (2005c). *ICT in de zorg. Van Elektronisch Medicatie Dossier naar Elektronisch Patiënten Dossier. Plan van aanpak, 1 maart 2005* Den Haag: Ministerie van VWS.

Ministerie van VWS (2005d). *Implementatieplan 2005. Elektronisch Patientendossier (EMD) en Waarneem Dossier Huisasrtsen (WDH)* 's Gravenhage: Ministerie van VWS.

Ministerie van VWS (2005e). *Informatie- en Communicatietechnologie in de Zorg*. Kamerstuk 2004-2005, 27529, nr. 15, Tweede Kamer.

Ministerie van VWS (2007a). *Innovatie in preventie en zorg*. MEVA/AEB-2830484. Den Haag: Ministerie van Volksgezondheid, Welzijn en Sport.

Ministerie van VWS (2007b). *Voortgang ICT en EPD*. MEVA/ICT-2774903. Den Haag: Ministerie van VWS.

Ministerie van VWS (2008). *Innovatie in preventie en zorg*. MEVA/AEV-2830484. 's Gravenhage.

Molin-Juustila, T., Nuojua, J., & Kuutti, K. (2008). Urban planning and ubicomp design: do we need to extend legally enforced participation? In *Proceedings of the 5th Nordic conference on Human-computer interaction: building bridges* (pp. 515-518). ACM.

Morris, J. (2002). Care of empowerment? A disability rights perspective. *Social Policy & Administration, 31,* 54-60.

Mulder, I., Bohle, W., Boshomane, S., Morris, C., Tempelman, H., & Velthausz, D. (2008). Real-world innovation in rural South Africa. *Ejov, The Electronic Journal for Virtual Organizations and Networks, 10,* 7-20.

Mulder, I. & Stappers, P. J. (2009). Co-creating in Practice: Results and Challenges. In *15th International Conference on Concurrent Engineering (ICE 2009), Leiden, The Netherlands, 22-24 June 2009*.

Mulder, I. & Velthausz, D. (2006). Lessons learned from two Dutch living labs: Freeband and Kenniswijk. In P. Cunningham & M. Cunningham (Eds.), *Exploiting the Knowledge Economy: Issues, Applications and Case Studies, Volume 3 of the Series: Information and Communication Technologies and the Knowledge Economy*.

Munir, S. & Boaden, R. (2001). Patient empowerment and the electronic health record. *Medinfo, 10,* 663-665.

Munro, L. (2000). Non-Disciplinary Power and the Network Society. *Organization, 7,* 679-695.

Mur-Veeman, I., Hardy, B., Steenbergen, M., & Wistow, G. (2003). Development of integrated care in England and the Netherlands Managing across publicûprivate boundaries. *Health policy, 65,* 227-241.

Mytelka, L. K. & Smith, K. (2002). Policy learning and innovation theory: an interactive and co-evolving learning. *Research Policy, 31,* 1467-1479.

Neuman, W. L. (2005). *Social Research Methods: Quantitative and Qualitative Approaches*. Allyn and Bacon.

NICTIZ (2002a). *Masterplan* Leidschendam: NICTIZ.

NICTIZ (2003). *ICT in de zorg - Een geïntegreerde aanpak van de randvoorwaarden - Jaarverslag 2002* Leidschendam: NICTIZ.

NICTIZ (2006b). *Specificatie van de basisinfrastructuur in de zorg* Leidschendam: NICTIZ.

NICTIZ (2006). *Specificatie van de basisinfrastructuur in de zorg (Versie 2.4)* Leidschendam: NICTIZ.

NRC Handelsblad (2010). Invoering medisch dossier ligt stil na kraak pas. *NRC Handelsblad*.

Ó Scolaí, P. (2007). *Addressing Intellectualist Approaches to Clinical Information Systems,* paper presented at CEMS conference, Dublin.

Oemig, F. & Blobel, B. (2005). Does HL7 Go towards an Architecture Standard? *Studies in Health Technology and Informatics, 116,* 761-766.

Oliver, A. & Mossialos, E. (2005). European Health Systems Reforms: Looking Backward to See Forward? *Journal of Health Politics, Policy and Law, 20,* 7-28.

Oostenbrink, J. B. & Rutten, F. F. H. (2006). Cost assessment and price setting of inpatient care in the Netherlands. The DBC case-mix system. *Health Care Management Science, 9,* 287-294.

Ottes, Leo and Van Rijen, Onno (2008). Bij voorbaat achterhaald. Wetsvoorstel voor landelijk EPD biedt geen ruimte voor innovatie. *Medisch Contact, 63,* 1299-1302.

Pallot, M., Richir, S., & Samier, H. (2008). Shared Workspace and Group Blogging Experimentation through a Living Lab approach. In (pp. 23-25).

Pantazi, S. V., Arocha, J. F., & Moehr, J. R. (2004). Case-based medical informatics. *BMC Medical Informatics and Decision Making, 4,* 19.

Pantazi, S. V., Kushniruk, A., & Moehr, J. R. (2006). The usability axiom of medical information systems. *International Journal of Medical Informatics, 75,* 829-839.

Parchev, O. (2008). The Political Agent and Radical Democracy. *The European Legacy, 13,* 837-850.

Parr, H. (2002). New body-geographies: the embodied spaces of health and medical information on the Internet. *Environment and Planning D, 20,* 73-96.

Passoth, J. H. & Rowland, N. J. (2010). Actor-Network State. *International Sociology, 25,* 818.

Patton, P. (1989). Taylor and Foucault on power and freedom. *Political Studies, 37,* 260-276.

Patton, P. (2005). Foucault, critique and rights. *Critical Horizons, 6,* 267.

Pavlich, G. (1998). The art of critique or how not to be governed thus. *Rethinking law, society and governance: Foucault's bequest,* 141-154.

Peck, J. & Tickell, A. (2002). Neoliberalizing space. *Antipode, 34,* 380-404.

