

Rethinking Biokinetics: A Philosophical Critique Concerning the Roles and Responsibilities of Practitioners and Patients

Mark A Greene

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Rethinking Biokinetics: A Philosophical Critique
Concerning the Roles and Responsibilities of
Practitioners and Patients

By

Mark A Greene

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Promoter/Supervisor: Prof. Andrea Hurst

Declaration

I, Mark A Greene, hereby declare that *Rethinking Biokinetics: A Philosophical Critique Concerning the Roles and Responsibilities of Practitioners and Patients* is my own work, and has not previously been submitted for assessment to another university or for another qualification. Further, all the sources that I have used and/or quoted within this work have been clearly indicated and acknowledged by complete references.

April 2016

Mark A Greene

A handwritten signature in black ink, appearing to be 'M.A. Greene', written over a horizontal line.

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Abstract

The specialist responsible for providing prescribed exercise as a form of medicine to the South African population is the biokineticist. Biokinetics is a relatively new profession developed in response to empirical research supporting exercise as medicine. Although the role of the biokineticist is clearly defined by the Health Professions Council of South Africa (HPCSA), there is still confusion concerning this profession and its services. At present, the dominant medical-scientific and capitalist-economic discourses offer a narrowly mechanistic and instrumental understanding of the human body and its treatment, which contributes to this confusion. This dissertation proposes a new point of departure, enriched by historical and philosophical understandings of the human body, from which the biokineticist can begin to redefine him/herself. The study aims to shift biokinetics as a practice away from the reductionist and dehumanising influences of instrumentalist, scientific and neoliberal capitalist-economic discourses, and to restore to biokineticists, and their clients, the ability they need to interact as relatively autonomous individuals. The study draws on the ideas of Michel Foucault, specifically on his notions of ‘discipline’, ‘docility’, and ‘the care of the self’ (1991; 2005), as well as Gilles Deleuze and Felix Guattari and their ideas of ‘becoming’ and ‘rhizomatic thinking’ (1983; 1987); ultimately presenting a philosophically enriched, holistic representation of the human body. From here recommendations for best practice in contemporary biokinetics are suggested that encourage interactions and connections between the professional and his/her patients, which move beyond the mere physiological interpretations currently dominating health discourse.

Keywords: biokinetics, critical discourse analysis, history of physical education, exercise as health, medical-scientific discourse, commercialization of medicine, risk discourse, human capital, dehumanisation of the patient-consumer, Foucault, ‘mode of subjectification’, ‘the political rationality’, care of the self, Deleuze and Guattari, ‘societies of control’ in health, rhizomatic thinking.

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Acronyms

| | |
|-------|--|
| ACSM | American College of Sports Medicine |
| BASA | Biokinetics Association of South Africa |
| BCE | Before Common Era |
| BMI | Body mass index |
| CDA | Critical discourse analysis |
| CE | Common Era |
| CHD | Coronary heart disease |
| CPA | Consumer Protection Act |
| EBHS | Evidence based health science |
| EBM | Evidence based medicine |
| ECG | Electrocardiographs |
| EHR | Electronic health records |
| FAQs | Frequently asked questions |
| HPCSA | Health Professions Council of South Africa |
| MRI | Magnetic resonance imaging |
| NPH | New public health |
| RCTs | Randomised control trials |
| SOPs | Standard operating procedures |
| SSISA | Sports Science Institute of South Africa |
| WHO | World Health Organization |

Introduction

Exercise has long been associated with health. Historical findings date back to the ancient Greeks (460-370 BCE) where Hippocrates advised that exercise was good for health, warning that moderation is fundamental. He went on to write three books on regimen, which included the importance of exercise with regard to health (Paffenbarger, Blair, & Lee, 2001, p. 1184; Berryman, 2012, pp. 210-211). Following on from Hippocrates, adding value to the notion of prescribed exercise and its health benefits was Galen (129-210 CE). Galen first focused on health and later hygiene. His theories and writings dominated medicine and went unchallenged through the Medieval Ages (Berryman, 2012, pp. 210-211). More recent research conducted five decades ago by Jeremy Morris and associates (Paffenbarger et al., 2001, pp. 1185-1191) showed how vigorous exercise can protect against coronary heart disease (CHD). The notion that prescribed exercise can help improve health and wellness has gained support thanks to this research, as well as further empirical evidence demonstrating the beneficial effects of exercise in relation to various chronic ailments and diseases ranging from diabetes mellitus, hypertension, dyslipidaemia, orthopaedic related injuries, arthritis, obesity, immunology, peripheral arterial disease, metabolic syndrome, and pulmonary diseases to name a few (ACSM, 2006, pp. 205-231). As a result of the increased interest and supporting evidence regarding the beneficial effects of exercise on health and wellness, a specialist was created with responsibility for developing appropriate professional practice. The specialist responsible is known by various names in different countries, for example exercise physiologist, exercise specialist, exercise therapist and physical therapist (The latter recently has been contested as to whether it is more specifically related to the scope of physiotherapy) (Biokinetics Association of South Africa, 2016). Nonetheless, since the late 1970s in South Africa, the specialist responsible for prescribing exercise as a form of medicine is referred to as the biokineticist.

In South Africa, a relatively sedentary society, there are rising levels of chronic diseases such as diabetes, chronic heart disease, depression, and obesity (Moss & Martie, 2011, p. 14; Mayosi et al., 2012, pp. 2030-2013; Coovadia et al., 2009, p. 817). Many of these diseases are non-communicable and therefore preventable through particular lifestyle changes, such as introducing regular exercise. While the need for professional biokineticists in South Africa is therefore undeniable, a 2009 study showed that there were only 799 practicing biokineticists registered by Health Professions Council of South Africa (HPCSA) (Moss & Martie, 2011, pp. 14-19). This same study suggests that there is a statistically evident insufficiency of biokineticists when one considers the increasing numbers of potential clients in South Africa (Moss & Martie, 2011).

A major reason for the insufficiency of biokineticists in South Africa, in spite of the growing need for such a profession, is arguably general confusion regarding their role and the service they offer the population. This confusion is emphasized by a common question asked in South Africa: “What is the difference between a biokineticist and a physiotherapist?” Several significant factors contribute to this confusion, such as 1) the profession is relatively new in South Africa, and 2) although a scope of practice is clearly defined by the Health Professions Council of South Africa (HPCSA) it remains wide, making the specification of the role of biokineticists difficult. However, this study focuses on a third important factor: the influence of the medical-scientific and economic communities, which promote dominant discourses that influence cultural understandings of health-related problems and how they are approached.

It is important to note that a biokineticist does not neutrally prescribe exercise in a social vacuum. As the professionals responsible for developing appropriate practices to promote wellness through exercise, biokineticists must take account of the discursive constructs by which the communities in which they operate might understand or misunderstand the human body and how it should be treated. It is also important to understand that the conception of the human body and its treatment is a discursive construction that changes over time and may vary across different cultures and communities. Further, the discursive constructs by which we understand the body and its treatment significantly influence our understanding of the role played by the biokineticist in promoting wellness and of how the biokineticist should interact with patients.

a. Research problem

At present, the dominant medical-scientific and capitalist-economic discourses still offer constructs that provide a narrowly mechanistic and instrumental understanding of the body and its treatment. Medical discourse remains inseparable from a kind of ‘scientism’ which promotes a mechanistic and ultimately dehumanising representation of the human body as a compartmentalised organism of physiological adaptations and responses. Alongside the discourse of ‘medical-science’, the prevailing capitalist-economic discourse promotes an instrumental view that commercialises our striving for healthy bodies through marketing campaigns under the guise of ‘healthism’, ‘fitness’, ‘lifestyle change’, ‘healthy living’ and so on, making it hard to differentiate between professional advice and profit-driven information. In consequence of these discursive influences, the major construct that dominates the field of health care is ‘risk discourse’. That is, instead of promoting a proactive, patient-driven responsibility for lifestyle change that promotes wellness, there is a strong emphasis on the health risks that a population may face and on the development of specialized

authorities which patients must depend on to deal with them. Internalization of this ‘risk’ mentality disempowers patients by instilling fear and dependence and this understanding of the human body and its treatment does not properly serve the purposes of the biokineticist who must promote a proactive, patient-driven responsibility for lifestyle change while remaining sensitive to a holistic conception of patients as humans who are constructed by varying historical, social and cultural factors.

b. Research hypothesis

From the above, one may formulate the hypothesis that a major factor contributing to confusion regarding the role played by biokinetics as a profession is the influence of dominant medical-scientific and capitalist-economic discourses. The main constructs concerning the body and how to care for it offered by these dominant discourses provide a mechanistic and instrumental conception of the human body and its treatment that does not adequately account for the role of the biokineticist as a professional who must promote wellness through promoting patient autonomy while remaining sensitive to a holistic conception of patients. The underlying assumption of this study is that this limitation may be addressed by providing a philosophically enriched conception of the human body and the treatment it needs to promote wellness which is more appropriate for the purposes of the biokineticist. Further, this understanding, in turn, will help redefine both what it means to be a biokineticist in South Africa and rearticulate the nature of the interaction between practitioner and patient.

c. Research aim and objectives

The main aim of this research is to clarify the role played by the biokineticist as the professional responsible for promoting a proactive, patient-driven approach to wellness as lifestyle change while remaining sensitive to a holistic conception of patients as humans who are constructed by varying historical, social and cultural factors.

The research question has four parts: 1) “How may a contemporary biokineticist understand, in order to challenge, the prevailing mechanistic and instrumental conception of the human body, dictated by reductionist medical-scientific and capitalist-economic discourses?” 2) “How may one develop a new understanding of the human body which supports an alternative discourse of proactive patient-driven responsibility for wellness?” 3) “On the basis of a new understanding of the human body, how may one redefine the role of the biokineticist and rearticulate the nature of the

interaction between biokineticist and patient?” 4) “What recommendations may be offered for best practice in the field of biokinetics?”

To answer these questions and achieve the main aim of the study, the research is divided into four main objectives:

1) Critically analyse the historical development of the contemporary medical-scientific and capitalist-economic discourses that encourage a disempowering and dehumanising ‘risk’ mentality in health care practitioners and patients.

2) Develop a philosophically enriched understanding of the human body, with the aid of Foucault and Deleuze and Guattari, which supports an alternative discourse of proactive patient-driven responsibility for wellness.

3) On the basis of this philosophically enriched account of the human body and its treatment, redefine what it means to be a biokineticist in South Africa and rearticulate the nature of the interaction between biokineticist and patient.

4) Offer recommendations for best practice in the field of biokinetics.

d. Research methodology

The proposed research is broadly situated in the field of philosophy, and more particularly within the domain of applied ethics. Philosophical research typically involves the critical analysis of existing conditions or issues for the sake of building new theories that address these in some way. Research in applied ethics is, in addition, normative in the sense that it includes the obligation to make recommendations for best practice on the basis of the newly created concepts and theories. Philosophical research, by definition, is qualitative because it aims to create concepts and build theories concerning various aspects of what it means to be human in this world (Deleuze & Guattari, 1994, pp. 2, 5). Qualitative studies differ from quantitative studies in that they are directed towards developing an in-depth understanding of an issue instead of focusing on the gathering and quantification of measurable data to be used as evidence to support a hypothesis or claim.

Like all scholarly disciplines, the field of philosophy has been characterized historically by different paradigmatic perspectives. In this research, the most viable contemporary paradigmatic perspective will be complexity thinking, as elaborated by Edgar Morin (2008, pp. 38-52). One of the most important implications for this study of a complexity paradigm is the insistence on viewing human existence in a holistic sense, which calls for interdisciplinary research.

Within this paradigm, the main research strategy that will be employed is a form of discourse analysis in the mode proposed by Foucault. According to Whisnant (n.d., pp. 4-5),

discourse as Foucault conceived it, 'is a social language created by particular cultural conditions at a particular time and place, and it expresses a particular way of understanding human experience'. Discourses can be thought of as sets of linguistically articulated rules, norms and stereotypes that shape our thinking, behaviour and way of life. Discourses can be analysed in terms of certain linguistic categories, such as the keywords and symbols that indicate a community's main interests, assumptions and dominant views. Importantly, these sets of linguistically articulated rules, norms and stereotypes, as Whisnant (n.d., p. 4) argues, work actively to 'structure social spaces', and power struggles between them can 'play a significant role in historical change'. Particularly when a new field of practice is being established, discourses compete for power to define its basic assumptions and methods of operation. Eventually some discourses converge to form a paradigm of shared assumptions. In the case of biokinetics; medical-scientific and capitalist-economic discourses have converged in this way. New discursive regimes must struggle against this entrenched and usually defensively protected set of assumptions and practices. This study represents part of a contemporary effort to promote a new paradigm of thinking and practice which challenges the shared assumptions of the dominant discourses. The most important of these for this research is the insistence on a holistic, non-mechanistic conception of the human body, which must be understood as existing in a complex environmental, cultural, psychological and historical context. This reaffirms the necessity of multidisciplinary research. While a specific area of focus has been selected, biokinetics, the research must to some extent extend across several other disciplines.

e. Discussion of chapter breakdown

In Section A of the study, a critical discourse analysis of ancient and contemporary societies is undertaken in order to assess the differences in constraints, rules, and truths surrounding the practice of exercise, health and the body. To begin, in Chapter 1, the history of the prescription of exercise as a form of health is discussed, specifically focusing on historical changes in the conception and treatment of the body in relation to changes in the dominating discourses of the time. It is argued that dominating discourses do not operate independently within a social vacuum. These discourses often overlap, each influencing the interactions, procedures and outcomes of the others (Popham, 2005, pp. 279-297).

In Chapter 2, the focus is on the preference for so-called 'scientific' reasoning in medicine. Medicine, for instance, is fundamentally concerned with the treatment of illness by means of applied knowledge (Hunter, 1991, p.18), but since the 1950s has become increasingly influenced by

a mechanistic and instrumental notion of ‘science’ (Berg, 1997, pp. 19-29). This preference, according to Berg (1997, pp. 19-29), resulted in an almost mathematical reasoning previously undetected in the realm of medicine, which included increased specialization, increased reliance on diagnostic and prognostic reasoning, as well as standardization of vocabulary and treatment practices. As a result patient’s are often articulated as merely an accumulation of data; observed, examined and normalised, ultimately, having their subjectivity reduced while the empirical evidence is valorised (Popham, 2005; Foucault, 1991). Insofar as biokinetics follows medicine in its methods and procedures e.g. consults and assessments, health insurance policies, consent forms, treatment planning, etc., it is bound by similar ‘scientific’ constructs. As such, biokinetics adopts an authoritative and objectifying approach to patients that minimizes the patient’s input, agency and, effectively, his/her humanity.

In addition, biokinetics as a profession has a tendency to believe all problems may be solved via empirical methods. Given this tendency, it is no surprise that a large portion of students doing their postgraduate degrees in this field focus on quantitative research. These studies are essential to the future development of this profession and by no means does the researcher of this study deny their value. However, a purely quantitative approach has the shortcoming of creating a compartmentalized understanding of the human body. This instrumental and mechanistic understanding of the human body oversimplifies the complexities of what it means to be a human trying to function well physiologically in a predominantly artificially created environment.

In Chapter 3, attention shifts to the capitalist-economic discourse which dominates contemporary lifestyles and health care. The idea that health has become a commodity that can be sold for a profit shows up, according to Berg (1997, pp. 19-27), in the medical profession’s investment in ‘business related methodologies’, such as: statistical analysis, mathematical formulas and calculations of profits and costs. For example, a large number of medical forms capture only minor medical details; the majority of the information required being business/admin related (Popham, 2005, pp. 291-294). Popham (2005, p. 287) points to the large number of administrative employees within hospitals, private practices and health clinics suggesting that these often, if not always, outnumber the medical staff.

The prevailing capitalist-economic discourse affects biokinetics insofar as it promotes an instrumental view which commercialises the striving for healthy bodies through marketing campaigns. ‘New public health’ is a collaboration of concerns, expectations and projects all involving conceptions of ‘healthism’, ‘fitness’, ‘lifestyle change’, ‘healthy living’ and so on (Petersen & Lupton, 1996). Within the South African context, there are a number of governmental drives promoting physical activity and the ideals of ‘healthism’ and ‘fitness’, such as the ‘Vuka SA – Move for your health’ initiative, Sport and Recreation’s Mass Participation programme, the Youth

Fitness and Wellness Charter, and the Health-Promoting Schools Initiative (Draper et al., 2006, p. 94). These 'new public health' drives, however, are often tied to economic imperatives, making it hard to differentiate between professional advice and profit-driven information.

A concept developed by Deleuze (1992) that is useful for clarification at this point is 'control society'. With this notion, Deleuze takes us beyond Foucault's (1991) conception of 'disciplinary society'. From Deleuze's (1992) 'Postscript on the Societies of Control', the insight emerges that an invidious, widespread network of 'control mechanisms' has replaced disciplinary sites of enclosure (hospitals schools, prisons, families and factories). This is incorporated to help elaborate on the negative effect that 'higher order' consumerist and corporate capitalism has on the practice of biokinetics from the side of both the 'patient' as consumer and the 'professional' as a profiteer.

In Chapter 4, as a conclusion to the first section, the dehumanizing effects of a 'risk' mentality, which is a major construct dominating contemporary health care, is considered. 'Risk', as a concept is not limited to health, but inserts itself into all spheres of the economic system affecting modes of existence in work, leisure, family and sexuality (Beck, 1992, p. 10). In health care, 'risk assessment' emphasises the health risks a population may face and focuses on the development of specialized authorities which patients may depend on in order to deal with them. Risk assessment is no alien to the biokineticist, who is required to classify his/her client according to risk assessment criteria before exercise can be prescribed. Certainly, one should follow procedures to ensure the safety of a client. However, the emphasis on risks may be more closely tied to a capitalist-economic agenda of professional self-protection whereby patients are disempowered by creating fear and dependence instead of focusing, for example, on the sense of self and agency that may be developed through movement (Crawford, 1977; Novas & Rose, 2000). Giddens (1991, p. 3) suggests that this proliferation of risk stratifications reflects attempts to establish 'controlled interventions' in what is found to be unpredictable phenomena. For example, human life remains complex and unpredictable as athletes and exercise enthusiasts who are classified by the medical industry as low risk patients fall dead from heart attacks. Thus, it is essential to challenge the implementation of risk criteria which is naively emphasised without first considering the discursive agendas driving them and the social outcomes of overemphasizing risk. Arguably the treating of the human body promoted by 'risk' as a construct does not properly serve the purposes of the biokineticist who must promote patient-driven lifestyle change.

In the second part of this study, alternatives to these limited mechanistic and instrumental conceptions of the human body and its treatment promoted by medical-scientific and capitalist-economic discourses are proposed. Because the treatment of the body is fundamental to the practice of biokinetics, an understanding of the body which exceeds interpretations of solely physiological

responses becomes important. To try and overcome the shortcomings of the prevailing dominating discourses concerning the nature of the human body, a philosophically and historically enriched conception of the complexities of the human body is developed. Two philosophies are drawn on to aid in this endeavour namely, Foucault and the works of Deleuze and Guattari. These thinkers and their work have provided the foundation for many studies in health, medicine and sport; all of which are closely related to biokinetics (Heyes, 2006; Fox, 2002, 2008; Markula, 2006; Miller, 2009 & Petersen, 1997). From these studies, useful questions regarding autonomy, political awareness and the self, and its relation to the body, are brought forward.

Chapter 5 is an investigation of Foucault's (1983; 1991; 2005) theories concerning the nature of the individual/subject. Foucault (1991) understood the individual/subject to be a construct of the discourses and institutions which surround him/her. He called this 'subjectification' (*mode d'assuiettissement*) (Foucault, 1983). Foucault's concept of 'subjectification' forces one to reflect upon the dominating discourses and therefore, assess and identify the institutions of power of a particular era or society in order to gain an understanding of the self/subject. In this way it is argued that the objectification of the patient endorsed by today's dominant discourses, the passive role given to and adopted by the patient, increased emphasis on risk criteria, and higher forms of self-surveillance have all contributed to a diminished subjective experience. Here, the patient/subject is deprived of his/her subjective experience of independence and agency under the watchful eye of the practitioner and enforced by the common practices of the surrounding institutions of power.

Foucault (1975) himself was very critical of medicine's rise in social status and its expansion of power following the French Revolution. He compares it to that of the power administered by the clergy prior to the Revolution, and even argues that the acceptance of the medical industry's claim to knowledge was as unjustified and uncritically accepted by the moderns as that of Medieval superstition (Foucault, 1975, pp. 31-32). For Foucault the medical view of the body which emerged towards the end of the eighteenth century (i.e. the 'clinical gaze') reflected broader social changes and processes of rationalization occurring in society at the time (Williams & Calnan, 1996, p. 1610; Foucault, 1975). Having outlined the rise of the medical profession from this historical perspective, Foucault (1975; 1991) then puts forward the notion that life itself is now being occupied and regulated through medicine by what he terms 'the political rationality'. 'The political rationality' is described as a 'corpus of knowledge' which exists in modern societies and effectively dominates and dictates the processes of subjection through 'habits, rules, orders, and an authority that is exercised continually allowing these relations to operate almost automatically' (Foucault, 1991, pp. 128-129).

Foucauldian constructionists draw attention to important elements of social control and surveillance which medicine exercises over our bodies (Williams & Calnan, 1996, p. 1610). What

Foucault termed a ‘panoptic system of surveillance’ is predicated upon a normalizing power whereby individuals are morally regulated into conformity (Williams & Calnan, 1996, p. 1610; Foucault, 1991). For Foucault, the medical profession along with other institutions including prisons, asylums, schools and military barracks, work together as an apparatus of control expanding the idea of the human body as a ‘docile’ subject (Williams & Calnan, 1996, p. 1610, Foucault, 1991).

These are other theories that explain the consistent rise in medicine’s social status such as: the bureaucratic and industrialized influence of customer reliance (Illich, 1976); improved marketing strategies (Illich, 1976); new technological developments adding to the success of these practices, and serving interests of powerful groups in society such as ruling capitalists (Navarro, 1975, 1986, Waitzkin, 1979, 1983). But whichever discourse prevails at any given time, Foucault’s theory still holds strong, suggesting that the change in the dominating discourse merely reflects the shift in the position from which ‘the political rationality’ acts. For example, if biokinetics became a dominant discourse, as opposed to medical-scientific and capitalist-economic discourses, the mechanisms of ‘the political technology’ would merely filter down from biokinetics and into its lesser discourses (Williams & Calnan, 1996, p. 1611). As it currently stands, these mechanisms of control belonging to the current ‘political rationality’ are invested in the protocols and practices administered by the biokineticist and contribute to the creating of docile subjects/patients.

The Foucauldian (1991) concepts of ‘observation’, ‘normalization’ and ‘examination’ provide conceptual tools to aid in identifying the influences of powerful dominating discourses. In effect they help identify the rules of play and, ultimately, assist in providing an alternative ethics of practice (Foucault, 2001, p. 143). Although Foucault denies liberation in the form of freeing oneself from the grasp of dominating discourses, he argued that a crucial part of attaining some form of autonomy consisted of understanding that there can be an alternative picture based on a different discourse (Heyer, 2006, pp. 138-140). As such, the strong connection between the discourse of wellness and the promotion of patient autonomy is amplified by employing Foucault’s notion of ‘the care of the self’ as articulated in his lecture series ‘The Hermeneutics of the Subject’ (2005).

In Chapter 6, Deleuze and Guattari’s theories concerning the nature of the human body are discussed. Their work was synonymous with post-structuralist thought in France during the 1950s which sought to liberate society from modernist confines (Best & Kellner, 1991). Their unique conceptualization of the world as ‘machinic’ provides an expression of the body that captures its complexity as a dynamic and ‘unfixed’ entity, which encourages, and successfully allows it to move beyond deterministic interpretations (Deleuze & Guattari, 1983; 1987).

Using a lexicon of unique terminology, Deleuze and Guattari (1983; 1987) build a theory in texts such as ‘Anti-Oedipus’ (1983) and ‘A Thousand Plateaus’ (1987) that navigates the complex

flow of desire. Unlike Freud, who emphasized its negative force, they emphasize the idea that desire is mainly a positive, creative, and powerful life force which must be embraced, rather than repressed. They admit that this is risky, because desire can be destructive, particularly because, as Freud pointed out, the end point of desire is the desire for one's own death. However, despite the necessary risks, human desire is what makes us immensely capable of new and creative feats. Desire, which is by definition never satisfied, motivates humans to keep pressing at the boundaries (to the point of risking death). Desire, therefore, keeps us on the move and enables us to transcend static, repressive models of thought such as those promoted by the state, medical discourse, and other normative criteria.

In order to produce a process-orientated experience of 'becoming', rather than a goal-orientated experience of 'being'; Deleuze and Guattari conceptualise embodiment as an open and experimental asubjective experience (Fox & Ward, 2008, p. 1008). Within this dynamic representation of the body, the question, "what is a body capable of?" is central. It introduces ethology (action and affect) as a key component of embodiment in favour of aetiology (cause and effect) (Buchanan, 1997, p. 74). Therefore, instead of investigating regimes of identity (significance, subjectification, and biological interpretations) Deleuze and Guattari seek to understand the body's potential to engage, connect, and influence both the environment and itself.

There is an existing discourse on the notion of 'flow' in psychology, which is addressed in tandem with the Deleuzian-Guattarian conception of the asubjective experience of embodiment. Two texts on psychology of 'flow' are investigated in this regard namely; Csikszentmihalyi's 'Flow: The psychology of optimal experience' (1990) and 'The concept of flow' by Nakamura and Csikszentmihalyi (2002). What is importantly noted here is that while in a state of 'flow' time is no longer perceived in a linear fashion and the boundaries between the self and the environment are perceptively diluted. These experiences are currently being empirically investigated and, in sum, offer valuable accounts of the way in which embodiment may be visualized e.g. not as developing into a static thing, but rather as becoming asubjective in nature (Nakamura & Csikszentmihalyi, 2002; Csikszentmihalyi, 1990).

Following on from this 'rhizomatic thinking' is introduced into the discussion. Rhizomatic thinking is a model of thought presented by Deleuze and Guattari (1987) which is based on the unique rhizome root system. Its properties of connectivity, heterogeneity, multiplicity, asignifying rupture, cartography, and decalomania help schematize a system of thought which attempts to transcend, if only temporarily, the hierarchical, homogenising, rational, and repressive models of thought (arborescent models) present within Western society (Deleuze and Guattari, 1987, pp. 8-21). Because of its inconsistency, and overall lack of structure, rhizomatic thinking cannot operate in a space completely devoid of arborescent (structured or logical) models of thought. Deleuze and

Guattari (1987, p. 20) write, 'There are knots of arborescence in rhizomes, and rhizomatic offshoots in roots'. Hence, because rhizomatic thinking is able to consider both, the 'fixed' and 'unfixed' components inherent in life, as a form of thought, it closely resembles what Morin (2008) has termed 'complexity thinking'.

Representing a model for complexity thinking, the rhizome approach has currently been implemented in a number of different fields, such as: health, sociology, education, medicine, knowledge management, information systems, organisational activities, and art (Parsons & Clarke, 2013; Reardon, Sanzogni, & Poropat, 2006; Semetsky, 2004). Its value is arguably found in its ability to embrace a dynamic atmosphere of change, creativity, and desire. For example 'emergent motivators' (such as those experienced in a state of 'flow'- see Nakamura & Csikszentmihalyi, 2002; Csikszentmihalyi, 1990) provide a useful image of how dynamic this atmosphere actually is. While in a state of 'flow' (often described by sportsmen and women as being 'in the zone') 'emergent motivators' are said to spontaneously emerge out of the moment (Nakamura & Csikszentmihalyi, 2002; Csikszentmihalyi, 1990). As a result, end-goals, as the primary drivers of actions, are replaced by proximal goals (derived from 'emergent motivators') and feedback responses between actions and these new proximal goals become almost immediate, with the proximal goals continuously updating with each new action (Nakamura & Csikszentmihalyi, 2002; Csikszentmihalyi, 1990). Similarly, unlike the 'fixed' (arborescent) perspective which attempts to 'chain' the body down to definitions that are quantifiable such as those represented by medical-scientific classification criteria, rhizomatic thinking provides a conceptualisation of the experience of embodiment which is 'emergent'.

Using this theoretical background, the researcher turns to the relatively new profession of biokinetics in South Africa and in Chapter 7, he address the task of redefining the biokineticist's role and responsibilities as the professional responsible for promoting wellness through prescribed exercise. In light of the complexities of human interaction the researcher also aims to define the role and responsibilities of the patient as agent, and finally, develop a conception of what it would take to ensure an empowering relationship between them. The study concludes with recommendations for best practice.

Section A

Chapter 1: A brief history of exercise and health

It is important to note that a biokineticist does not neutrally prescribe exercise in a social vacuum. As professionals responsible for developing appropriate practices to promote wellness through exercise, biokineticists must take account of the discursive constructs within their communities and the way that they operate. In order to do this, they need to understand that the conception of the human body and its treatment is a discursive construction which changes over time and may be different across cultures and communities. This is important as the discursive constructs by which the body and its treatment is understood significantly influences how the biokineticist is articulated within a society, thereby influencing the role he/she might play in promoting wellness and treatment of patients.

1.1 Critical discourse analysis

One manner in which to analyse a discursive construct/structure is to undertake a critical discourse analysis (CDA). The underlying premise of any critical discourse analysis (CDA) is the philosophical rejection of absolutism\ naturalism, which is understood as context free, neutral, truth claims made about reality 'as it exists'. In this sense, CDA argues that our understandings about the world can never be completely objective or absolute. Instead, CDA leans more towards a relativistic approach in that it supports the argument that reality can only be understood by humans through their methods of categorization. Furthermore, because human methods of categorization are potentially limitless, 'human reality' may in theory be open to multiple interpretations. However, CDA is not completely relativistic in that it acknowledges the existence of generalised discursive structures and recognizes their power to shape a widely shared understanding of human reality. For example, it is argued that the social processes, techniques and political inclinations of a society help to form discursive structures and that these become dominant in specific periods of time, providing members of a society with a shared representation of 'reality'.

Dominant discursive structures may be economic, medical, religious, mythological, military or scientific, all of which serve to differentiate, hierarchize, and homogenize, resulting in a social order that promotes certain actions and excludes others (Jorgensen & Phillips, 2002; Foucault,

1991, p. 178). They are subject to change, and as such, have differed throughout history (Jorgensen & Phillips, 2002). For example, in broad strokes, the church and its discursive practice characteristically governed societies of the Medieval era, whereas in modern society the capitalist-economic discourse and its discursive practices, in part, govern societies. In this way human reality is open to change, and this change is explained by the discourse analysts as a result of disruptions to the dominant discursive structures.

Disruption and change can occur within existing dominant discursive structures when key terms are successfully challenged by competing discourses. The reason key terms may be challenged is that they can take on diverse meanings in different discourses. A simple example of such equivocation would be the term 'abduction'. It's understood as a medical term within the domain of biokinetics, relating to the movement of a limb away from another part of the body, or from the body's centre. Although it retains the connotation of 'moving away', it means something completely different in another domain. In the political domain, it is a form of 'kidnapping', as in the abduction of a key political player by a terrorist organization. Given that discursive formations are representations, which create social meaning by giving 'truth' to some statements and by denying the 'truth' of others (Jorgensen & Phillips, 2002, p. 78), it is highly unlikely that there will ever be discursive competition over the medical and political meanings of this term. The word has a double meaning, but both meanings remain valid in their own domain, and neither meaning lays any claim to priority over the other. The situation is different if we compare the notion of a terrorist abduction with the meaning most common in popular culture, which associates abduction with aliens. In this case, a 'common sense' discourse constructs a human reality that easily accommodates the notion of a terrorist abduction, but has no place for the notion of an alien abduction. Anybody wishing to find a place in 'common sense' human reality (as opposed to movies and tabloids) for the term 'alien abduction' would have to contest its exclusion via a competing discourse, which accepts the existence of alien lifeforms. Discourse analysts, in sum, argue that our understanding of the world is 'the product of historically situated interchanges among people' which are both created and maintained by social processes, and that these processes are contested and fought over (Jorgensen & Phillips, 2002, p.5).

Because meaning is 'always created in political, discursive processes', it becomes necessary to map out the struggle whereby signs are given fixed meanings in order to expose the fact that some fixations of meaning have become so conventionalised that we think of them as natural (Jorgensen & Phillips, 2002, pp. 26; 33). This is what makes CDA relevant to research; it understands that a symbiotic relationship exists between discursive practices and social construction. As such it attempts to 'unmask' discursive formations which erroneously give 'truth'

to false statements, thereby disempowering the individual and communities by limiting their interpretations of reality.