Peters, M. A. (2003). Truth-telling as an educational practice of the self: Foucault, parrhesia and the ethics of subjectivity. *Oxford review of education, 29,* 207-224.

Pickard, S., Jacobs, S., & Kirk, S. (2003). Challenging Professional Roles: Lay Carers' Involvement in Health Care in the Community. *Social Policy & Administration, 37,* 82-96.

Pickett, B. (1997). Foucaultian masks and contested interpretations. *Political Research Quarterly, 50,* 919.

Pinelle, D. & Gutwin, C. (2006). Loose coupling and healthcare organizations: deployment strategies for groupware. *Computer Supported Cooperative Work (CSCW), 15,* 537-572.

Pitse-Boshomane, M. M., Marais, M. A., Morris, C. F., Roux, K., Van Rensburg, R., Herselman, M. E. et al. (2008). Catalysing innovation: the promise of the living lab approach in South Africa. In *Prato CIRN 2008 Community Informatics Conference: ICTs for Social Inclusion: What is the Reality?*

Prideaux, S., Roulstone, A., Harris, J., & Barnes, C. (2009). Disabled people and self-directed support schemes: reconceptualising work and welfare in the 21st century. *Disability & Society, 24,* 557-569.

Priestley, M., Jolly, D., Pearson, C., Ridell, S., Barnes, C., & Mercer, G. (2007). Direct Payments and Disabled People in the UK: Supply, Demand and Devolution. *British Journal of Social Work, 37,* 1189.

Prisching, M. (1995). The limited rationality of democracy: Schumpeter as the founder of irrational choice theory. *Critical Review, 9,* 301-324.

Raad voor Gezondheidsonderzoek (2002). *Knarsende Schakels. Technologische innovatie en gezondheidszorg*. 36. Den Haag.

Raad voor Maatschappelijke Ontwikkeling (2002). *Bevrijdende kaders. Sturen op verantwoordelijkheid*. Den Haag: RMO (Advies 24).

Rabinowitz, M. & Holm, D. V. (2009). Neoliberal Governmentality. *Foucault Studies, 6,* 1-4.

Ramakers, C. & Van den Wijngaart, M. (2005). *Persoonsgebonden budget en mantelzorg. Onderzoek naar de aard en omvang van betaalde en onbetaalde mantelzorg*.

Read, J. (2009). A Genealogy of Homo-Economicus: Neoliberalism and the Production of Subjectivity. *Foucault Studies,* 25.

Research voor Beleid (2009). *Ondernemend betrokken bij zorg? Aard en kwaliteit van dienstverlening door PGB-bemiddelingsbureaus*. B3501. Zoetermeer: Research voor beleid.

Rich, E. & Miah, A. (2009). Prosthetic Surveillance: The medical governance of healthy bodies in cyberspace. *Surveillance & Society, 6,* 163.

Romero, D., Flores, M., Vallejo, C., & Molina, A. (2009). Towards a Novel Living Lab Model for Sustainable Innovation in the Construction Industry. In *15th International Conference on Concurrent Enterprising (ICE 2009), Leiden, The Netherlands, 22-24 June 2009*.

Rose, N. & Miller, P. (2008). *Governing the present: administering economic, social and personal life*. Polity.

Rose, N. S. (1999). *Powers of freedom: Reframing political thought*. Cambridge Univ Pr.

Rossi Mori, A. & Freriks, G. (2005). A European Perspective on the Cultural and Political Context for Deploying the Electronic Health Record. In J.E.Demetriades, G. A. Christopherson, & R. M. Kolodner (Eds.), *Person-centered health records: toward HealthePeople* (pp. 201-220). New York: Springer.

Rubinelli, S., Schulz, P. J., & Nakamoto, K. (2009). Health literacy beyond knowledge and behaviour: letting the patient be a patient. *International journal of public health, 54,* 307-311.

Rummery, K. (2006b). Disabled citizens and social exclusion: the role of direct payments. *Policy & Politics, 34,* 633-650.

Rummery, K. (2006a). Disabled citizens and social exclusion: the role of direct payments. *Policy & Politics, 34,* 633-650.

RVZ (1996). *Informatietechnologie in de zorg* The Hague: Raad voor de Volksgezondheid en Zorg.

RVZ (1998a). *Naar een meer vraaggerichte zorg*. 98/01. Zoetermeer: Raad voor de Volksgezondheid en Zorg.

RVZ (1998b). *Tussen markt en overheid*. 98/06. Zoetermeer: Raad voor de Volksgezondheid en Zorg.

RVZ (1999a). *Patiënt en internet*. Zoetermeer. 99/17. Raad voor Volksgezondheid & Zorg.

RVZ (2001). *Technologische Innovatie in de Zorgsector*. 01/05. Zoetermeer: Raad voor de Volksgezondheid en Zorg.

RVZ (2002a). *E-health in zicht*. 02-05. Zoetermeer: Raad voor de Volksgezondheid en Zorg.

RVZ (2002b). *Inzicht in e-health*. 02/06. Zoetermeer: Raad voor de Volksgezondheid en Zorg.

RVZ (2003b). *Van patiënt tot klant*. 03/05. Zoetermeer: Raad voor de Volksgezondheid en Zorg.

RVZ (2004). *The preference of healthcare consumers in Europe*. 03/11. Zoetermeer: Council for Public Health & Health Care.

RVZ (2005). *Briefadvies Wmo*. 4341.1-16. Zoetermeer.

RVZ (2005b). *Standaardisering Elektronisch Patiënten Dossier*. 05/03. Zoetermeer: Raad voor de Volksgezondheid en Zorg.

RVZ (2006). *De patiënt beter aan zet met een Zorgconsumentenwet?* 06-12. Den Haag: Raad voor de Volksgezondheid en Zorg.

RVZ (2007). *Goed patiëntschap. Meer verantwoordelijkheid voor de patiënt*. 07/02. Zoetermeer: Raad voor de Volksgezondheid en Zorg.