1.2 Discursive structures of physical education

In order to assess how certain meanings come to be considered fixed, a discourse analysis must be undertaken. However, such an investigation is hindered by the simple fact that individuals in a society (including the researcher) are often unaware of the structures creating ‘truth’ or ‘meanings’ in everyday life. For example, Foucault (1991) argues that ironically the political power of the discursive structure is most efficacious and therefore most invisible in forming those parts of us that we believe to be most personal and innate (that is in forming what some have termed our ‘essence’). Any discourse analysis is made difficult in that the researcher must personally attempt to ‘disengage’ from these ‘fixed meanings’ in order to analyse them.

In *Discipline and punish*, Foucault (1988; 1991) applies four analytical tools to assist him in analysing the discursive influences operating within the penal system during the 18th, 19th and 20th centuries.

As a context, we must understand that there are four major types of these "technologies," each a matrix of practical reason: (1) technologies of production, which permit us to produce, transform, or manipulate things; (2) technologies of sign systems, which permit us to use signs, meanings, symbols, or signification; (3) technologies of power, which determine the conduct of individuals and submit them to certain ends or domination, an objectivizing of the subject; (4) technologies of the self, which permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being, so as to transform themselves in order to attain a certain state of happiness, purity, wisdom, perfection, or immortality (Foucault, 1988, p. 17).

Despite the fact that Foucault was analysing the penal system, the nature of dominant discursive structures suggests they are infused within all spheres of a society. By applying Foucault’s method of analysis, using these four technologies as a guideline, an understanding of the discursive structures acting on a society, past or present can be established; providing information about the ‘construction of social identities, social relations, and systems of knowledge, and meaning’ of a certain era (Jorgensen & Phillips, 2002, p. 67; Gutting, 2005, p. 73).

In this chapter these four guidelines are applied to the history of physical education (since biokinetics alone, as a specialization, is a relatively new profession). In short, this chapter is an attempt to outline possible elements responsible for the discursive formations affecting physical education within specific ancient societies, namely the ancient Greeks and Romans, and then the societies of the Medieval (Christian), Humanistic and Scientific eras. In doing so, this chapter illustrates possible reasons for the changes in both practice and instruction and explains why these changes were not entirely a result of linear progression in rational thought; specifically regarding the epistemology of ‘exercise as health’. Instead it is argued exercise, the body, and health are not inherently ‘key terms’ that operate with political power, but rather are shaped and fixed depending on the systems in place. By revealing and criticising the discursive structures responsible for the crystallization of the concept ‘exercise’ in the form of ‘exercise as health’, this study aims to restore the free association of ‘exercise’ as a sign, i.e. restore ‘exercise’ as a floating signifier¹.

1.3 The ancient Greeks (8th - 2nd century BCE)

A brief discussion of specific ancient societies follows, illuminating only central themes as the complexity surrounding each society is well beyond the scope of this study.

Hippocrates wrote: ‘Eating alone will not keep a man well; he must also take exercise. For food and exercise ...work together to produce health’ (cited in Berryman, 2010, p. 1).

The ancient Greeks are thought to have conceptualized ‘health’ as the absence of disease (Tipton, 2014). In addition, ‘exercise’ was prescribed as a preventative treatment for many conditions by physicians and philosophers, including Pythagoras, Herodicus, Diocles, Hippocrates, Plato, and Aristotle (Berryman, 2010; Tipton, 2014; Phillips & Roper, 2006; Grivetti & Applegate, 1997). Most of these physicians and philosophers prescribed exercises for health benefits that were moderate in intensity (Tipton, 2014). Herodicus was one of the few exceptions who prescribed vigorous exercise (Tipton, 2014, p. 113). Generally speaking, ‘exercise as health’ was not a foreign subject; being conceptualised somewhat similarly to contemporary understandings. However, distinct differences in social practices and relations, meaning and power exist between their society and ours. In an attempt to understand these differences, this chapter asks the following questions:

¹ ‘Floating signifiers’ are ‘the signs that different discourses struggle to invest with meaning in their own particular way’ (Jorgensen & Phillips, 2002, p. 28).

“From where did the ancients receive their information about ‘exercise as health’?”, “How was it received?” and “What social behaviours were considered acceptable?”

Three important discourses (or technologies of production²) influencing the practice of ‘exercise as health’ in the ancient Greek period were: education, mythology and morality.

Ancient Greek education emerged during the period between the eighth and sixth centuries BCE (Demirel & Yidiran, 2013). It was strictly structured and controlled by the state and was practised from school-like institutions, known as gymnasiums (Riva, Loffredo, Piludu, & Conti, 2010; Demirel & Yidiran, 2013, p 192). Here, students (males only) were given mental and physical instruction with the aim of deriving a ‘beautiful body, mental development and spiritual and moral hygiene’ (Demirel & Yidiran, 2013, p 192). A core component of the ancient Greek education system was physical education (Demirel & Yidiran, 2013).

Mythology influenced the individual’s psychological make-up through popular stories like Homer’s *The Iliad*, in the form of huge statues of their gods placed in strategic spaces in cities, and images portrayed in artwork, pots, vases and cups (Grivetti & Applegate, 1997; Drinkwater, n. d.; Gymnasium, 2015). There are many examples whereby mythology is shown to be closely associated with exercise. For example, the famous Olympic Games originated as a patronage to the gods. Also popular sports of the time like wrestling, weight lifting, and gymnastics were believed to have been created by Theseus, son of the god Poseidon and the goddess Aethra, and concepts like leverage, skill and wit were explained through mythology (Grivetti & Applegate, 1997, p. 861S; Phillips & Roper, 2006, p. 22). In fact, Grivetti and Applegate (1997, p. 861S) argue that athletics and sport in the ancient Mediterranean world begin with mythology. Furthermore, each gymnasium was assigned to a god, e.g. Hercules, Hermes and Thesues (Gymnasium, 2015). As mythology played such a vital role in ancient Greek society, it is no surprise that it influenced the practice of ‘exercise’; arguably elevating ‘exercise’ to the status of a ‘holy/sacred’ enterprise (Phillips & Roper, 2006; Grivetti & Applegate, 1997; Laker, 2000).

Athenian education also encouraged acceptable values and attitudes and it used physical education to instil them (Laker, 2000, p. 7). According to Foucault (1988, p. 19), the dominating ethical value, which encompassed the entire ethos of the ancient Greek nation, was self-love. He claims this notion of self-love was so apparent that it was responsible for bringing the famous Delphic maxim ‘know thy self’ into practice (Foucault, 1988, p.12). Thus in an attempt to develop ‘spiritual and moral hygiene’, self-love formed a large part of everyday life, education and exercise (Demirel & Yidiran, 2013, p. 192, Foucault, 1988). In this way ‘exercise as health’ was not understood only in the context of the physician and his knowledge, as it is so often represented by

² ... that which permits us to produce, transform, or manipulate things’ (Foucault, 1988, p. 17).

essentialist approaches. Instead, self-love also influenced how it was practiced, understood and taught.

Self-love was not, as may be the case today, interpreted as self-absorbed or self-indulgent, but rather expressed as an imperative for right conduct and proper practice of freedom for the Greek citizen (Foucault, 1997, p. 285). Slaves were not expected to attain it (Foucault, 1997, p. 288). Aristotle wrote of self-love, making a distinction between true self-love and vulgar self-love, favouring true self-love as the development of one's rational powers expressed by the Greeks as *phronêsis*, which names the practical wisdom that guides any virtuous endeavour (Demirel & Yidiran, 2013; Homiak, 2015). The ethos of self-love meant that an enriched experience of 'exercise' played a major part in the ancient Greek educational system. This holistic approach to exercise, with its rich ethos of autonomy, is mostly absent in contemporary settings whereby the 'active patient' must navigate through the increasingly consumer-cultured medical industry unaided (see Chapter 3 & 4).

In addition to these three nodal points in the production of 'exercise as health', various relations of power³, such as 'harmony/symmetry' and 'fate', influenced the notion of 'exercise as health'.

The privileging of harmony/symmetry filtered through ancient Greek society in many forms. For example, it was thought to produce good health between humors (as expressed in the medical epistemology of Hippocrates and Galen- see Berryman, 2010). It was also expressed in artworks and sculptures in the articulation of mythological gods (The twelve gods of Olympus were originally six males and six females), and in the relation between the mind and body (Demirel & Yidiran, 2013, p 192; Tipton, 2014; Riva et al., 2010). The belief in mind-body symmetry was so blatant that, as Laker (2000, p. 7) argues, an unfit or 'out of shape' body in Athens was considered a sign of poor education. This influence of the harmony/symmetry 'mechanism' on the practice of 'exercise as health' was visible in the rationalizations provided by physicians who prescribed moderate intensity exercises to patients for health benefits. These prescriptions were seen as being responsible for re-establishing the harmony of the elements, while vigorous exercise was considered negative as it disturbed this harmony (Tipton, 2014). The force of harmony/symmetry also encouraged a certain kind of 'exercise', whereby individuals aimed to manipulate their physiques so as to emulate as closely as possible the perfect attributes of their gods who were depicted as 'super humans' or their heroes like Achilles who represented the idealistic 'man of action' (Grivetti & Applegate, 1997; Laker, 2000, p. 6)

³ Relations of power determine the conduct of individuals and submit them to certain ends or domination, an objectivizing of the subject' (Foucault, 1988, p. 17).

Fate and its corollary acceptance were equally important relations of power which had an influence on the behaviour of citizens in ancient Greece. For example, in the popular story of Achilles, Hector is deliberately left to be killed by this god-like hero. Jove asks ‘Shall we save Hector...?’ to which Minerva protests against the idea of saving a mortal doomed long ago by destiny’ (Drinkwater, n.d., p. 49). Thus, even the threatened loss of their noble prince was not enough for them to tempt fate and save him. This story indicates that the notion of fate was embedded deep within the ancient Greek psyche and became a core part of the individual subject. Thus for the religious citizen of the Homeric period, fate was a powerful mobiliser of individual action and thus a considerable force. Fate encouraged a spirit of courageous acceptance with regard to various physical ailments and circumstances. This spirit of acceptance contrasts strongly with the promotion of obsessive tendencies and even an addiction for exercise in contemporary settings where ‘health’ is sold for profit and reproduced as a discourse of ‘risk’ from institutionalized medical- scientific perspectives (See Chapters 2-4).

Ancient Greek societies had unique technologies of production and power and their customs, specifically surrounding ‘exercise as health’, were forged as a result of the competitive interactions between these technologies. This helps to explain why, despite the fact that their foundational understanding of ‘exercise as health’ matches contemporary understandings, the social customs surrounding exercise as a practice are very different. For instance, male Greeks exercised naked in large training facilities called *palaestras* and *gymnasiums* that were dedicated to various gods. They had idealistic tendencies towards perfect balance between mental and physical instruction, and strived for the perfect bodily proportions (symmetry) seen in their artworks and surrounding their cities in the form of statues. They represented health and medicine as a harmony (balance) between various elements known as humors. It becomes clear then that the ‘authority figures’, the philosophers and physicians, were not the only powers from which society’s rules regarding ‘exercise as health’ were established. Instead the ancient Greek individual would have aligned with mechanisms such as harmony/symmetry and fate when applying various ‘operations on their own bodies and souls, thoughts, conduct, and way of being’ in order to transform themselves to reach a ‘state of happiness, purity, wisdom, perfection, or immortality’ (Foucault, 1988b, p. 18). Beauty in appearance (symmetry), moderate exercise and diet (harmony) and the strong, well-proportioned male body were all signs of health, and were given a privileged position in ancient Greek society as a result of these technologies of production and power (Goldhill, 2004).

In sum, for ancient Greeks, to be a well-balanced healthy individual, living a life of moderation was more than a personal endeavour encouraged by, for example, financial gain. Rather it was re-enforced by a strong connection to education, religion and moral inclinations.

1.4 The ancient Romans (2nd century BCE- 5th century CE)

After conquering Greece, the Romans adopted many of the social customs and beliefs of the Grecian people (Phillips & Roper, 2006, p. 22). For example, they utilized many of the same buildings for physical training such as the *gymnasiums* and adopted many of the Greek gods as their own (Phillips & Roper, 2006, p. 24; Tipton, 2014, p. 114). However, there were distinct differences between the discursive structures of the Romans and the Greeks, especially with regards to physical education. For the Romans, military training was more advanced in the sense of discipline, control and standardization. For example as Mechikoff (2010) argues, the Roman soldiers were able to defeat the Greeks because they were able to master the ability to cooperate and fight together as a single unit.

Military operations were paramount and therefore played a major role in the war-orientated Roman civilization (Conti, 2014, p. 2; Zimmern, 1983, p. xviii). As a result, education, which in the Greek civilizations was composed of symmetrical division between mental and physical instruction, was more closely associated with the latter in Roman civilization (Demirel & Yidiran, 2013, p. 200). Further, Roman physical instruction comprised mainly of practices which prepared the student to become a soldier and included activities that ‘develop[ed] strength of body, courage in battle, agility in arms and obedience to commands’, while mental instruction remained rudimentary compared to the ancient Greeks who practiced it as an aspiration towards divinity or moral endeavour (Van Dalen & Bennett, 1971, p. 70). The Roman state required disciplined soldiers and practical politicians. Mechikoff (2010) writes: ‘The legions screened applicants for military service and selected only the best physical specimens. Equally important was the selection of men who could read, write, and do some mathematical calculations’ (cited in Gabriel & Metz, p. 43). Under such circumstance, students posing critical questions were perceived as a threat or challenge to the ideology of the state, and as a result many Greek philosophers living amongst the Romans were prohibited from teaching students the art of rhetoric and other autonomous behaviours (Simkin, 2007). In sum, Roman education was merely a means to fulfil practical, military goals.

As the Roman Empire expanded, so did its population. This resulted in a large number of individuals (over one million in an area ‘less than twelve miles square’) who were not directly involved in warfare (Phillips & Roper, 2006, p. 23). This large population has often been described as a nation of spectators. Unlike the Greeks who themselves participated in competitive games like the Olympic Games, the Romans preferred to train slaves and watch them compete in events like the gladiators (Demirel & Yidiran, 2013, p. 192; Phillips & Roper, 2006, pp. 24-25). In this respect these events were more for entertainment. The state capitalised on this obsession for entertainment using the gladiators to keep the masses docile, thereby preventing them from becoming too bored

and ultimately conspiring against the state (Mechikoff, 2010; Phillips & Roper, 2006, p. 23). A parallel can be made here between the Roman society of spectators and contemporary American society, which is commonly referenced as the ‘sleeping giant’; kept docile through entertainment and dosed on junk food so as not to cause too much trouble for the state and its functions. Both societies are arguably governed through complex mechanisms which ensure the promotion of predominantly docile bodies among ‘the masses’ rather than autonomous, free thinking individuals.

Another source of entertainment was provided by the popular custom of ‘bathing’. Large bathing areas were built and situated throughout Roman cities (Phillips & Roper, 2006, pp. 22-23). They acted as a space for social interactions with facilities nearby for competing in physical activities such as ‘weights, jumping, running, wrestling and a number of ball games’ (Phillips & Roper, 2006, p. 23). These areas replaced the Greek *gymnasium* as the central ‘hub’ of social interaction. This is significant as it symbolises how the power relations were transformed. That is, the Greek’s social actions, especially while in the *gymnasium*, were always judged as a representation of, or attributions to, the gods. By contrast, the Romans moved away from the *gymnasiums* (which could be expressed as a metaphor for moving away from the gods), preferring the experience of bathing and light to moderate physical exercise (purely bodily experiences of both, leisure and comfort) (Toner, 1995, p. 7).

Thus Roman society arguably existed along two poles with regards to physical education. On one side it was a society immersed in activities of leisure and spectatorship; and this ontology was embraced by the majority of individuals who lived within the ‘protected’ walls of the Roman Empire. On the other side there was the military component which created bodies that were designed for war; they were strong athletic bodies produced by rigorous exercise and training. However, neither of these ontologies created a holistic frame consistent with ‘exercise as health’.

There are some traces of ‘exercise as health’ found, for example in the works of Galen (129–210 CE), a Greek physician who lived during the epoch of the Roman Empire. He established an important system of observation for monitoring an individual’s health using five factors still relevant today, namely: ‘1) things consumed, 2) things being eliminated from the body, 3) things done as exercise, walking, riding, massage, sleep, etc., and 4) things happening from without’ (cited in Tipton, 2014, pp. 114-115; Singer, 1997). In addition, he prescribed exercises for patients affected with ‘disorders or diseases associated with arthritis, depression, dropsy, epilepsy, gout, tuberculosis, and vertigo’ (cited in Tipton, 2014, p. 115). He also recommended exercises using a small ball and these exercises are similar to contemporary exercise prescription which favours activities of moderate intensity (cited in Grivetti & Applegate, 1997; Tipton, 2014). In sum, he made a number of observations regarding the body and its environment. Celsius (25 BCE- 50 CE) is another famous physician of the time who encouraged moderate exercise for health benefits,

whereby exercise was considered to be ‘reading aloud, drill, walking, and running, but never to the degree of sweating or to the level of fatigue experienced by athletes’ (cited in Tipton, 2014, p. 114). Interestingly, these two physicians are part of a selected few who practised during these times of monumental expansion. Juxtaposing the limited physicians of historical importance arising from this era against the size of the Roman population, the masses of Gladiator spectatorship, the importance of ‘bathing’, and the desire and need for soldiers, it becomes apparent why ‘exercise as health’ did not feature as a major part of the discursive formation of this period.

In sum, Roman society experienced the body as means to an end; first as a machine of war or violence. Seeing the body ripped apart by animals in the great coliseums, for example, was common practice. In addition, it was a nation constantly at war in which the body again would have been exposed to other violent acts and ‘openings’. Parallel to this, indicated by the popularity of bathing, the body was experienced as a site of pleasure and comforts. In this regard the idealistic-values expressed by the Greeks were not present in the Roman’s representations of physical exercise or the body (Phillips & Roper, 2006, p. 24). Instead the ‘man of action’ or ‘god-like entity’ was replaced by the Romans for a purely practical approach whereby the body was represented as a machine of war, part of a spectacle as symbolized by the event of the Gladiators, or the source of sensory pleasure. Greek writers like Philostratus (170 – 248 CE) and Galen (129–210 CE) living during the Roman era expressed contempt for the loss of the common practice of *phronêsis* (the practical wisdom that guides any virtuous endeavour) which thrived in ancient Greece culture (Demirel & Yidiran, 2013; Homiak, 2015; Konig, 2005, pp. 267; 283; Drinkwater, n.d.; Grivetti & Applegate, 1997). As such, the Roman individual is thought to have approached exercise and the body from a completely different perspective; one that was more ethically passive and indifferent.

1.5 The Medieval era (5th - 14th century CE)

The Medieval era began after the fall of the Roman Empire to various tribes and clans. The Empire had recently been divided into two spheres, the Western and Eastern, and it was the Western Empire which fell to these tribes in the fifth century CE (Gaarder, 1995, p. 143; Drinkwater, n.d., p. 218).

The Medieval era was far less advanced than the Roman. For one, the large population of Rome (greater than 1 million) was drastically reduced to forty thousand people due to constant war, pestilence and famine (Gaarder, 1995, p. 144). In addition, very little literature was produced during this period and the economy returned to a bartering system (Gaarder, 1995, p. 144). The church and state fought for supremacy throughout, and by the year 529 CE the church succeeded in closing Plato’s Academy, putting to rest the last of the Greek schools of philosophy (Gaarder, 1995, p. 143; Drinkwater, n.d., p. 218). In the same year the Benedict Order, the first of the great monastic orders,

was founded (Gaarder, 1995, p. 143). As a result, most of Europe soon became united under the banner of the Christian doctrine.

The Medieval era is characterized as being a period of narrow, closed (conservative), and over-authoritative understandings. This inflexible nature resisted new ways of thought, while at the same time it reformed the Ancient's understandings so that they aligned with Christian doctrine. For example, famous philosophers of this period such as St. Augustine (354-430 CE) and St. Thomas Aquinas (1225- 1274 CE) are said to have 'Christianised' the ideas of Plato and Aristotle (Gaarder, 1995, p. 151; Drinkwater, n.d., pp. 220-223; Phillips & Roper, 2006, p. 26). In sum, most knowledge produced in Europe during this period was, in one way or another, associated with theology. However the Arabs, who did not adopt the Christian doctrine, salvaged some of the ancient Greek philosophies, especially Aristotle's, and progressed rather liberally with regard to science, philosophy and mathematics (Phillips & Roper, 2006, pp. 25-29; Ryan, 1984, p. 4; Gaarder, 1995, p. 145; Drinkwater, n.d., p. 219). Nonetheless, the majority of Europe was governed by a discursive structure heavily influenced by the church, and this meant that earthly understandings and values that respected human qualities were replaced by ecclesiastical practices (Demirel & Yidiran, 2013, p. 194; Gustafson, 2013, p. 157; Laker, 2000, p. 10; Gaarder, 1995, p. 149).

As a result, the unique and popular spectator sports of the Roman Empire ceased along with the understanding of the body as a war machine (Phillips & Roper, 2006, pp. 25-29). The mind-body symmetry and the religious promotion of physical activity produced by the ancient Greeks were equally lost under this regime (Laker, 2000, p. 10). Instead the body was more closely associated with 'impurity' as a result of the church's teachings of 'eternal life', 'the soul', and 'sin'. For example, it was taught that in order to remain without 'sin' and achieve 'eternal life', 'the soul' must reject the vile and carnal cravings, desires, and temptations of the body (Laker, 2000, pp. 9-10; Phillips & Roper, 2006, pp. 25-29). Under such a regime, previous discursive structures, which promoted 'exercise as health', were challenged and removed by one in favour of promoting the body as a mechanism of 'sin' and 'impurity' (Phillips & Roper, 2006, pp. 25-29).

However, some forms of physical activity persisted and were often permitted only during special holidays or festivals (Phillips & Roper, 2006, p. 27). Among these, ball games became a popular choice (Phillips & Roper, 2006, pp. 25-29). However, these physical activities were not performed for health related reasons, but instead were said to represent the battle between good and evil (Laker, 2000, p. 9). Rather it was the Arabs who managed to maintain the idea that exercise was a form of health as reflected in the works of Moses Maimondes who wrote, 'Anyone who lives a sedentary life and does not exercise ... even if he eats good foods and takes care of himself according to proper medical principles all his days will be painful ones and his strength shall wane'

(cited in Ryan, 1984, p. 4). It took the Europeans a thousand years to adopt a similar understanding towards exercise.

In sum, statues were not built during the Medieval era to honour the body, stadiums were not filled to see it perform, stories of human valour and fate were not common, and measures made to embrace bodily leisure and comfort were not promoted. Instead the majority of individuals in this period were encouraged to negate the body, repent, and follow the word of God, while enduring the physical hardships of a feudal system. They thus, arguably, had no or very little understanding of the benefits of exercise with regard to health. Although the knowledge was available to the church authorities, 'exercise as health' did not align with the agendas of the time and therefore held little political influence.

1.6 The humanistic era (14th – 17th century CE)

The humanistic era began in Italy in the late fourteenth century (Mechikoff, 2010, p. 194). It was a period of rich cultural development and was characterized by the need to define oneself in this world as opposed to the next (Phillips & Roper, 2006, p. 30). A common phrase of this period was 'Horses are born, but human beings are not born – they are formed' (Gaarder, 1995, p. 165).

This new freedom to delight in the here and now created vast possibilities and opportunities. For one, schools in Italy slowly started to adopt a new 'human epitome' which aimed to replace discipline and blind obedience encouraged in the Medieval era with a new found emphasis on the individual and his/her inclinations, needs and interests (Laker, 2000, pp. 10-11). As such, 'imagination, ingenuity and diligence' became favourable attributes (Gustafson, 2013, p. 163). However, the Church's resistance to these humanistic endeavours remained a powerful force during the entire humanistic era, especially outside of Italy. The anti-humanist movement was soon established by the church and state which opposed the new ideas of liberation and freedom. Thus, despite the positive connotations of the humanistic era, it also had a 'dark side' and was a period in which the burning of heretics, the persecution of witches, magic and superstition, and brutal religious wars were common practice (Gaarder, 1995, p. 166).

A number of important social changes and developments occurred during this period which helped fuel new thoughts and ideas. For one, a middle class developed, whose members were afforded new freedoms with regard to basic conditions of life (Gaarder, 1995, p.166). This class was formed by the aristocracy's demand for individuals educated in commerce; that is able to administer new land rights, calculate taxes, and enforce other laws of the land (Gustafson, 2013, pp.156-157). The narrow and self-interested doctrines of the Church were thus challenged to

introduce practical disciplines of finance and common law into the schooling curriculums (Gustafson, 2013, p. 156). It is for this reason that some researchers have linked the origins of the humanistic era with the birth of capitalism (Phillips & Roper, 2006, p. 31; Gustafson, 2013, p. 156).

New discoveries like the compass, firearms and the printing press changed the way in which the world was perceived (Gaarder, 1995, p. 165). The compass brought discoveries of new lands like the Americas. Firearms gave superiority to the Europeans over the Americans and the Asian cultures. The printing press exacerbated the notions and ideas of the humanistic period. In addition, it removed the Church as the sole dispenser of knowledge (Gaarder, 1995, p. 166).

Pantheism was promoted by Giordano Bruno, Spinoza and later Hume, which suggests that God exists everywhere in nature and in life, and was a completely new way of comprehending God, the world, and human existence for the medieval individual. These individuals were indoctrinated to believe that heaven and Earth operated under separate laws and that God's dwelling place was in heaven. In addition, Earth and human beings were considered central parts of God's plan and in effect Earth was represented as the centre of the universe (Gaarder, 1995, pp. 170-171). However, new scientific discoveries of Galileo, Newton, and others contradicted these teachings and instead encouraged the ideals of pantheism. For example, their discoveries led to the replacement of the geocentric worldview, which stated that everything circles around the Earth, by a heliocentric worldview, which states that everything circles around the sun (Gaarder, 1995, pp. 170-171). This meant that other planets (heavenly bodies) were governed by similar laws as those witnessed on Earth; that is there was no impenetrable barrier separating the two (Gaarder, 1995, pp. 170-171). Not only were the Church's doctrines forcefully questioned by these discoveries for the first time in over thousand years, but the importance and significance of human beings in the universe was also questioned (Gaarder, 1995, p. 176). These discoveries aided the objectives of the time in that they encouraged the need to reconceptualise the prevailing representations of the Medieval era for a more humanistic approach.

Within this paradigm the social construction of the body also changed (Phillips & Roper, 2006, p. 29). It became less and less associated with sin. Marsilio Ficino (1433-1499 CE) highlights this new representation of the body when he expressed the body as 'divine lineage in mortal guise' (cited in Gaarder, 1995, p. 166). As a result, educational systems, predominately in Italy, began to adopt dancing and fencing as practices that focused on the importance of the body and its capabilities, as well as mind-body appreciation. For example, the Da Feltre School applied similar principles of the ancient Greek mind-body symmetry, encouraging 'daily exercises such as swimming, riding and swordplay, and generating love towards nature via hiking' (Demirel & Yidiran, 2013, pp. 195- 196). However, despite these bodily practices which reflected the spirit of the time and favoured physical education as a worthwhile practice in itself, they remained a minor

part of the educational system in the rest of Europe (Phillips & Roper, 2006, p. 31; Gustafson, 2013, p. 162; Laker, 2000, pp. 10-11). Instead the majority of European schools and universities continued to consider physical education as a means to an end, whether that end was war, social skills, or gracefulness (Laker, 2000, pp. 10-11).

In 1569 CE, Heironymus Mercurialis wrote *De Arte Gymnastica* in which he defines medical gymnastics as a ‘preventative practice for the healthy, a therapeutic intervention for the elderly and sick, and rehabilitative for the disabled’ (Demirel & Yidiran, 2013, p. 196; Ryan, 1984, p. 6; Conti, 2014, p.3). His work has many similarities to contemporary rehabilitative medicine and as a result he has been described as the founder of modern rehabilitative medicine, in spite of the fact that the profession was a few hundred years away from being formally established (Ryan, 1984, p. 6). However, Mercurialis’s work was also iconic of the humanistic period because it moved beyond the ‘tranquillity, moderation, and restraint’ of the Greek humanistic point of view (Ryan, 1984, p. 6; Gaarder, 1995, p. 167). Like many of the philosophers, artists and scientists of this era, he investigated ancient Greco-Roman texts and then modified them so that they aligned with the eccentric character of the humanistic era (Demirel & Yidiran, 2013, pp. 194-195). For example, he used Hippocrates’s and Galen’s system of humors to explain health and illness, but in contrast to these physicians who promoted moderate exercise to provide harmony to the humours, he recommended vigorous exercise (Ryan, 1984, p. 6). Thus the valued traits of ‘imagination, ingenuity and diligence’ of this era encouraged him to create new and unique interpretations that pushed the boundaries of previous thought (Gustafson, 2013, p. 163).

As a result, the body slowly developed a new image as old systems of power fell to newer ones. Knowledge of human anatomy, surgery and the cardiovascular system, enhanced by Michael Servetus (1511-1553 CE), Andreas Vesalius (1514-1564 CE), Michelangelo (1477-1564 CE) and Da Vinci (1452-1519 CE) respectively, created a multitude of new social orientations both inside and outside the realm of physical education (Hatch, 2002). Cadavers were dissected by Da Vinci and Michelangelo to enhance their artistic abilities, by Vesalius to educate students of medicine, and by Servetus to help prove that blood is the life source and is transported by the veins and arteries (Hatch, 2002). Thus the human body not only became a vehicle through which various virtues could be obtained, as Froebel highlighted, ‘without such cultivation of the body, education can never attain its object, which is perfect human culture’ (cited in Phillips & Roper, 2006, p. 33). However, it was also caught between the concept of God and nature, and both were becoming more and more open to further experimentation and investigation.

1.7 The scientific era (17th – 21st century CE)

The scientific era, like previous eras, resulted in the solidification of various shared representations of the body and its health. However, vast growth and technological advancements have allowed for such shared representations on a global scale, making them far more powerful. The concern here is that these global representations may come to be perceived by the average individual as permanent and unchangeable, resulting in apathetic attitudes towards institutionally created 'truths'. One relevant example is the modern conceptualization of 'exercise'.

The modern conception of 'exercise' is that it is one of the most valuable forms of medicine (American College of Sports Medicine, 2015). Besides the fact that it is relatively inexpensive, it is used to treat a multitude of health conditions including *inter alia* obesity, osteoporosis, high blood pressure, muscle dystrophy, and anxiety. It is also understood as a preventative health intervention for many non-communicable diseases. It improves general quality of life by providing individuals with more energy, strength and endurance, allowing them to complete their activities of daily living more easily, and, finally, it is used to treat mental disorders such as depression. Although it is not identical to traditional medicine, which prescribes herbal remedies, or contemporary medicine, which dispenses pills, it is similar in that it is prescribed to patients in specific doses by modern professionals, such as the biokineticist.

In addition to treating medical conditions, it has a fundamental role in the conceptualization of contemporary 'health'. For example, the World Health Organization (WHO) defines 'health' as mental, physical and social well-being, and not merely the absence of disease (WHO, 1948). Thus 'exercise' effectively satisfies all the criteria of 'health' as set out by the WHO. There are other criteria which influence one's health, e.g. the importance of age, culture, environment and personal responsibility; however, 'exercise' has become the phenomenon most readily associated with health (Bircher, 2005; Saracci, 1997). In fact, if exercise were suddenly shown to be 'unhealthy', the WHO would battle to find a replacement.

'Exercise as health' is a concept that is arguably so well engrained it no longer appears to be doubted, but rather has become 'common knowledge' among contemporary urban populations. Health pedagogy has managed to establish this dominance through 'political processes and struggles' over time (Jorgensen & Phillips, 2002, pp. 36-37). In this way health pedagogy acts as a discourse, fixing the meaning of exercise, and making it a privileged sign or nodal point⁴.

⁴ Nodal points are the privileged signs around which a discourse is organised. But these signs are empty in themselves (Jorgensen & Phillips, 2002, p. 28). It is given explicit meaning from within a certain paradigm (in this case health pedagogy) and therefore forms a central part of that paradigm (Jorgensen & Phillips, 2002).

Simultaneously, other representations of exercise are restricted, e.g. exercise as fun, or exercise as a mindful and awakening activity. Instead, what most people think concerning exercise is a reproduction of what the health discourse has produced, namely 'exercise as health'. For example, all exercises prescribed by the biokineticist are monitored (observed), tested (placed under examination), and prescribed (normalized) using scientifically based protocols which align with the contemporary health discourse (Minister of Health, 1994).