Sahay, S. (2003). Global software alliances: the challenge of standardization. *Scandinavian Journal of Information Systems, 15*, 3-21.

Saleem, J. J., Russ, A. L., Justice, C. F., Hagg, H., Ebright, P. R., Woodbridge, P. A. et al. (2009). Exploring the persistence of paper with the electronic health record. *International Journal of Medical Informatics, 78*, 618-628.

Sally, R. (1996). Ordoliberalism and the social market: Classical political economy from Germany. *New Political Economy, 1*, 233-257.

Santoro, R. & Conte, R. (2009). Living Labs in Open Innovation Functional Regions. In *15th International Conference on Concurrent Engineering (ICE 2009)* Leiden, the Netherlands.

Sarewitz, D. (2005). This Won't Hurt a Bit: Assessing and Governing Rapidly Advancing Technologies in a Democracy. In M.Rodemeyer, D. Sarewitz, & J. Wilsdon (Eds.), *The Future of Technology Assessment* (pp. 14-21). Washington, DC: Woodrow Wilson International CENter for Scholars.

Schaffers, H., Cordoba, M. G., Hongisto, P., Kallai, T., Merz, C., & Van Rensburg, J. (2007). Exploring business models for open innovation in rural living labs. In *13th International Conference on Concurrent Enterprising, Sophia-Antipolis, France, 4-6 June 2007*.

Schaffers, H., Merz, C., & Guzman, J. G. (2009). Living Labs as Instruments for Business and Social Innovation in Rural Areas. In *15th International Conference on Concurrent Enterprising (ICE 2009), Leiden, The Netherlands, 22-24 June 2009*.

Schaffers, H. (2009). *D2.2 CO-LLABS Technical Report for WP2*. CO-LLABS D2.2.

Scheepbouwer, A. (2006). *Zorg voor innovatie! Sneller Beter - Innovatie en ICT in de curatieve zorg* The Hague: KPN.

Schloeffel, P., Beale, T., Hayworth, G., Heard, S., & Leslie, H. (2006). The relationship between CEN 13606, HL7, and openEHR. *HIC 2006 and HINZ 2006: Proceedings*, 24.

Schloeffel, P., Beale, T., Hayworth, G., Heard, S., & Leslie, H. (2006). The relationship between CEN 13606, HL7, and openEHR. *HIC 2006 and HINZ 2006: Proceedings*, 24.

Schumacher, J. & Feurstein, K. (2007). Living Labs – the user as co-creator. In *13th International Conference on Concurrent Enterprising (ICE 2007), Sophia-Antipolis, France, 04-06 June 2007*.

Schuurman, D. & De Marez, L. (2009). User-centered innovation: towards a conceptual integration of Lead Users and Living Labs. In (pp. 13-15).

Scott, J. C. (1998). Seeing like a state: How certain schemes to improve the human condition have failed. New Heaven, Yale University Press.

Scourfield, P. (2005). Implementing the Community Care (Direct Payments) Act: Will the supply of personal assistants meet the demand and at what price? *Journal of Social Policy, 34*, 469-488.

Sharif, N. (2006). Emergence and development of the National Innovation Systems concept. *Research Policy, 35*, 745-766.

Shinko, R. E. (2008). Agonistic Peace: A Postmodern Reading. *Millennium-Journal of International Studies, 36*, 473.

Simons, J. (1995). *Foucault & the political*. Routledge.

Sloterdijk, P. (2004). *Sphären. 3. Schäume*. Suhrkamp.

Smith, P. C. (2005). Performance measurement in health care: history, challenges and prospects. *Public Money & Management, 25*, 213-220.

Son, R. Y., Taira, R. K., Kangarloo, H., & Cárdenas, A. F. (2008). Context-sensitive correlation of implicitly related data: an episode creation methodology. *IEEE Transactions on Information Technology in Biomedicine, 12*, 549-560.

Spandler, H. (2004). Friend or foe? Towards a critical assessment of direct payments. *Critical Social Policy, 24*, 187.

Squarewise (2006). *Business Cases Waarneemdossier Huisartsen - Elektronisch Medicatiedossier. Studie voor het Ministerie van Volksgezondheid, Welzijn en Sport* Squarewise.

Ståhlbröst, A. (2006). *Human-centric evaluation of innovation.* Luleå University of Technology.

Ståhlbröst, A. & Bergvall-Kåreborn, B. (2008). Constructing Representations of Users Needs - A Living Lab Approach. In *Asproth, V., IRIS31-Public Systems in the Future; Possibilities, Challenges and Pitfalls, 10-13 August, at Åre, Sweden*.

Sundbo, J. (1998). *The theory of Innovation. Entrepreneurs, Technology and Strategy*. Cheltenham, UK/Northampton, MA, USA: Edward Elgar.

Sung, G., Bertran, I., achreiner, R.-D., & Loeh, H. (2009). Living Lab Experiment on Virtual Communication Technologies with SMEs: The Case of CN and Cirp. In *15th Conference on Concurrent Enterprising (ICE 2009), Leiden, The Netherlands, 22-24 June 2009*.

Tan, Y.-H., Klein, S., Rukanova, B., Higgins, A., & Baida, Z. (2006). eCustoms Innovation and Transformation: A Research Approach. In *the 19th Bled eConference 'eValues', 5-7 June 2006, Bled, Slovenia*.

Tange, H. J., Hasman, A., de Vries Robbé, P.F., & Schouten, H. C. (1997). Medical narratives in electronic medical records. *International Journal of Medical Informatics, 46*, 7-29.

Tellmann, U. (2009). Foucault and the Invisible Economy. *Foucault Studies*, 5.

Thiesen Winthereik, J., Malmborg, L., & Andersen, T. (2009). Living Labs as a Methodological Approach to Universal Access in Senior Design. *Universal Access in Human-Computer Interaction.Addressing Diversity*, 174-183.