The contemporary shift in the conceptualization of exercise places it less in the domain of therapeutic sports or education and more squarely in that of medicine. With this shift, the specialized field of biokinetics has evolved, to train professionals able to prescribe exercise as a form of medicine. Similar to the physician, the biokineticist is required to perform a consultation prior to any recommendation or treatment. This consultation is the first space of 'real' contact between the patient and the practitioner. It is therefore important in establishing the 'rules' of play within the practice of biokinetics. For example, before the biokineticist begins with any evaluation or examination he/she must obtain consent from the patient and, in response; the biokineticist agrees to keep all information about the patient confidential. The biokineticist is also required to gather the patient's 'medical history' before examination and testing may commence. Other examples of medical rationale being applied to biokinetics include a focus on the disease rather than the patient. Further, the patient's voice is understood as secondary or inferior to the professional's voice (professional hierarchy), and there is a rejection of alternative methods of medicine (e.g. yoga). In addition, medicine produces objects and materials which are introduced into the practice of biokinetics, such as, the stethoscope, blood pressure cuff, plinth, and electrocardiogram (ECG), which further suggests medicine is a 'technology of production' in the practice of biokinetics, and thus physical education.

Drawing attention to the scientific domain (which forms part of the medical-scientific discourse), are the methods of measurement utilised by the biokineticist during consultations. Here various technologies, such as the heart rate monitor, dynamometer, cybex or biodex, skinfold callipers and goniometer, are used to measure the physiological and biomechanical components of patients. In order to articulate these technologies the biokineticist must attain a certain kind of scientific rationale that gives understanding to forces, ratios, momentum, angular velocity, lever manipulations, and extrapolation techniques.

Furthering this argument, which expresses science's strong hold in biokinetics, is the fact that in South African universities, physical education is now rooted in the science department. However, this was not always the case. It was first introduced within the realms of the education department at Rhodes University in Grahamstown around 1945 CE, where the classes were taught in large halls. But in 1983 CE physical education was transferred into the science department under

a new guise, namely, ‘human movement studies’ (Department History- History of the Department, 2015). From within this political-intellectual climate, programs for human movement studies developed, such as kinesiology studies, human ergonomics, and exercise science (Siedentop, 2008, p. 53). By the 1990’s, the kinesiology movement became an official umbrella term for sport, fitness and physical education (Siedentop, 2008, p. 53). As technologies developed, micro scientific studies were more commonly transferred into studies of kinesiology and new sub-disciplines emerged such as biomechanics, biokinetics, exercise physiology, motor control, sport psychology, etc. In sum, the transferring of physical education into the science departments of major universities in South Africa has resulted in major changes to its reasoning and operations which, in turn, have allowed science to become a ‘technology of production’ of the new discipline of biokinetics.

Other ‘technologies of production’ include the economic-capitalist and risk discourse. Here the biokineticist is responsible for stratifying his/her patients usually according to physiological and biomechanical risks criteria. Once stratified, the biokineticist uses the results to develop a health profile for his/her patient. Such health profiling, risk assessment and placement have become key components in the world of health insurance and corporate health, whereby both these entities attempt to entice their members to continually improve their individual health profiles in order to minimize ‘risk’; and they often do this using monetary incentives (Crawford, 1977). In this way, individualisation and consumer culture paradigms, promoted by commerce, are better articulated as a result of their association to the biokineticist’s risk stratification and health profiling techniques. As a result, biokinetics adds value to various economic imperatives, assisting in providing marketing opportunities for corporate industries. Simultaneously, the economic and risk discourses become valuable ‘technologies of production’ for the practice of biokinetics as they progressively support the production of ‘healthy’ bodies.

Unfortunately, the pervasiveness of these ‘technologies of production’ and their mechanisms of disciplinary control often remain hidden to those under their direct influence i.e. the patient, and even the biokineticist, which has a number of negative effects on the patient-practitioner relationship (see Chapter 5). Although in some cases these effects have been recognized and appeals have been made, it is arguably due to the lack of understanding from the general public surrounding the historical fluidity of these conceptualizations which ‘traps’ them within the habitual acceptance of these structures as ‘fixed’. In sum, the boundaries set by these structures often remain, and thus, set the limits to thinking and action within society regarding exercise.

1.8 Conclusions

This chapter explored how dominating discourses have influenced the practice of physical education from a historical perspective. Essentially what became clear was that the historical development of knowledge within a certain discipline, such as physical education, is not linear in nature. It therefore does not progressively improve from one stage to the other, but rather is always made relevant to the objectives of the dominant discourse of that time.

Although some societies, for instance, those of the ancient Greek and Humanistic eras adopted notions of ‘exercise as health’, they remained unique due to their different discursive structures. Here the power relations, as well as social, self and production technologies, were shown to have a major impact on the decisions, thinking, and actions of each society, contributing to this uniqueness. Hence, ‘exercise’ was shaped and formed; that is, structured as a nodal point, given meaning and performed in accordance with these technologies. As a result, it was not always predominantly associated with health throughout history.

What became apparent in this discussion is that the conception of the human body and its treatment is a discursive construction that changes over time and may vary across different cultures and communities. Without understanding this simple truth, individuals remain oblivious to the manipulations of their own discursive structure. They are ‘manipulated’ because discursive structures create ‘truth’ paradigms that construct thoughts and actions, and should one not make him/herself aware of similar patterns occurring throughout history, he/she will not be able to fathom the nature of its power in constructing their own reality, e.g. daily actions, thoughts and behaviours.

Contemporary society’s association of ‘exercise as health’ is one example whereby meaning has become relatively fixed. The biokineticist, as a professional who prescribes exercise within this discursive structure is, therefore, held by certain constraints, policies, and structures through which he/she must associate exercise with health. Thus, it is important to note that a biokineticist does not neutrally prescribe exercise in a social vacuum.

However, although ‘exercise’ may be expressed as a nodal point of the contemporary health discourse, it can also be represented as a ‘floating signifier’ in that it has not always been ‘crystallized’ in health discourse, exclusively understood as ‘exercise as health’, and prescribed by medical professionals. Understanding that exercise has existed, and may still exist, as a ‘floating signifier’ creates awareness of the possibility of change whereby other representations are made more apparent. In other words, it allows one to consider the idea that meaning is not fixed, but rather part of an ‘ongoing struggle between different discourses’ (Jorgensen & Phillips, 2002, p. 28). In this way, biokineticists who wish to remain autonomous, and thus, free to create new interpretations of exercise, are to arm themselves with techniques capable of challenging these fixed

interpretations of the practices of exercise. The discussion now turns to the dominate discourses, mentioned above, namely medical-scientific (Chapter 2), economic-capitalist (Chapter 3) and risk (Chapter 4), which currently influence the practice of biokinetics in an attempt to uncover some of these constraints, policies and structures through which the biokineticist practices and teaches the art of exercise.

Chapter 2: Critical discourse analysis of the medical-scientific discourse

The predominant association of biokinetics with the medicalization of exercise is reflected in the definition of biokinetics provided on the official Biokinetics Association of South Africa (BASA) website. Here, biokinetics is situated within the broader field of preventative health care. It is described as:

The profession concerned with preventive health care and related physical conditions, the maintenance of physical abilities and final phase functional rehabilitation, by means of scientifically-based physical activity programmes (What is Biokinetics?, 2014, p. 1).

Confirming that the practice of biokinetics predominantly falls within the medical-scientific discourse, the terminology used by the HPCSA, BASA and Health Professions Act 56 of 1974 to explain the scope and profession of biokinetics consists mainly of medical and scientific jargon. Further still, biokineticists belong to the Health Professions Council of South Africa (HPCSA), and often work in close relation with other medical practitioners such as doctors, orthopaedic surgeons, physiotherapists and nutritionists. Additionally, theoretical studies in biokinetics include many medically related subjects such as: cardiovascular and pulmonary disease, metabolic disease, chronic illness, obesity, postural ailments, etc. (What is Biokinetics?, 2015, p. 1). Lastly, biokineticists perform procedures which are similar, and in some cases identical, to those performed by other medical practitioners, including: physical evaluation, health risk appraisal, consultations, lung function and capacity testing, administering of electrocardiographs (ECGs), orthopaedic assessments, promotion of lifestyle changes, patient monitoring and surveillance, patient recording, progress reporting, and wellness promotion. The biokineticist is therefore closely affiliated with other medical practitioners and is, in fact, an official health practitioner with a registered practice number. Although biokineticists may not prescribe medication, they do prescribe exercise as a form of medication. The fact that the word ‘prescription’ and other medical terms have carried over into the practice of biokinetics again confirms the degree to which the medical-scientific discourse influences the field. Because biokinetics is a newly formed discipline, it is no surprise that its attitudes, terminology, interactions and practices, and expected outcomes are configured to meet the demands of traditional medical-scientific discourse.

To return to the research problem; it is important to recall firstly that the discursive constructs by which we understand the body and its treatment significantly influence our understanding of the role played by the biokineticist in promoting wellness and of how the biokineticist should interact with patients. In this chapter the predominant association of biokinetics with the medicalization of exercise is taken to be highly problematic. The biokineticist should promote a proactive, patient-driven responsibility for lifestyle change while remaining sensitive to a holistic conception of patients as humans who are constructed by varying historical, social and cultural factors. However, as this chapter will examine in more detail, the dominant medical-scientific discourse embraces a ‘scientism’ that offers the biokineticist constructs that provide a narrowly mechanistic and instrumental understanding of the body and its treatment, and encourages an authoritative and objectifying approach to patients that minimizes the patient’s input and agency (Popham, 2005, pp. 287-288). For example, all exercises prescribed by the biokineticist are monitored (observed), tested (placed under examination), and standardized (normalized) using scientifically based protocols which align with the contemporary health discourse, but which, according to Foucault (1991), are equally responsible for the promotion of docile bodies (Minister of Health, 1994). As such, it becomes necessary to understand this influence of ‘scientism’ in both medicine and biokinetics in order to challenge its negative effect on the patient-practitioner relationship.

2.1 What is ‘scientism?’

Medicine, for instance, is fundamentally concerned with the treatment of illness by means of applied knowledge, but since the 1950’s has become increasingly influenced by a mechanistic and instrumental notion of ‘science’ (Hunter, 1991, p. 18).

Science has brought to medicine new knowledge, power and technologies like diagnostic testing machines, evidence based medicine (EBM), ‘smart pill’ and other advancements. Arguably these technologies make the professional’s job easier; tempting and luring him/her away from the difficult tasks associated with ‘applied knowledge’. ‘Applied knowledge’ is the practical application of knowledge, and to develop it requires experience within a specific field. It develops within ‘specific cultural groups over specific periods of time and within specific and social settings’ (Fensted, Hoyningen-Huene, Hu, Kokwaro et al., 2002. p. 4). It thus ‘provides the basis for local-level decision-making about many fundamental aspects of day-to-day life’ (Fensted et al., p. 3). In medicine, it refers to the traditional approach whereby the practitioner had ‘command of the entire diagnostic scenario’ (Rapezzi, Ferrari, and Branzil, 2005, p. 1493). Rapezzi, et al. (2005, p. 1493)

argue that this skill is a blend of ‘observational capacity, logical reasoning, culture, and abductive imagination’. ‘Applied knowledge’ in medicine is thus ‘a cumulative body of knowledge, know-how, practices and representations maintained and developed’ by medical professionals (Fensted et al., p. 3). However, Hunter (1991) proclaims that medicine has lost capacity with regard to such a valuable set of skills in favour of a mechanical and instrumental notion of science.

To better understand this, certain historical events need to be taken into consideration. To begin with, the ancient Greek, Persian and European physicians understood medicine within a holistic system known as humorism (Humorism, 2014). To be clear, this is a generalized statement as alternative methods of medicine have always existed and still do. However, it is safe to assume humorism remained a popular paradigm in medicine among European physicians up until the advent of modern medicine in the nineteenth century (Weisz, 2003; Humorism, 2014). Practitioners of humorism understood the body as consisting of four types of body fluids which influenced temperament and health according to the ratios of these fluids. For example, illness was understood as either an excess of one fluid or a deficit of another, while good health was thought to exist when there was equilibrium between the four humors. Humorism lacked significant empirical evidence by contemporary standards, but it persisted for over two thousand years as the major paradigm governing the practice of medicine.

It was only in the nineteenth century that a new paradigm came to govern medical practice. The new paradigm was named the biomedical paradigm and was established as a result of the discovery of bacteriology (Lasker, 1997). Within this paradigm physicians began to understand, diagnose and treat disease differently. Instead of understanding health as related to the disposition of four humors, within the unique humoral composition of each individual as a whole, it became understood as the presence of certain kinds of bacteria/viruses. Thus, disease became a biologically determinable entity capable of being treated and eradicated with the aid of antitoxins and antibiotics (Lasker, 1997). Importantly, medicine as a practice came to adopt a causal relationship between bacteria and disease. For example, the presence of a virus or bacteria (the cause) in the body was responsible for the disease (the effect), which in simple terms meant: ‘gain control of the virus or bacteria and you gain control of the disease’ (Philosophy of Medicine, 2014, pp. 2-3). From within the biomedical paradigm a mechanical and deterministic conception of the body was made comprehensible thanks to the laws of physics and the new discoveries of science. In turn, this understanding, using empirical evidence to support its claims, dramatically influenced the power and ability of the new medical-scientific discourse to create knowledge (Philosophy of Medicine, 2014).

Other historical influences contributed to the establishment of the biomedical paradigm, but it was the scientific validity accompanying the discovery of bacteriology that acted as the catalyst

allowing medicine to increase its influence and power over the population (Lasker, 1997; Tosam, 2014). According to Hunter (1991, p. 18), it was in this biomedical paradigm that medicine abandoned ‘applied knowledge’ for the ‘temptations’ the new techniques of science brought.

To understand how medicine has changed under a scientific regime, it is necessary (1) to define what exactly is meant by ‘science’ or ‘scientism’, and (2) to show how it influences medicine.

‘Scientism’ has become an umbrella term often associated with terms such as ‘mechanistic’, ‘deterministic’, and ‘positivistic’. Haack (2013, p. 23), who has written extensively on the topic of ‘scientism’, cautions us not to forget our traditional practices and skills in the wake of the technological advances science brings to us. She outlines six signs of ‘scientism’ which act as valuable tools for identifying its influences within other disciplines (Haack, 2013). A brief explanation of these six signs will be provided, including examples in medicine where these influences can be found.

Haack’s (2013) first and second signs are similar. Both explore the honorific embodiment of science commonly expressed in what has become a popular phrase: ‘It has been scientifically proven’ (Haack, 2013, pp. 4-8). The use of this phrase in spaces of law, media, medicine, history, etc., and even to support moral opinion, for many is enough to eradicate doubt, often convincing individuals regardless of the claims being presented. Such honorific praises given to ‘science’ have motivated a number of sub-disciplines to paste the word ‘science’ onto the tail end of their title, e.g. management science, business science, health science, medical science, etc. Haack (2013) argues that ‘scientism’ in such forms creates the illusion that whatever is not science is no good or sub-standard (Haack, 2013, pp. 4-8). However, as she remarks simply pasting ‘science’ onto a title does not automatically render that particular inquiry any more rigorous, praiseworthy, or infallible (Haack, 2013). The ideals of science can be dangerous when and if accepted almost dogmatically, without any scepticism (Rapezzi et al., 2005). This is why Haack (2013) warns us to be cautious or wary of merely accepting the teachings of science as truth, for even scientific inquiries can be done poorly (Haack, 2013, pp. 4-8). In medicine, titles such as medical sciences, health sciences, and nursing sciences, to name a few, have evolved out of the biomedical paradigm. However, these titles are under scrutiny as patients begin to realize, in the wake of fragmented mainstream medical care and other failings of scientific medicine, that these new and impressive titles have not provided medicine with certainty and are by no means error free, nor are they cure-all remedies (Holmes et al., 2006; Miles, 2009; Williams & Calnan, 1996).

Although Haack’s (2013) first and second signs of ‘scientism’ are similar, the second sign specifically explores how the techniques used in science are incorporated into other disciplines. She continues to show the poor logic inherent in such transfers and the errors they present. She argues

that critical assessment is necessary when attempting direct transfers from science to other disciplines, explaining that often this is done for ‘display rather than serious use’ (Haack, 2013, p. 8). Transfers of this nature in medicine are often problematic. For example, Miles (2009) argues that evidence based health science (EBHS), as a form of ‘scientism’, is more likely to ‘obscure a proper understanding of the human life and condition than to enable it’ (Miles, 2009, p. 943). One reason for this is that medicine is not merely an empirical practice; unlike science, it involves people. In the case of the empirical perspective offered by EBHS, the patient’s personal and interpersonal significance is often ignored as s/he is treated as more of an object of observation than a person (Holmes et al., 2006). It can therefore be considered irresponsible to directly transfer scientific empirical methods into medicine because of how it affects relationships between physician and patient.

Haack’s (2013) third sign discusses the preoccupation with the demarcation of science. Since the twentieth century there has been an increased need to demarcate science as a practice of empirical meaning so as to distinguish inquiries of science from those labelled as ‘junk science’ (Haack, 2013). However, Haack (2013, p. 11) argues against any real evidence of a specifically, defined method, rather suggesting that ‘a loose federation of interrelated kinds of inquiry’ is the closest description one can hope to find which describes a scientific inquiry. An example in which science is constituted by such ‘interrelated kinds of inquiry’ is evidence based health science (EBHS) as it aims to create uniformity in creating a hierarchy for randomised control trials (RCTs), which are then depicted as scientifically sound (Holmes, et al., 2006). Holmes et al. (2006) draw attention to the fact that many academic institutions have endorsed EBHS. In opposition, they argue that EBHS (re)produces the exclusion of certain forms of research, deeming scientifically imperfect any research that is not of RCTs design (Holmes et al., 2006).

Haack’s fourth sign investigates the ‘scientific method’ which has become accepted by many as the only method of inquiry worth adopting (Holmes et al., 2006). However, as mentioned above, such a method is difficult to define and is instead thought to exist as a ‘federation of interrelated inquiries’ (Haack, 2013, p. 11). Thus no single method exists that can be adapted to all problems in order to create a solution. Instead different methods are applied in situations, remembering that science has many branches and thus requires many methods. What may be distinct are the types of tools and techniques science may use during its inquiry, such as microscopes, telescopes, mathematical formulae, statistics, RCTs, etc. (Haack, 2013). But these techniques do not guarantee rigorous, well-reasoned or even correct work (Haack, 2013). Instead, rigorous methods of inquiry are also utilized in other non-scientific disciplines (Haack, 2013). Critical assessment should be applied when assessing the validity and reliability of claims which call on the famous ‘scientific method’ to justify its reasoning and actions.

In the fifth sign, Haack (2013) draws attention to ‘scientism’ by addressing its tendency to act outside of its scope of practice. Taking into account Haack’s (2013) description of ‘scientism’ thus far, specifically a lack of boundaries and a difficulty in defining what science is, this seems to be an obvious outcome. However, she elaborates by providing examples of ethical issues in which science has been called upon to provide solutions (Haack, 2013). This seems strange as such ethical concerns are part of the humanities and usually include subjects like philosophy, human relations, psychology and ethical and conflict management, rather than what has been called science. For example, how does science offer meaning to a man having a 60% genetically probable chance of developing testicular cancer? With all its probability theories, statistical predictions and advanced technologies, science can never be able to express human empathy; it cannot and does not attempt to develop the skills of compassion nor work at establishing trust relations. However, this did not stop people like Comte (1798-1857 CE), a founding father of science, from concluding that ‘philosophy is a bourgeois invention, that social science and psychology should be reduced to biology and that because science, a politically neutral endeavour can combat irrationalism and obscurantism, it should therefore, reign supreme in the understanding and organization of human society’ (Miles, 2009, p. 943). As an answer to this dilemma, Haack (2013) suggests that a combination of disciplines should ‘guide’ ethical decisions instead of relying on one discipline, especially a discipline that attempts to answer all human inquiry when it itself does not value the fundamental subjective experience of human life. In sum, as health discourse becomes more intertwined within the influences of ‘scientism’, practitioners must learn to become more critical of their responsibilities and roles. To rely solely on ‘science’ is irresponsible as the ethical concerns inherent within human interactions, and thus health practice, fall outside of science’s scope of practice (Holmes et al., 2006, p. 183).

The sixth sign warns against the tendency of science to want to explain all phenomena in existence, thereby becoming what Lyotard (1979) has expressed as a meta-narrative (Lyotard, 1979). Meta-narratives masquerade as the idea that one inquiry should dominate all investigation, and with regard to the current discussion that inquiry is the scientific inquiry. For example, when ‘scientism’ belittles other disciplines while simultaneously projecting its own potential, it is attempting to do exactly this. Here again it is appropriate to turn to EBHS as a case in point because it aims to define medical knowledge from a certain perspective: favouring objective evidence while negating subjective evidence. Holmes et al. (2006) argue that such techniques further marginalize many forms of knowing/knowledge.

2.2 Medicine and the techniques of ‘scientism’

In this section, three of Berg’s ideas (1997) will be used as examples of what has been discussed above as techniques of ‘scientism’. Berg (1997) claims such techniques were not always part of medical practice. These techniques became prominent in medical practice within the biomedical paradigm, namely: ‘increased specialization’, ‘increased reliance on diagnostic and prognostic reasoning’, as well as ‘standardization of vocabulary and treatment practices’ (Berg, 1997, pp. 19-29). In addition, the following section will discuss how these techniques of ‘scientism’ have assisted in creating a new kind of physician and patient; one who is less of a person and more of an accumulation of data observed, recorded and put back together as a medical case.

2.2.1 Specialization

‘Recognize what I do’, says the physician while simultaneously shouting, ‘stop fragmenting an already overfragmented system’
(Cassel & Reuben, 2011, p. 1169).

As you ought not to attempt to cure the eyes without the head or the head without the body, so neither ought you to attempt to cure the body without the soul [...] for the part can never be well unless the whole is well (Plato 427 BC - 347 BC).

Specialization, in its essence, involves some sort of separation and isolation. It involves the limiting, separating and dividing of a whole, whatever that whole might be. It usually becomes favourable when information about a certain phenomenon becomes too vast to comprehend all at once, and adequate knowledge is only possible from a specific vantage point or perspective. In medicine, specialization includes sub-disciplines such as cardiac surgeons, dentists, orthopaedic surgeons, etc. The orthopaedic surgeon, for example, is responsible for a host of specialized procedures, which in themselves are too complex for general practitioners to include in their broad scope of practice. Without specialization it would not be possible for medicine to expand beyond a certain point. Thus the complex systems of knowledge seen in contemporary medicine rely on there being specialized roles played by individual components in order to function. The more complex the system becomes, the more specialized the roles of its participants. The level of specialization is, therefore, a good indicator of a system’s complexity.

A rather obvious example of specialization in medicine's history is the divide created between physician and the public health professional, which evolved out of the biomedical paradigm. Both professions experienced numerous changes resulting in their roles becoming more specific and interactions between each other less common. A major reason for this loss of communication and interaction was that medicine attained a higher status amongst the general population within the biomedical paradigm. Lasker (1997, p. 21) writes, 'difficult lifestyle changes promoted by the public health professional had become circumvented by the curative approach promoted by the medical sector for chronic diseases'. As a result, the physician's approach became very different to the health practitioner's approach and these differences in approach created two different ontological existences. For example, the human body, when expressed through the eyes of the medical professional, is analysed as individual parts which invariably are said to constitute a whole. From within such a framework, the whole is expressed as no more than the sum of its parts (Philosophy of Medicine, 2014). The ontological experience created by the medical profession is thus said to resemble a mechanistic reductionist conception of the human body (Philosophy of Medicine, 2014; Tosam, 2014; Williams & Calnan, 1996; Miles, 2009).

The contrasting approach echoed by the unpopular public health professional suggests that a pattern of disease forms part of a system whose components are complexly interrelated (Philosophy of Medicine, 2014, p. 3). This ontology makes sense only within a holistic framework and is thus unpopular in today's individualistic society.

The ontological differences, along with cultural differences, and a growing imbalance in funding between medical professionals and health professionals created difficulties related to trust, respect and communication, and a reluctance to collaborate freely between the two specialities. These eventually became separate and virtually independent parts of the larger health system (Lasker, 1997, p. 17). In 1997, the committee of the American Public Health Association felt it necessary to clearly define these two roles and did so in the following manner:

The role of the medical profession is distinctly preoccupied with the individual and his/her treatment and it's professionals includes not only allopathic and osteopathic physicians, but also nurses, dentists, pharmacists, health educators, psychologists, nutritionists. Public health on the other hand, focuses on population interventions assuring provision of essential health services and its professionals consist of nurses, sanitarians, epidemiologists, health educators, food and drug inspectors, etc. (Lasker, 1997, p. 3).

Since the original divide between medical professionals and health professionals, many newly defined roles and sub-specialties have evolved creating further specialization. For example, in 1942, fifteen specialty boards were in existence, by 1992, the American Board of Medical Specialists recognized twenty four primary boards and seventy subspecialties, and by 2011, over one hundred and fifty eight specialties and subspecialties were recognized by the board (Lasker, 1997; Starfield, Shi, Grover, & Macinko, 2005). Today, specialization has advanced to such a degree that there is confusion amongst the general population regarding the roles and responsibilities of these specialists. Public confusion does not create much social good for either party (Starfield et al., 2005). In fact, there is even evidence suggesting confusion amongst specialists as to the roles of their colleagues. A monograph compiled by the committee of the American Public Health Association describes how medical and public health students from different backgrounds were unable to articulate the roles of their colleagues in relation to their own field (Lasker, 1997). This concern is echoed in an article in the 2012 American Medical Association Journal, 'How much specialization is appropriate?' (Detsky, Gauthier, & Fuchs, 2012). Detsky et al. (2012) are not only concerned by the confusion created by increasing specialization in medicine, but also worry about reduced patient care. For instance, in the past, doctors were responsible for home visits and tendered to entire families. Conversely, in contemporary society from the capturing of a patient's information to diagnosis, treatment and payment, the patient will deal with a myriad of medical staff members and perhaps more than one specialist. As a result of this transition, the patient, whose name, family member's names, and possibly even the dog's name, were all known by the family physician of the past, is now treated as less of a person and more of an accumulation of data observed, recorded and put back together as a medical case.

The latter fragmented approach has also resulted in time reductions whereby the patient spends less one-on-one time with the specialist. The time necessary to gain knowledge of the subjective experience of the patient, his/her family life, values and beliefs, etc., is said to be less important in this regime, and in this sense the medical care provided is reduced.

Another challenge to patient care posed by specialists in high volumes is a reduction in the physician's skills. In order to maintain their skills, specialists need high patient volumes (Starfield et al., 2005). A diluted pool of specialists is given less opportunity to practice, the result being a reduction in their skill which in turn reduces their quality of service.

A fee-for-service system, which dominates contemporary medical practices, ensures that both the generalist and the specialist need to increase their patient visits in order to receive a greater profit; however, the specialist charges a higher fee, thus increasing the patient's expenses (Starfield et al., 2005, p. 5). In addition, fragmented health industries often result in a single patient having to visit more than one specialist, especially if that patient has more than one chronic condition. In such

cases, health costs escalate rapidly, often exceeding the financial limits of poorer population groups (Starfield et al., 2005, p. 5). Thus in increasing the number of specialists as opposed to increasing the number of general practitioners, a greater social economic divide is produced.

The reality is that medicine is riddled with uncertainty, even with the advances of specialization. Although it is obvious that some special population groups benefit from highly focused knowledge and skills, such as cardiac patients who require care and management before and after transplantation, device management and so forth, the existence of a specialist does not automatically transform medicine into a predictable practice. Medicine is not predictable: reactions to treatment differ from patient to patient; scientific knowledge has practical limitations; and physicians have limitations with regard to the interpretation of scientific findings within the context of particular patients. There are also ethical issues which arise in medicine, e.g. should only mild or moderate depressants receive medication, and at what age should Ritalin be prescribed to hyperactive children? (Starfield et al., 2005; Cassel & Reuben, 2011). Such are the complexities of medicine and the specialist, with all his/her expertise and scientific knowledge, does not eliminate the uncertainty.

Some studies have suggested that specialists may not even be necessary (Starfield et al., 2005; Campbell, Ramirez, Perez, & Roetzheim, 2003, Tosam, 2014). For example, specialists are inclined to suspect serious pathologies in general circumstances because of their training whereas, in contrast, general practitioners, because of their large scope, are able to diagnose a larger range of pathologies with more accuracy (Starfield et al., 2005, p. 5). A study has even shown how general practitioners, armed with guidelines, are able to provide similar care to patients with cardiac pathologies to that of cardiologists (Starfield et al., 2005).

Considering these negative implications of specialization or its failures, “why is it that the number of specialists has continued to rise over the last few decades?” It is obvious that there also must be advantages to specialization, however it is arguably condoned and accepted not because of these positive and negative health outcomes, but largely because it is a relation of power used to discipline, dominate and thus better govern the population.

A large number of studies have discussed the development, impact and effect of specialization in medicine (Eulner, 1970; Stevens, 1966; Halpern, 1988; Weisz, 2003), but few consider why medicine has seen such a dramatic degree of specialization since the nineteenth century and whether or not this increase is entirely justifiable. Of course an increase in complexity regarding the nature of studies and a correlating need to develop knowledge from specific vantage points allowed specialization ‘... to be seen as a manifest necessity of modern medical science’; however, Weisz (2003) offers an alternative reason as to why specialization was introduced into the medical scientific sector during the nineteenth century suggesting it was not as self-evidently

necessary as it might have seemed. Firstly, he (2003) makes it painfully clear that specialization did not take place without resistance, and he describes in detail the conflicts in various locations within both Paris and Britain. Important to understand is that before the event of the biomedical paradigm, specialization was not very common in medical circles. Weisz (2003) declares that specialists were lumped together with ‘charlatans’ and ‘quacks’ in eighteenth century Britain. But, by the nineteenth century, specialists became part of an elite group involved in academic medicine (Weisz, 2003). This group, according to Weisz (2003), associated themselves with what he terms the ‘administrative rationale’:

The administrative rationality of the nineteenth century, at its core, aimed to manage large populations through proper classification, gathering together individuals belonging to the same class and separating those belonging to different categories (Weisz, 2003, p. 539).

Weisz (2003) admits that science had a large part to play in the increase of specialization in the medical sector, however he insists that it was primarily because of the macro influence of nineteenth century ‘administrative rationale’ that specialization was eventually accepted despite the resistances inherent in the medical sector at the time.

He also admits that specialization did not take place in one wide successful sweep; many countries resisted the notion, arguing that specialization encourages fragmentation of medical care, ultimately resulting in the loss or undervaluing of the personal or generalist physician; as witnessed in contemporary health settings (Cassel & Reuben, 2011). He is not convinced that new scientific knowledge of the time, such as ‘organic localism’ which was used to explain disease, was the reason specialization became accepted by medicine. He refutes these claims by informing his readers that many of the new specialties introduced did not harbour the ideas of ‘organic localism’ (Weisz, 2003). Instead, he attributes the initial acceptance of specialization to the initiatives of a ‘community of doctors centred on an organized system of institutions devoted to advancing medical knowledge through rigorous empirical clinical research’ (Weisz, 2003, p. 546). He shows that these initiatives were aligned with other political advances taking place in Paris at the time (Weisz, 2003, p. 546). Such initiatives reflected a need to compete internationally with regard to research, and included coordinating a large network of institutions and individuals competing to develop new knowledge, forming the MD degree as a state diploma uniting both medicine and surgery, and developing particular structures in Parisian hospital systems, clinics, and institutions of higher education (Weisz, 2003). These events that took place in Paris are especially important because

Paris had become a centre of knowledge production during this period (Weisz, 2003). Notably, these events and changes in medical practice did not occur within a social vacuum.

In sum, Weisz (2003) suggests that specialization occurred in medical practice largely because of a ‘community with similar interests’ and that this community wished to (1) use medicine beyond its scope of practice as a vehicle for the agendas of the ‘administrative rationale’, and (2) introduce inquiries of a particular nature while denying other methods of inquiry. Both are similar to Haack’s (2013) fifth and sixth signs, namely ‘looking to the sciences for answers to questions beyond their scope’ and ‘denying or denigrating the legitimacy or the worth of other kinds of inquiry’ (Weisz, 2003; Haack, 2013, p. 3). Today, methods of classifying the population are common practice in medical practice. For instance, health profiling in which cholesterol levels, blood pressure readings, body weight, etc. provide health related measurements for individuals; allowing them to be classified using normative techniques. These health profiles have the potential to administer certain privileges, or, conversely, deny them to an individual within, for example, a medical scheme. Further still, health screening of varying degrees has now become mandatory in many spaces within contemporary society, e.g. schools, workplace, travel, medical insurance policies, etc.