Timonen, V., Convery, J., & Cahill, S. (2006). Care revolutions in the making? A comparison of cash-for-care programmes in four European countries. *Ageing and Society, 26*, 455-474.

TK (1987/1988). *Hulp vanwege algemene eerstelijnsvoorzieningen aan (geestelijk) gehandicapten*. Tweede Kamer, vergaderjaar 1987/1988, 20551, nr. 2.

TK (1995/1996). *Informatietechnologie in de zorgsector*. Tweede Kamer, vergaderjaar 1995/1996, 24029, nr. 1.

TK (1996/1997). *Jaaroverzicht Zorg 1997*. Vergaderjaar 1996/1997. 25004, nr. 34.

TK (1997/1998a). *Persoonsgebonden Budgetten*. Tweede Kamer, vergaderjaar 1997/1998, 25657, nr. 1.

TK (1997/1998b). *Informatievoorziening in de zorg*. Tweede Kamer, vergaderjaar 1997/1998, 25669, nr. 2.

TK (1997/1998c). *Persoonsgebonden budgetten. Brief van de staatssecretaris van Volksgezondheid, Welzijn en Sport*. Tweede Kamer, vergaderjaar 1997/1998, 25657, nr. 4.

TK (1998/1999). *Persoonsgebonden budgetten*. Tweede Kamer, vergaderjaar 1998/1999, 25657, nr. 11.

TK (1999/2000). *Marktwerking, deregulering en wetgevingskwaliteit. Modernisering AWBZ*. Vergaderjaar 1999/2000. 24036 / 26631 Nr. 166. 's Gravenhage: Sdu uitgevers.

TK (1999/2000a). *Persoonsgebonden budgetten. Zorgnota 2000*. Tweede Kamer, vergaderjaar 1999/2000, 26657 / 26801, nr. 14.

TK (2000/2001a). *Informatie- en Communicatietechnologie (ICT) in de Zorg*. Tweede Kamer, vergaderjaar 2000/2001, 27529, nr. 1.

TK (2000/2001b). *Modernisering AWBZ. Persoonsgebonden budgetten*. Tweede Kamer, vergaderjaar 2000/2001, 26631 / 25657, nr. 14.

TK (2000/2001c). *Modernisering AWBZ. Persoonsgebonden budgetten*. Tweede Kamer, vergaderjaar 2000/2001, 26631 / 25657, nr. 14.

TK (2000/2001d). *Informatie- en Communicatietechnologie (ICT) in de Zorg. Verslag van een schriftelijk overleg*. Tweede Kamer, vergaderjaar 2000/2001, 27529, nr. 2.

TK (2000/2001e). *Marktwerking, deregulering en wetgevingskwaliteit*. Tweede Kamer, vergaderjaar 2000/2001, 24036, nr. 222.

TK (2000/2001f). *Patiënten/consumentenbeleid*. Tweede Kamer, vergaderjaar 2000/2001, 27807, nr. 2.

TK (2001/2002a). *Interdepartementaal Beleidsonderzoek: Persoonsgebonden Budgetten in de Woon- en Woonzorgsector*. Tweede Kamer, vergaderjaar 2001/2002, 28377, nr. 1.

TK (2001/2002b). *Modernisering AWBZ. Persoonsgebonden Budgetten*. Tweede Kamer, vergaderjaar 2001/2002, 26631 / 25657, nr. 16.

TK (2001/2002c). *Modernisering AWBZ. Persoonsgebonden budgetten*. Tweede Kamer, vergaderjaar 2001/2002, 26631 / 25657, nr. 19.

TK (2001/2002d). *Modernisering AWBZ. Persoonsgebonden Budgetten*. Tweede Kamer, vergaderjaar 2001/2002, 26631 / 25657, nr. 20.

TK (2003/2004a). *Patiënten/consumentenbeleid*. Tweede Kamer, vergaderjaar 2003/2004, 27807, nr. 21.

TK (2003/2004b). *Zorg en maatschappelijke ondersteuning*. Tweede Kamer, vergaderjaar 2003/2004, 29538, nr. 1.

TK (2004/2005a). *Persoonsgebonden Budgetten. Modernisering AWBZ*. Tweede Kamer, vergaderjaar 2004/2005, 25657 / 26631, nr. 29.

TK (2004/2005b). *Informatie- en Communicatietechnologie (ICT) in de Zorg*. Tweede Kamer, vergaderjaar 2004/2005, 27529, nr. 15.

TK (2004/2005c). *Nieuwe regels betreffende maatschappelijke ondersteuning (Wet maatschappelijke ondersteuning); Memorie van Toelichting*. Tweede Kamer, vergaderjaar 2004/2005, 30131, nr. 3.

TK (2004/2005d). *Zorg en maatschappelijke ondersteuning*. Tweede Kamer, vergaderjaar 2004/2005, 29538, nr. 13.

TK (2005/2006). *Modernisering AWBZ*. Tweede Kamer, vergaderjaar 2005/2206, 26631, nr. 153.

TK (2006/2007a). *Kabinetsplan administratieve lasten*. Tweede Kamer, vergaderjaar 2006/2007, 29515, nr. 175.

TK (2006/2007b). *Zorg en maatschappelijke ondersteuning*. Tweede Kamer, vergaderjaar 2006/2007, 29538, nr. 38.

TK (2007/2008a). *Modernisering AWBZ.* Tweede Kamer, vergaderjaar 2007/2008, 26631, nr. 232.

TK (2007/2008b). *Wijziging van de Wet gebruik burgerservicenummer in de zorg in verband met de elektronische informatieuitwisseling in de zorg; Nota n.a.v. het verslag.* Tweede Kamer, vergaderjaar 2007/2008, 31466, nr. 8.

TK (2007/2008). *Zorg en maatschappelijke ondersteuning*. Tweede Kamer, vergaderjaar 2007/2008, 29538, nr. 58.