Thus, specialization is not only a practical strategy used by medical practice to deal with epistemological complexity, but it also operates on a macro level as a technique of what has been termed ‘scientism’.

2.2.2 Diagnostic reasoning as a function of ‘scientism’

Medical diagnosis is the process of determining which disease or condition is responsible for the presented signs and symptoms of a patient. Techniques include: a medical history, a physical examination, and perhaps one or two diagnostic tests. The diagnostic process is complex in nature, dealing with multiple sources of data that is then pieced together in order to make a diagnostic impression, and later, after further testing (if necessary), the diagnosis is made (Medical Diagnosis, 2014, p. 1). Empiricism, logic and rationality have been part of the medical diagnosis procedure for centuries. However, within the biomedical paradigm, it has come to incorporate numerous special tests which utilize advanced technologies, implement medical algorithms to assist in medical decision-making, and incorporate ‘smart pills’⁵ to collect and transmit physiological information, to name a few (Haack, 2012, p. 1; Kim, 2012). All these advanced technologies are beneficial in

⁵ The ingestible sensor (formally referred to as the Ingestion Event Marker or IEM) is part of the Proteus digital health feedback system: an integrated, end-to-end personal health management system that is designed to help improve patients’ health habits and connections to caregivers (Kim, 2012).

assisting the physician in his/her diagnosis; however, as mentioned by Rapezzi et al. (2005), they can act as temptations, ultimately limiting the potential and skill of the physician.

Rapezzi et al. (2005) outline examples of such ‘temptations’ by comparing investigative strategies employed in popular fictitious detective stories to medical investigation. ‘Armchair detectives’, they explain, apply general knowledge and precedent from previous case histories to achieve success in an investigation. These detectives are not interested in direct contact with the real world and it is this lack of contact which ultimately leads to their failure. Similarly in medicine, specialists may isolate themselves from the real world (patient interaction) via the conviction that the ‘solution to every clinical dilemma is to be found on the web’ or in protocols or other methods of standardization (Rapezzi et al., 2005, p. 1493). The ‘temptation’ offered by technology is to view diagnosis merely in terms of information retrieval. Besides the high risk of misdiagnosis, this endeavour is intellectually draining, often resulting in valuable information being ‘elbowed’ out by ‘useless’ information (Rapezzi et al., 2005, p. 1492). Rather, for a successful diagnosis, the vast quantity of information made available by advanced technologies can only be rendered useful through critical engagement and application to real-world situations, and thus active engagement with patients.

Here attention is drawn to Haack’s (2013) warning against the uncritical acceptance of information that merely claims to be scientifically proven. She emphasizes the importance of knowing the world by other means besides that of science (Haack, 2012, p. 1). Transferring these concerns to medicine, the medical diagnosis, which is a cognitive process, limits its effectiveness when it relies solely on the new technologies of science. Technologies such as medical algorithms, sensory pills, optical coherence tomography, laboratory data, evidence based medicine (EBM), etc. should not be the only important elements in the medical diagnosis procedure solely because they are objective in nature. Rather, the patient’s subjective experience should be understood as an equally valuable component. Although contemporary medicine does not solely act on one side of the scale (e.g. either objective or subjective), it is clear that contemporary medical diagnosis favours an objective approach.

However, the social orientation of medicine, as a practice involving interactions amongst people, upsets any attempt to reduce medical diagnosis to an exclusively objective, empirical enterprise. Nonetheless, the projection of ‘scientism’ into the medical diagnosis procedure attempts to do exactly this; creating what has been termed ‘a hierarchy of evidence’ (Miles, 2009). The effects are twofold. Firstly, medicine can convince itself that it is an enterprise of certainty with neatly calibrated and objectively sound outcomes, and thereby avoid having to understand the complexity of subjective experience. Secondly, almost in exchange for the loss in emphasis on their subjective experience, patients develop overconfidence in the medical diagnosis, causing them to

overestimate the abilities of the medical-scientific discourse (Miles, 2009; Cassel & Reuben, 2011; Tosam, 2014). As a result the illusion of certainty in medicine has created a patient who expects ‘absolute cure without any risk, complication, pain or pressure’ (Chaturvedi, 2013, p. 703). Rationalizations of this nature, although clearly absurd for medical practice, is somewhat similar to Comte’s (1798-1857 CE) (a founding father of science) comment ‘True knowledge is derived from perpetual experience, absolute empiricism, insisting that truth and knowing can only arise from objective observation, experiment and analysis’ (cited in Miles, 2009, p. 943).

Ignored much of the time by the scientific, positivistic, reductionist approach is the fallibility of medicine. This is understandable in view of the fact that science’s influence in medicine has led to a phenomenal amount of progress since the nineteenth century, including discoveries such as pain- free medication and extended longevity (Williams & Calnan, 1996, p. 1613). These and a myriad of other actual and perceived successes of medicine have the effect of dismissing any counterarguments derived from alternative ways of knowing, which results in a strong tendency among patients to consider their physicians as ‘learned, assured, and quintessentially infallible figures’ (Miles, 2009, p. 942). It often becomes a matter of reputation preceding product. However, portraying medicine as infallible is dangerous. Miles (2009) argues that doctors who perpetuate the ‘myth of progress’ (the illusion that medical science only advances from strength to strength) can be accused of a serious intellectual dishonesty, which increases their self-delusion and raises unrealistic expectations in patients. An example would be the performance of diagnostic tests using advanced technologies without making the patient aware of the limitations of these tests. For instance, when a physician recommends an x-ray to assess a patient’s injured joint it provides evidence as to whether or not a bone is broken, but it does not offer information concerning the condition of the ligaments and surrounding musculature. Although diagnosis concerning the condition of the bone might not be a misdiagnosis, a patient who is unaware of the limitations of the test might be satisfied that the bone is not broken and persist no further with medical inquiry. Thus, because the patient is often unaware of the limitations of the x-ray, his/her confidence in the medical diagnosis is not questioned (see more Chaturvedi, n.d., p. 704). Yet, without an MRI scan, the condition of the ligaments and musculature are unknown and without treatment, the time of injury may be prolonged or the injury may become a reoccurring concern.

In sum, the reality is that a physician’s diagnosis, even when using new technologies, is not without its limitations. However, in ignoring the limitations of diagnostic testing physicians have obtained a ‘godlike’ status and patients have developed an irrational overconfidence⁶ in the biomedical paradigm (Williams & Calnan, 1996, p.1613).

⁶ Overconfidence of this nature is not absolute. An increasing number of claims for malpractice and negligence, as well as, increasing numbers of health care quality assurance and risk management programmes within international health

This ‘godlike’ status is promoted by a ‘professional hierarchy’ that extends from within medical practice into biokinetics. For example, during the consultation it is the biokineticist who: ensures the ‘consent’ form is correctly understood and then signed, reassures the patient their information will be kept confidential, and thus safe; and guides and directs the flow of the medical history evaluation. In addition, because the biokineticist directs the flow of the medical history evaluation, he/she decides what information is relevant and what is not. Contrary to the aims of medicine, ‘professional hierarchy’ expressed within both diagnostic and screening procedures assists in creating a separation between the physician and the patient by creating a relational power imbalance.

To hide behind these illusions of certainty produced by associating medical diagnostic reasoning with techniques of science is unsustainable. Medical practice is not an absolute enterprise and needs to also be understood in light of its limitations, not only in the glory of its previous successes; including those of science.

2.2.3 *Standardization*

Standardization is the ‘formulation, publication, and implementation of guidelines, rules, and specifications for common and repeated use, aimed at achieving optimum degree of order or uniformity in a given context, discipline, or field’ (Standardization, 2015). Standardization has become increasingly popular in the biomedical paradigm whereby medically related queries are consistently framed and then answered in step-by-step guidelines and protocols (Berg, 1997; Haack, 2013). Medical practitioners may be inclined to support standardization because it enhances their status (Miles, 2009). However, such decisions may prove counter-intuitive. For example, Berg (1997) suggests that protocols, which are mainly developed by institutions, contribute to the illusion that individual practitioners are unable to solve health related queries efficiently by themselves (Berg, 1997; Shaywitz, 2011). Here, anomalies experienced while following standardized protocols are more likely to be a fault of the practitioner’s rather than the institution which created the protocol simply because the institution represents a large and universal authority. In this way, protocols promote the institution while simultaneously reducing the individual practitioner’s worth; contributing to a new kind of practitioner who becomes subject to the institution and its standardized protocol (Berg, 1997; Miles, 2009). This kind of re-framing of medical practice using

services suggest that medical practice does not always meet the patient's overexpectations (Miles, 2009). The irony is that the more infallible medical practice portrays itself to be, the higher the patient’s expectations become, which effectively results in greater patient dissatisfaction.

universal standards is instrumental in achieving what Haack (2013) labels ‘the omnipresence of ‘scientism’.

Critics of this process argue that standardization of medicine acts as a form of social control as it narrows the potential avenues in which one may come to know the world resulting in a loss of identity, ‘cookbook medicine’, de-skilling, and reduced quality of care (Timmermans & Almeling, 2009; Holmes et al., 2006; Illich, 1976; Berg, 1997). One manner in which standardization threatens to narrow the ‘ways of knowing’ is through evidence based medicine (EBM).

EBM has become widely accepted as being more rigorous, praiseworthy and infallible than other methods of research in medicine (Miles, 2009; Holmes et al., 2006). One particular research methodology promoted by EBM is the randomized control trial (RCT). The RCT is represented as the gold standard of research studies. In most cases, an RCT study will achieve higher status and, as a result, receive less criticism. Bias of this nature is a representation of Haack’s sixth sign of ‘scientism’ (‘Denying or denigrating the legitimacy or the worth of other kinds of inquiry besides the scientific...’), and thus aligns the medical-scientific discourse with the agendas of ‘scientism’ (Haack, 2013, p. 3). It is, however, a mistake to allow one methodological approach to dominate all research as research methodologies all have their advantages and disadvantages. Effectively, every methodology has its limits– a fact that is important to acknowledge within the context of a particular study.

In the case of EBM which ‘regards the scientific understanding of the disease as the only relevant issue, while ignoring other factors’, there is a tendency to misrepresent the relationship between the partial nature of the disease and the totality of the person (Legget, 1997, p. 97; Miles, 2009). For example, EBM has been described as an ‘extract and apply’ approach to patient relationships, whereby clinicians view patients as objects of information (extract) and care providers make decisions according to this information (apply) (Upshur, 2005). The emphasis on the objectification of the patient promoted within this framework results in less attention being given to the subjective experience of the patient. In sum, EBM has resulted in the favouring of the fact over the person in medical practice, essentially, limiting the practitioner's scope of practice because not all questions relevant to medical decision-making are scientific in nature.

Furthermore, EBM and other standardization techniques paint the picture that all medical problems are neat and tidy. At the same time it offers effective and appropriate solution to these neatly framed problems (i.e. it treats medical problems as frequently asked questions (FAQs) with neatly framed answers) (Berg, 1997; Shaywitz, 2011). Physicians who understand that this approach is simplistic are often resistant to implement techniques of standardization and, as a result, are met with hostility by advocates. For example, physicians who resist standardization are

criticized for being outdated, conservative, narrow-minded, and ultimately responsible for current examples of inadequate health care (Shaywitz, 2011).

There are, of course, both advantages and disadvantages to standardization. Cases made in favour of standardization highlight successful standardized health care interventions, which have reduced mortality and morbidity (Cutler, 2004, Skinner, Staiger, & Fisher, 2006). Other advocates claim protocols may enhance the quality of care, reduce unwanted variations in practice, and may help to render medical practice more scientific; arguing that present medical practices are hindered by discrepancies between physicians (Cutler, 2004; Skinner et al., 2006; Shaywitz, 2011). One point Shaywitz (2011) makes in favour of standardization is that low-cost providers can be employed to assume the role of highly paid ‘experts’ in administering care. Shaywitz (2011) refers to this process as ‘off-loading’. From an economic perspective, ‘off-loading’ makes a lot of sense as health care is expensive and its cost would be reduced if it were to become standardized. In sum, advocates argue that by using algorithms to standardize medical decision-making, the entire practice of medicine will be made more efficient i.e. medical practice may become performance orientated (Shaywitz, 2011; Fernando & Henskens, 2013). Here again, similar to evidence based medicine (EBM), that which can be made ‘explicit [explained] is more important, more scientific, more of value, than that which cannot be (or is not) made explicit’ (Berg, 1997, p. 1085).

However, by accepting algorithms into medical practice a large portion of the complexities inherent in the decision-making process will be ignored due to the fact that not all information can be neatly formulated and packed into mathematical formulas. Haack (2013) reminds us to be critical of approaches that deny other forms of knowing (Haack, 2013). Although algorithms may limit discrepancies between medical practitioners and appear to improve medical-scientific discourse by making it more scientific, medicine is far more complex and requires more than the narrow and limiting outcomes that algorithms present in order to acquire new knowledge. Hence, in some ways advocates are correct in stating medical practice will be made more efficient through standardization techniques, but, “at what cost since standardization often also means depreciation in the value of health care?” Not surprisingly the outcome of reduced health care costs does not come without a price.

Lastly, the formalizing of the medical-scientific discourse in the form of standardized procedures leads to a hierarchical distinction whereby paramedical workers are considered less important than medical workers (Berg, 1997). This is because their work is more difficult to formalize. For example, a nurse’s work is often difficult to formalize, while work done by other practitioner’s, such as laboratory data collection, circumscribed procedures and medication dosages description, is easily or already formalized (Berg, 1997). The nurse may attempt to formalize his/her work via protocols and other scientific techniques, but this is often to his/her own detriment

likely resulting in the reduction of the practice to nothing more than a managerial enterprise (Berg, 1997). This, in turn, ignores central roles which are far more difficult to formalize, but yet still vital to medical care (Berg, 1997). Hierarchical distinctions of this nature are counter-intuitive to workplace respect, trust, and cooperation creating unnecessary tension among healthcare professionals.

2.3 Conclusions

The techniques of 'scientism' discussed in this chapter have been shown to affect the patient, changing the way he/she is understood, treated and ultimately how he/she acts within the medical-scientific discourse. A recurring theme suggests patients have come to be understood as objects to be observed, examined and normalized. Here the patient's subjective experiences are considered less important while family doctor have become a thing of the past having been replaced by techniques of specialization, advanced diagnostic procedures and standardization. In this environment, 'bits' of information, not identities or persons, are accumulated and recorded by the plethora of classification techniques and other related forms. In sum, the evidence is given preference over the patient and his/her narrative story.

The biokineticist, as a health professional, also operates within this environment. For example, he/she is encouraged to adopt the ideology that all problems may be solved via empirical methods. In addition, most research projects derived from within the field of biokinetics are quantitative in nature, suggesting that other methods of inquiry are unequally represented e.g. qualitative research. Important to note is that a purely quantitative approach has the shortcoming of creating a compartmentalized understanding of the human body and is therefore, inconsistent with the foundational philosophies of medical practice which are to encourage care and compassion.

Hence, if biokineticists are to move beyond these effects of 'scientism' which have affected both itself, as well as medical practice, they must learn to appreciate and respect the humanistic traits traditionally inherent in medicine or find alternative methods which encourage multiple ways of knowing the body.

Furthermore, 'scientism' in medical practice has encouraged patients to perceive medically related queries as closed, neatly, packaged entities. This oversimplification develops an almost naive overconfidence in medical practice, causing patients to treat physicians as 'godlike' figures and expecting treatment without risk and service without error. Without informing patients of the limitations in contemporary medical practice the outcome enviably becomes unsustainable as patients either end up resenting medical practice because of its failure to meet their 'irrational'

expectations or they turn to alternative methods, which often end up being more harmful to their health. The outcome of not presenting these limits has prevented an important element of medicine, namely trust, from developing among practitioners and their patients.

If biokineticists are to move beyond this dilemma created within their discursive structure they need to resist the lure of authority and specialization created by the biomedical paradigm and rather cultivate methods of establishing relationships of trust. They might do this by placing value on the patient's voice, believing it carries information capable of helping in determining more precisely what the diagnosis is and what treatment is necessary; thereby allowing the patient to become a central component in his/her medical/health experience (i.e. empowering the patient) (Charon, 2010, p. 1898). Arguably, open relationships of this nature will not create unnecessary power distinctions between practitioners and patients.