TK (2008/2009a). *Wijziging van de Wet gebruik burgerservicenummer in de zorg in verband met de elektronische informatieuitwisseling in de zorg.* Tweede Kamer, vergaderjaar 2008/2009, 31466, nr. 11.

TK (2008/2009b). *Wijziging van de wet maatschappelijke ondersteuning, wat betreft de wijze waarop een aanspraak bestaat op een individuele voorziening en enige andere wijzigingen*. Tweede Kamer, vergaderjaar 2008/2009, 31795, nr. 3.

TK (2008/2009c). *Toekomst AWBZ*. Tweede Kamer, vergaderjaar 2008/2009, 30597, nr. 46.

TK (2008/2009d). *Toekomst AWBZ*. Tweede Kamer, vergaderjaar 2008/2009, 30597, nr. 73.

TK (2008/2009e). *Wijziging van de Wet gebruik burgerservicenummer in de zorg in verband met de elektronische informatieuitwisseling in de zorg*. Tweede Kamer, vergaderjaar 2008/2009, 31466, nr. 21.

TNS NIPO (2003). *Patiënten over fouten in medische informatie overdracht - Een verkennend onderzoek*. B5571. Amsterdam: TNS NIPO.

TNS NIPO (2004a). *Fouten worden duur betaald - Een onderzoek naar medische overdrachtsfouten (deel 2)*. B5561. Amsterdam.

Tribe, K. (2009). The political economy of modernity: Foucault's College de France lectures of 1978 and 1979. *Economy and Society, 38,* 679-698.

Tully, J. (2002). Political philosophy as a critical activity. *Political Theory, 30,* 533-555.

Tully, M. P. & Cantrill, J. A. (2005). Insights into creation and use of prescribing documentation in the hospital medical record. *Journal of Evaluation in Clinical Practice, 11,* 430-437.

Ueckert, F., Goerz, M., Ataian, M., Tessmann, S., & Prokosch, H. U. (2003). Empowerment of patients and communication with health care professionals through an electronic health record. *International Journal of Medical Informatics, 70,* 99-108.

Underwood, J. (2002). A Theoretical Basis for IS? The Contribution of ANT. *Australian Journal of Information Systems, 10,* 86-92.

Ungerson, C. (1997). Give them the money: Is cash a route to empowerment? *Social Policy & Administration, 31,* 45-53.

Ungerson, C. (2004). Whose empowerment and independence? A cross-national perspective on 'cash for care' schemes. *Ageing and Society, 24,* 189-212.

Van den Belt, H. & Rip, A. (1995). The Nelson-Winter-Dosi model and synthetic dye chemistry. In eds: Bijker, Hughes & Pinch, *The Social Construction of Technological Systems. New Directions in the Sociology and History of Technology,* (pp. 135). MIT Press.

Van den Wijngaart, M. & Ramakers, C. (2004). *Monitor budgethouders pgb nieuwe stijl*.

Van der Hoven, J. & Manders-Huits, N. (2009). Value Sensitive Design. In *A companion to the Philosophy of Technology* (Blackwell Publishing Ltd.

Van Eemeren, F. H. (2010). *Strategic Maneuvering in Argumentative Discourse: Extending the Pragma-dialectical Theory of Argumentation*. John Benjamins Pub Co.

Van Ginneken, A. M. (2002). The computerized patient record: balancing effort and benefit. *International Journal of Medical Informatics, 65,* 97-119.

Van Horn, R. & Mirowski, P. (2009). The rise of the Chicago School of Economics and the birth of neoliberalism. *The Road from Mont PØlerin.The Making of the Neoliberal Thought Collective, Cambridge,* 139-178.

Van Lente, H. (1993). Promising technology: the dynamics of expectations in technological developments. *Faculteit Wijsbegeerte en Maatschappijwetenschappen*.

Veak, T. (2000). Whose Technology? Whose Modernity? Questioning Feenberg's Questioning Technology. *Science, Technology & Human Values, 25,* 226.

Veak, T. J. (2006). *Democratizing technology: Andrew Feenberg's Critical Theory of Technology*. New York: State University of New York Press.

Verbeek, P. P. (2006). Materializing Morality: Design Ethics and Technological Mediation. *Science, Technology & Human Values, 31,* 361.

Verbeek, P. P. (2008). Obstetric ultrasound and the technological mediation of morality: A postphenomenological analysis. *Human Studies, 31,* 11-26.

Verbeek, P. P. (2005). *What Things Do: Philosophical Reflections on Technology, Agency, and Design*. Pennsylvania: Penn State University Press.

Verbeek, P.P. (2011). *De grens van de mens. Over techniek, ethiek en de menselijke natuur*. Rotterdam: Lemniscaat.

Verspagen, B. (1992). Endogenous innovation in neoclassical growth models: A survey* 1. *Journal of Macroeconomics, 14,* 631-662.

Vikkelsø, S. (2005). Subtle redistribution of work, attention and risks: Electronic patient records and organisational consequences. *Scandinavian Journal of Information Systems, 17,* 3.

Vintges, K. (2004). Endorsing Practices of Freedom: Feminism in a Global Perspective'. *Feminism and the Final Foucault,* 274-299.

Von Hippel, E. (2005). *Democratizing Innovation*. Cambridge MA: The MIT Press.

Walker, J., Pan, E., Johnston, D., dler-Milstein, J., Bates, D. W., & Middleton, B. (2005). The value of health care information exchange and interoperability. *Health Affairs, 19,* W5-10W5.

Walsh, K. E., Landrigan, C. P., Adams, W. G., Vinci, R. J., Chessare, J. B., Cooper, M. R. et al. (2008). Effect of computer order entry on prevention of serious medication errors in hospitalized children. *Pediatrics, 121,* E421-E427.

Walter, R. (2008). Foucault and Radical Deliberative Democracy. *Australian Journal of Political Science, 43,* 531-546.

Weng, C. H., Gennari, J. H., & Fridsma, D. B. (2007). User-centered semantic harmonization: A case study. *Journal of Biomedical Informatics, 40,* 353-364.

White, M. & Hunt, A. (2000). Citizenship: Care of the self, character and personality. *Citizenship Studies, 4,* 93-116.

Whittaker, M. (2002). EHR wars: the winners and loser in electronic record standards. *British Jounal of Healthcare Computing and Information Management, 19,* 29-31.

Williams, J. (2005). National programme for IT: the 30 pound billion question. *British Journal of General Practice, 55,* 340-342.

Williams, R. & Edge, D. (1996). The social shaping of technology. *Research Policy, 25,* 865-899.

Wilson, P. M. (2001). A policy analysis of the Expert Patient in the United Kingdom: self-care as an expression of pastoral power? *Health & Social Care in the Community, 9,* 134-142.

Winthereik, B. R., van der Ploeg, I., & Berg, M. (2007). The electronic patient record as a meaningful audit tool - Accountability and autonomy in general practitioner work. *Science Technology & Human Values, 32,* 6-25.

Wolkerstorfer, P., Geven, A., Tscheligi, M., & Obrist, M. (2009). User Innovation through the Digital Participatory Design Living Lab. In *Proceedings of the INTERACT 2009 Workshop, SINTEF report A12349, Oslo, 2009*.

Wright, D., Friedewald, M., Gutwirth, S., Langheinrich, M., Mordini, E., Bellanova, R. et al. (2010). Sorting out smart surveillance. *Computer Law & Security Review, 26,* 343-354.

Yar, M. (2003). Panoptic power and the pathologisation of vision: Critical reflections on the foucauldian thesis. *Surveillance and society, 1,* 254-271.

Zeckhauser, R. & Shepard, D. (1976). Where now for saving lives? *Law and contemporary problems, 40,* 5-45.

Samenvatting

De vraag die in deze studie centraal staat is hoe Michel Foucault's ideeën over het vormen van het menselijk subject gerelateerd kunnen worden aan ideeën over technologie en innovatie.

Foucault's bekendste subjectiveringsmodel is het 'panopticisme'. Dit is een voorstelling van de samenleving als een gevangenis met volledig overzicht over alle cellen. Het is genoemde naar de 18e-eeuwse Panopticum gevangenis van Jeremy Bentham. Vele critici vinden dit model ongeschikt om iets over de 21ste eeuw te kunnen zeggen. De organisatievormen en machtsrelaties van de informatiesamenleving zijn volgens hen totaal anders dan in de 18e eeuw. Anderen stellen echter dat delen van Foucault's werk juist over het 'postpanopticisme' gaan. Zijn studie naar de ontwikkeling van het twintigste eeuwse neoliberalisme is hiervan een voorbeeld.

Vanwege het belang van technologie in de informatiesamenleving wordt Foucault's werk gecombineerd met ideeën uit de techniekssociologie en –filosofie. Auteurs als Bruno Latour en Langdon Winner hebben de gedachte ontwikkeld dat specifieke technologieën, of andere 'dingen', een bepaalde moraal kunnen uitoefenen als mensen ze gebruiken. Deze studie gaat een stap verder dan dat: technologieën spelen ook een rol bij het vormen van het menselijk subject. Het borduurt voort op Peter-Paul Verbeek's onderzoek over 'wat dingen doen'. Gekoppeld aan vier vormen van subjectivering worden er vier vragen gesteld over de rol van 'dingen':

1. Wat doen dingen in sociale metingen?
2. Wat wordt er van dingen verwacht bij het besturen van relaties?
3. Wat doen dingen anders dan van ze was verwacht?
4. Wat doen dingen bij zelfontwikkeling?

Deze vragen worden hier gesteld naar aanleiding van de introductie van innovatie als een thema in het Nederlandse zorgbeleid. Eerst worden de subjectiveringsvormen samengevat. Daarna worden bovenstaande vragen beantwoord.

Postpanoptische subjectvorming

Foucault presenteert het blootstellen van mensen aan wetenschappelijk onderzoek als de eerste manier waarop subjectvorming plaatsvindt. In deze studie wordt dit verbreed door te kijken naar specifieke instrumenten om zorginnovatie te meten. Hierbij worden inzichten uit de *Social Studies of Technology* (SST) meegenomen. Het gaat daarbij vooral om de rol van instrumenten. Deze geven het onderzoek vorm, en dragen daarmee bij aan subjectvorming.

De tweede manier waarop het menselijk subject wordt gevormd is door (machts)relaties waarin mensen verwikkeld zijn om te vormen. In het klassiek liberalisme werd aangenomen dat wederkerigheid in de samenleving tot stand zou komen door een proces van 'spontane synthese', voortgedreven door een 'onzichtbare hand'. *Neo*liberale denkers, daarentegen, nemen aan dat zo'n synthese alleen mogelijk is als de juiste randvoorwaarden zijn gecreëerd. Dit leidt tot de paradoxale gedachte dat het subject vrij gemaakt wordt door het in te kaderen. Dit idee wordt hier 'georkestreerde synthese' genoemd. Neoliberale denkers geven aan dat de politiek niet rechtstreeks in het leven van burgers ingrijpt als het zich beperkt tot het stellen van randvoorwaarden. De vrijheid die binnen dit kader wordt ontwikkeld is gebaseerd op eigenbelang en concurrentie.

Bepaalde technologieën kunnen als zo'n kader, of infrastructuur, worden beschouwd. Ze bemiddelen namelijk menselijke relaties, bijvoorbeeld tussen doktoren, patiënten en zorgverzekeringsagenten. Bruno Latour's werk wordt toegepast om de netwerken te bestuderen die rondom dit soort technologische kaders ontstaan.

Politici beschrijven de verwachte invloed van zo'n netwerk op de samenleving op dezelfde manier als de invloed van één enkele actor. Latour's concept 'macro-actor' is een goede illustratie van deze manier van denken. Het verschil met hun benadering is dat in deze studie gekeken wordt naar concrete pogingen om dit soort immense macro-actoren samen te stellen.

Foucault besteed nauwelijks aandacht aan het idee dat subjectvorming in de praktijk anders kan uitpakken dan in een 'talig' discours. Naast het doen van empirisch onderzoek, is het daarom van belang om ook naar kritiek in politieke discussies te kijken. Het gaat om het optekenen van kritiek op de onderliggende aannames of verwachtingen van een politiek model van het subject. Dit is een derde manier om subjectivering te bestuderen. Het is de vraag in hoeverre tegenstanders van een bepaald model kunnen worden

overtuigd door voorstanders. Als de kritiek aanhoudt, dan moeten we de optie overwegen dat de aannames en verwachtingen onredelijk zijn. Als het politieke subjectmodel op onredelijke aannames is gebaseerd, dan zal het zich in de praktijk vermoedelijk anders gedragen dan verwacht. Dit kan bijvoorbeeld tot ontevredenheid of maatschappelijke kritiek leiden.

Beleid om randvoorwaarden te veranderen is vaak niet op één, maar op meerdere aannames gebaseerd. Deze hangen dan vaak ook nog met elkaar samen. Dit maakt het voor critici moeilijk om specifieke punten van een beleid aan te vallen. Beleidsmakers zijn geneigd om naar andere aannames of argumenten te verwijzen die op zichzelf ook problematisch kunnen zijn. Deze vorm van argumentatie wordt hier 'geclusterd' genoemd. Argumentenclusters worden vaak als geheel aangehangen of juist verworpen, afhankelijk van het standpunt van de actor. Dit betekent dat kritiek vaak ontweken wordt. Dit is niet perse bewuste misleiding. Het is simpelweg een eigenschap van de discursieve formatie 'geclusterde argumentatie'.

De laatste vorm van subjectivering die Foucault onderscheid is zelfvorming: de mate waarin mensen hun eigen subjectiviteit bepalen. Toch moet zelfvorming niet worden beschouwd als een vrije ruimte van het individu waarin politiek geen rol speelt. Zelfvorming gaat juist om de verhouding tot actuele politieke vraagstukken. Het werkt bijvoorbeeld anders in het postpanopticisme dan in het panopticisme. Het neoliberalisme, als postpanoptische bestuursvorm, stuurt bijvoorbeeld bewust op een vrij specifieke vorm van zelfvorming aan. Foucault beschrijft dit als pogingen om 'ondernemers van het zelf' te creëren.

Toch hoeven we de 'zelftechnieken' waarover Foucault het heeft niet uitsluitend als de haarvaten van politieke macht te beschouwen. Er bestaan wel degelijk praktijken waarmee mensen zichzelf op een bepaalde manier ontwikkelen, die zich bijvoorbeeld juist afzetten tegen ideeën uit de dominante politiek. Deze praktijken bestaan zowel in het panopticisme als in het postpanopticisme. Foucault's disciplinaire samenlevingen waren evenmin gedisciplineerde samenlevingen als neoliberale samenlevingen vrije samenlevingen zijn. Toch is het zoeken naar vrijheidspraktijken een complexe aangelegenheid in een politiek systeem dat claimt vrije mensen te vormen. Dit vraagt om veel reflexiviteit.

Zelfvorming verandert als het wordt bemiddeld door technologieën. We moeten vermijden om hierover algemene, abstracte conclusies te trekken. Het werk van Foucault en Latour biedt een alternatief. Het maakt het mogelijk om naar de rol van een *specifieke* technische bemiddelaar te kijken in een *specifieke* zelfpraktijk. We kunnen hierbij denken aan de rol van *blogs* in het

schrijfproces, of aan medische *chat rooms* bij het communiceren met mensen met dezelfde aandoening.

Foucault laat zien dat zelfvorming niet vanzelfsprekend is. Toch hoeft dit niet perse te betekenen dat het alleen iets voor elites is. In deze studie wordt de gedachte ontwikkeld dat we niet moeten kijken naar mensen die wel of niet aan zelfvorming doen, maar naar praktijken die wel of niet zelfvormend zijn. Zo kunnen we ons een situatie voorstellen waarin de uitbreiding van het aantal zelfpraktijken wordt bevorderd.

Het uitoefenen van democratische invloed op technologieontwikkeling *zou kunnen* worden beschouwd als zelfpraktijk. Wel zijn democratiseringsprocessen vaak op vooraf bepaalde participantrollen gestoeld. Het vocabulaire van Foucault's bestuurstechnieken is meer geschikt om dit te beschrijven dan het vocabulaire van zelftechnieken. Het is een illusie om te hopen dat machtsproblematiek in dit soort situaties op te lossen is. Toch is het redelijk om te benadrukken dat zelfontwikkeling een expliciet doel zou moeten zijn bij democratiseringsprojecten. Door daarbij te analyseren wat voor rollen er in de praktijk bestaan voor participanten, kunnen we aan bewustwording bijdragen.

Zorginnovatie en de patiënt

Wat doen dingen in sociale metingen?

De studie begint met ontrafelen van neoliberale ideeën over de vormgeving van een patiënttype. Hierbij komt een aantal 'metingen' aan de orde, met bijbehorende meetinstrumenten. In de studie worden voorbeelden gegeven bij het vormgeven van Diagnose Behandel Combinaties (DBCs), de functiegerichte omschrijving van zorgverzekeringen en de zogenaamde *Quality-Adjusted Life Years* (QALY) berekening. Hier komen een patiëntmodel met twee eigenschappen uit naar voren.

Aan de ene kant worden zorgontvangers als 'controleur' van hun zorgverleners gepositioneerd. Het wordt van ze verwacht dat ze uit eigenbelang als 'ondernemers van het zelf' op te treden, om daarmee de beste gezondheids*deals* te krijgen. De politieke verwachting wordt uitgesproken dat zorgverleners die zichzelf als innovatief profileren beter uit de bus komen. De patiënt wordt zo een verlengstuk van neoliberaal beleid.

Aan de andere kant worden zorgontvangers vanuit het perspectief van economische productiviteit bekeken. Doordat ze toezien op de innovativiteit van hun zorgverleners, zou de dienstverlening beter worden. Als gevolg daarvan zou hun gezondheid verbeteren, waardoor hun economische productiviteit zou verhogen.

Wat wordt er van dingen verwacht als het gaat om het besturen van relaties?

Deze beide beelden van de patiënt zijn ook te herkennen in de politieke blauwdruk voor het elektronisch patiëntendossier (EPD) en het persoonsgebonden budget (PGB). Met de verbeterde informatievoorziening van het EPD en de financiële prikkels die ze door het PGB kunnen afgeven zouden patiënten beter in staat moeten zijn om als zorgcontroleur op te treden. Ook hier gaat de productiviteitsredenering op.

Individuele gezondheid en de productiviteit van de samenleving als geheel worden door de RVZ met elkaar in verband gebracht door een aantal aannames over wederkerige relaties.

EPD data van individuele patiënten zou kunnen worden gebruikt voor het bestrijden van maatschappelijke problemen, zoals wachtlijsten, epidemieën en de vergrijzing. Omgekeerd zou geanonimiseerde data op geaggregeerd niveau kunnen worden gebruikt voor normstelling. Dit zou bij de behandelen van individuele patiënten kunnen helpen.

Door het PGB in de Wet maatschappelijke ondersteuning (Wmo) op te nemen wordt het neoliberale idee van geïndividualiseerde zorgfinanciering gekoppeld aan communitaristische gedachten. PGB ontvangers zouden op betaalde zorg uit hun sociale netwerk moeten kunnen rekenen. Omgekeerd zouden ze door de gewonnen zelfredzaamheid iets kunnen terugdoen voor anderen.

Wat doen dingen anders van ze was verwacht?

We moeten ons afvragen of abstracte politieke mensbeelden in de praktijk wel zo zullen functioneren. Eén manier om dit te doen is door discussies op het 'subpolitieke' expertniveau in beeld te brengen. Dit wordt subpolitiek genoemd, omdat het in de politieke wetenschappen vaak over het hoofd wordt gezien. Ook op dit niveau zijn er discussies over het ontwikkelen van technische bemiddelaars voor geïdealiseerde maatschappelijke relaties. Bij

het EPD gaat het bijvoorbeeld om het definiëren van standaarden. Op subpolitiek niveau blijken er echter nog veel meer toekomstscenario's te bestaan dan wat uit de neoliberale lezing van het traditionele politieke discours blijkt. Er is nog geen uitspraak te doen over de waarschijnlijkheid dat één van deze scenario's bewaarheid wordt.

Door kritiek op dominante verwachtingen en aannames rondom het EPD en het PGB mee nemen krijgen we meer grip op de praktische waarde van politieke mensbeelden. De aanname dat zorgontvangers zich als kritische 'zelfondernemers' zullen gedragen wordt niet door iedereen gedeeld. En zelfs als ze dat doen, dan zijn er redenen om te betwijfelen dat zorgaanbieders zo maar op hun 'prikkels' in zullen gaan. Ook de aannames over wederkerigheid worden vaak in twijfel getrokken. Met andere woorden, de neoliberale opzet kan simpelweg mislukken. Het is dan de vraag wat dit betekent voor de toekomst van de patiënt, als het EPD en het PGB toch een doorstart zouden krijgen.

Wat doen dingen bij zelfontwikkeling?

Het bovenstaande schetst de context, waarin zorgontvangers *zouden kunnen proberen* om zichzelf vorm te geven. Ze zouden kunnen proberen te reflecteren op wat ze willen bereiken, bijvoorbeeld door elektronische dagboeken te gebruiken en hun situatie met anderen te bespreken op medische *chat rooms*. Toch moeten we oppassen om dit soort fora te beschouwen als machtsvrije ruimtes. Vaak zijn ze weer verbonden met de technische infrastructuur.

Deze voorzichtigheid heeft ook betrekking op pogingen om democratische invloed uit te oefenen. Het voorbeeld van participatie in Living Labs laat zien dat we vraagtekens zouden moeten stellen bij de rol die participanten aangemeten krijgen. Zo'n analyse kan helpen om mensen die aan dit soort processen deelnemen bewust te maken van de manier waarop hun betrokkenheid is vormgegeven. Dit zou aan reflectie kunnen bijdragen, die *zou kunnen leiden* tot pogingen om tot zelfvorming te komen.

About the author

Wouter Mensink (1979) studied public administration and public policy at the University of Twente, the Netherlands. His thesis (2002) was written for the university's Technology and Development Group. It concerned a comparison of the role of intellectuals in the Hungarian Revolution of 1956 and the Prague Spring of 1968. After graduating, he spent two years in Budapest, Hungary. He worked for research institutes, such as GKI Economic Research Co. and the Hungarian Science and Technology Foundation. Projects concerned the role of innovation in regional development and the socio-economic transition in Central and Eastern Europe. After returning to the Netherlands, he worked on a technology implementation project at the Municipality of Amsterdam and as a recruiter for Amensty International. In 2006, he started working as a researcher for the Center for Technology and Innovation Management (CeTIM), and as a PhD candidate at Leiden University. Amongst other projects, he contributed to setting up a regional Living Lab. His PhD dissertation focuses on healthcare innovation from the point of view of subjectivation. A number of his articles were published in academic journals, conference proceedings and books. Next to his PhD and research work, he joined a master program in political philosophy at the University of Amsterdam, taking courses in the field of Science and Technology Studies. He hopes to graduate in 2012. Since 2011, he works for the Netherlands Institute for Social Research (SCP). He works on an evaluation of the Dutch Social Support Act (Wmo).

Index