Chapter 3: Critical discourse analysis of the economic-capitalist discourse

... in the crisis of the hospital as environment of enclosure, neighbourhood clinics, hospices, and day care could at first express new freedom, but they could participate as well in mechanisms of control that are equal to the harshest of confinements. There is no need to fear or hope, but only to look for new weapons (Deleuze 1992, p.4).

In this chapter I shift attention to the capitalist discourse that dominates contemporary lifestyles and health care. I argue that medical practice has fundamentally changed in character in response to the idea that health has become a commodity that can be sold for a profit (Berg 1997, pp. 19-27). ‘Societies of control’ is a concept developed by Deleuze (1992) in his ‘Postscript on the Societies of Control’ that is useful for clarification of this point. Arguably, before commercial interests became dominant, traditional medical practice could be characterized in terms of what Foucault (1991) refers to as ‘disciplinary societies’. But as forms of commerce have increasingly been injected into medical practices, medicine has come to adopt the characteristics of Deleuze’s (1992) ‘societies of control’. In other words, an invidious, widespread network of ‘control mechanisms’ has replaced disciplinary sites of enclosure (hospitals, schools, prisons, families and factories). In medical practice, ‘control mechanisms’ arguably take the form of ‘investor interests’, ‘deregulation’, the Consumer Protection Act (CPA), ‘transparent access systems’, and the ‘new public health’ initiatives. These ‘control mechanisms’ will be discussed in more detail below to help elaborate on the negative effect ‘higher order’ consumerist and corporate capitalism has on the practice of biokinetics from the side of both the ‘patient’ as consumer and the ‘professional’ as a profiteer.

3.1 Deleuze’s ‘societies of control’ in contemporary health care

Deleuze’s (1992) theory of ‘controlled societies’ is built upon Michele Foucault’s (1991) theoretical account of the ‘disciplined society’. In some cases the two societies represent a bipolar relationship. For example, Foucault’s ‘disciplined society’ contains mechanisms of control that act from within certain ‘enclosed spaces’ such as schools, factories, hospitals, etc. These ‘enclosed spaces’ have their own unique understandings, rules and laws, e.g. school training and laws of discipline begin and end at school. Conversely, Deleuze’s ‘controlled society’ is not confined by ‘enclosed spaces’. In the ‘controlled society’, which Deleuze projects as a kind of ‘post-disciplined society’, the

individual never stops beginning, while at the same time he/she never finishes either. Thus there is an imperative of lifelong learning (Raunig, 2009).

With this notion, Deleuze (1992) takes us beyond Foucault's (1991) conception of 'disciplinary society'. From his 'Postscript on the Societies of Control', the insight emerges that an invidious, widespread network of 'control mechanisms' has replaced disciplinary sites of enclosure (hospitals schools, prisons, families and factories). For example, in the traditional medical institute the hospital is characterized as an 'enclosed space' with its own specific rules and regulations (Deleuze, 1992). Here the suffering of the patient was entirely dealt with from within this 'enclosed space' of the hospital. Thus the hospital had both its own unique rules and the patient had a definitive starting and ending point, i.e. patient is only a patient while under the surveillance of the staff from within the 'enclosed space' of the hospital. However, in contemporary settings in an attempt to cut costs, hospitals are continually finding new ways to outsource patients, i.e. rehabilitation is often outsourced. As such the hospital's boundaries, which previously defined a person as a patient, have extended to new spaces of medical care like medical clinics, wellness centres, health spas, etc.

In addition, newly introduced forms of commerce assist in blurring the boundaries between medical practice and capitalist agendas. In Deleuze's (1992) 'controlled society', capitalism is no longer concerned with production and property (These are the concerns of a 'disciplined society'). Rather, capitalism in 'controlled societies' concentrates on marketing and selling (Deleuze, 1992, p. 6). Deleuze here refers to the concerns of capitalism in 'societies of control' as a 'higher order production'. It is because of this new concern for 'higher order production' (marketing and selling), that capitalism can commodify areas beyond produced goods and property, such as health care. For example, health care has become progressively marketed by investor interests, insurance companies and third parties, and is now sold to the consumer/patient via the Consumer Protection Act (CPA) and other new health legislations allowing direct consumer-product relationships. In effect, investor interests have allowed medicine to expand exponentially, but the interests of these investors often override the authentic voice of health professionals, deregulation creates opportunities for conflicts of interest and thus manipulation of the patient, CPA creates consumers where patients once existed, transparent systems resemble other online economic systems like banking, shopping, etc. allowing medicine to become associated with these market related applications, the 'new public health', in allowing non-biological understandings of the body to be introduced into health campaigns, provides a platform whereby commerce is given a voice in health care. As a result, the 'enclosed space' of medicine defined by strict codes of professionalism and a recognized institute are slowly giving way to dominant economic pressures and as such is beginning to resemble a Deleuzian 'control society' of 'open' rather than 'enclosed' spaces.

3.2 The commercialization of health care: prioritization of investor interests

What was a revolution in American health care, it occurred over ten or 20 years. It started in the mid-1960s and by the mid-1980s it was virtually complete. What was a revolution was the entry into the [healthcare] ... delivery system, not the pharmaceutical industry or the medical products or medical supplies, but the medical care delivery system, the entry of investors. That was the revolution. That was a new idea, a revolutionary idea, and that changed everything (Relman, 2007, pp. 375-376).

The commercialization of health care is a controversial topic, especially amongst medical sociologists. According to Rodwin (2007), commercialism in American medicine began to influence health care as soon as ‘new money’ was introduced into the health care system. This ‘new money’ was apparently a result of Medicaid and Medicare, and the rapid expansion of private, employer-based insurance (Rodwin, 2007). Service providers soon were established in order to satisfy the growing demand for services such as marketing and advertising, brokering, consulting, information technology, financial services, case and disease management, billing and collecting, and so forth. In contemporary private health care, a patient’s medical insurance form captures only minor medical details; the majority of the information required being business related (Popham, 2005, pp. 291-294). Popham (2005, p. 287) also points to the large number of administrative employees within hospitals, private practices and health clinics. These often, if not always, outnumber the medical staff. These examples highlight just how thoroughly contemporary health care systems are permeated by an economic discourse. Arguably, health care quality has become restricted by medical insurance policies to the point where doctors are not required to assist a patient beyond the confinements set by the patient’s medical aid scheme. As a result, patients and practitioners have both become subjected to the interests of business and it is from within this growing environment that investors’ interests have become a powerful component of medical decision-making (Rodwin, 2007).

Medical sociologists have focused on a number of effects of commercialization and many of their conclusions suggest that economic and political forces should be kept separate from medical initiatives. For instance, according to Day (2008, p. 165), investor interests are capable of overriding those of the doctors, patients and other health professionals. As a result, there is a concern that patients may be re-positioned from what was once termed a ‘medical practice philosophy’ that ensured the patient’s best interests come first, to a ‘capitalist- economic service

philosophy’ which cautions ‘let the buyer beware’ (Day, 2008, p. 165). Similarly in South African Health care there exists two contrasting philosophies according to Rowe and Moodley (2013, pp. 1, 5), namely: the National Health Act, which promotes a ‘socialized model of care’ that incorporates an ‘Ubuntu’ philosophy thereby engendering an authentic fiduciary practitioner-patient relationship, and the Consumer Protection Act, which favours market values over traditional medical values of care, comfort and compassion, and as such encourages a more relaxed standard of truth telling’. Day (2008, p. 166) argues it becomes less likely for an institution to support professional practice when profit driven investors become involved. Therefore, a capitalist-economic repositioning of health care challenges the ‘trust’ relationship between professional and patient. Furthermore, according to Timmermans and Almeling (2009, p. 24), ‘money and markets are assumed to have a corrosive influence on medical practice, turning patients and their ills into dollar signs, and leading to further dehumanization of patients and corruption of medical practitioners’.

Nonetheless, regardless of these concerns, private health care in South Africa is structured in such a way that there are incentives for the practitioner to act on behalf of his/her own interests as health professionals in private practice, like the biokineticist, ‘earn profits and bear the risk of loss from their practice’ (Rodwin, 2007, p. 387). Therefore the motive of profit plays a large role in how they ‘advise, prescribe, refer, and make clinical choices’, to the point where it may even be at the expense of the patient (Rodwin, 2007, p. 387). Thus, with the inception of commerce into private health care, a conflict of interest arises for the professional as he/she also has an obligation to act in the patient’s best interest.

3.3 Deregulation and ‘decentralization’ of medicine

Public policies and professional ethical bodies are established, and have been since the beginning of organized medicine, to manage and minimize situations in which conflicts of interests may arise in health care (Rodwin, 2007). These bodies are responsible for regulating activities whereby practitioners may receive commission for advertising, selling of medical products as kickbacks, or for referring patients to doctors (Rodwin, 2007). However, since the mid-twentieth century until today, these regulatory bodies have been urged to relax their constraints over entrepreneurship (Rodwin, 2007). For example, in South Africa the Health Professions Council of South Africa (HPCSA) has been continually challenged to reduce their more restrictive ethical policies; a process known as deregulation⁷ (Ethical Related FAQs, 2014, pp. 11-12). For instance, big business and

⁷ ‘The term deregulation is very broad and can be defined as the removal or dilution of regulation(s), .e.g. in August 2006 , the Ethical Rules related to advertising were amended, allowing degrees of latitude for health care providers to advertise. It could be argued that this was a form of deregulation’ (Ethical Related FAQs, 2014, p. 11).

stores like ‘Clicks’ are now allowed to own pharmacies where previously it was prohibited (Ethical Related FAQs, 2014, p. 11). Another example of deregulation occurred in 2011 when the HPCSA appealed to have their ethical rules exempted from the Competition Act. The appeal was rejected by the Competition Commission and it was concluded that certain ethical rules did not constitute contraventions of the Competition Act and that others related to ‘canvassing’ and ‘stationery’ were overly restrictive (Ethical Related FAQs, 2014, pp. 11-12). In addition, the Commission stated that when compared to international standards, the HPCSA’s ethical rules were far more restrictive than in other countries. Due to the findings of the Competition Commission, certain ethical policies may not even be defended in a court of law (Ethical Related FAQs, 2014, p. 12).

Currently what is taking place in health care, and specifically South African private health care, is a slow transition from a protected profession into a market dictated service. It has been argued that the problems brought to light by ‘conflict of interests’ will play a larger role in the South African private health care in the future as investor interests and deregulation, as opposed to the needs of the patient, progressively influence professional decisions. In addition to the progressive commercialization and deregulation of the profession, increased consumerism in contemporary health care also takes place from the side of the patient, as may be seen, for example, in the Consumer Protection Act (CPA).

3.4 Consumer Protection Act and the rise of the consumer/patient

The Consumer Protection Act (CPA) has recently been added to South African health policies. The CPA converts the patient into a consumer and provides him/her with certain rights⁸. In sum, these rights allow the consumer/patient to become the ultimate decision-maker in his/her own health care. Arguably, the CPA challenges traditional medical practices by allowing market place values to dictate important relations in health care.

Because of the commercialism of health care, various traditional social relations and roles in health care are being replaced. For instance, the consumer is now able to sue the doctor for harm caused by goods and services of professional care because of strict liability provisions in the CPA (Rowe & Moodley, 2013, p. 1). In other words the complainant no longer has to prove negligence on the part of the doctor, but instead may hold the doctor accountable for supplying him/her with a faulty

⁸ ‘All patients are considered as “consumers” from a legal perspective. This means patients also enjoy the rights of the consumer: the right to equality in marketing; right to privacy; the right to choose; the right to disclosure of information; the right to fair and responsible marketing; the right to fair and honest dealing; the right to fair, just and reasonable terms and conditions; the right to fair value, good quality and safety; and the right to hold the supplier accountable’ (Rowe & Moodley, 2013, p. 7).

product (Rowe & Moodley, 2013, p. 7). Here the consumer/patient has been empowered and the doctor/ professional have been disempowered. A similar power shift exists in how the practitioner is now expected to obtain the patient's informed consent. In the past, physician's took on a 'paternal-like figure' and patients were more easily inclined to give their consent to these figures (Rowe & Moodley, 2013). However, as consumerism increasingly influences the institution of health care, this process has become more complex for the practitioner. For example, the CPA provides the consumer/patient the right to fair and honest dealings, while at the same the practitioner is prohibited to use coercion or other means of persuasion so as to entice a consumer/patient to accept a particular product or service (Rowe & Moodley, 2013, p. 7). Arguably, the CPA encourages the practitioner to sell his/her service to the consumer/patient rather than relying on his/her 'paternal-like figure' (authoritative status) to coerce the patient into signing the informed consent. Therefore it is the consumer/patient who makes the decision to accept the practitioner's service or alternatively look elsewhere for a better service. Thus the CPA again empowers the consumer/patient.

Although the Consumer Protection Act (CPA) empowers the consumer/patient in many new ways, it also has some negative consequences. For instance, as the patient moves closer to the consumer, so too does the health care professional move closer to the profit driven vessel and conflicts of interest are proportionately increased. For example, 'Many magnetic resonance imaging (MRI) centres and other freestanding medical facilities seek out doctors as limited partners with no role in management' in the U.S (whose ethical policies are less restrictive than South Africa's) (Rodwin, 2014, p. 1328). 'This kind of ownership by doctors encourages doctors to refer their patients to these facilities, to share the profits that their referrals generate' (Rodwin, 2014, p. 1328). Thus private firms incentivise 'doctors to prescribe, refer patients, or practice medicine in a way that furthers the firm's interests' (Rodwin, 2014, p. 1328). Doctors are also paid by suppliers to 'promote their products through public speaking and to serve on advisory boards' (Rodwin, 2014, p. 1328). In South Africa, 'fee-for-service permits fraud in the form of over-claiming, false claims, tariff manipulation and over-servicing' (Ncayiyana, 2012, p. 772). An underlying problem is that 'sick' people (patients) are vulnerable, and when sick they are inclined to cling to the traditional perception of the health care professional whereby the professional is understood as a person of fidelity. However, as discussed earlier, the CPA is more likely to produce business-minded health professionals and as such these professionals arguably no longer feel it their duty to act in this manner. Instead, health care professionals are more likely to exploit the vulnerable consumer/patient as seen in the examples above.

3.5 Transparent access systems

New technologies that favour what has been termed ‘consumer culture’ (Pearl, 2014) are fast becoming popular within health care. According to Pearl (2014), consumers are interested in ‘fast, online, open access systems’ which reduce time wasting. Transparent health care systems, such as ‘electronic health records’ (EHR), ‘virtual care’, and ‘Medscheme’s electronic health records’, appeal to contemporary consumers-patients by removing the redundancy of refilling in of personal information on health records, instead making this information transferable among other health professionals while still adhering to codes of client confidentiality by ensuring the data is password protected. As such, transparent systems reduce the need of the traditional health care practice whereby the physician is required to store the patient’s personal file in physical form, behind a locked door⁹. In this way, transparent systems renounce a portion of the physician’s power as sole keeper of the patient’s medical information. In addition, transparent systems appeal to modern consumers, not patients, as they are directed at how, when and where information and treatment can be obtained, whereas the patient of thirty or more years ago was inclined to remain in the care of the same family doctor with whom a relationship of trust had been established (Pearl, 2014). Thus the patient is more inclined to view transparent systems as depersonalized, whereas the consumer/patient, who is attracted to these systems, is likely to favour them. Arguably then these ‘consumer friendly’ transparent systems will continue to advance upon health care as long as the patient is represented as a consumer.

Discovery Health is South Africa’s largest medical aid insurance company with 2.4 million members (Ncayiyana, 2012, p. 772). Discovery Health has recently integrated an online system which allows its members to log on at any time and view their health profile. In addition, this profile can be updated remotely by an affiliated health professional such as the biokineticist. Arguably, Discovery Health’s online system bears close resemblance to a transparent system as its members obtain efficient feedback via a ‘depersonalized’ online system. Therefore Discovery Health, which is ‘a private, investor-owned, for-profit company’, in this way appeals to the advancing consumer/patient culture in contemporary health care (Ncayiyana, 2012, p. 772).

3.6 The ‘new public health’

The ‘new public health’ is a collaboration of concerns, expectations and projects all involving conceptions of ‘healthism’, ‘fitness’, ‘lifestyle change’, ‘healthy living’ and so on (Peterson &

⁹ Although health care practitioners are still required to keep these physical documents, in some cases soft copies that are password protected are acceptable (Guidelines on the Keeping of Patient Records, 2008).

Lupton, 1996). It attempts to broaden previous understandings of public health and is fundamentally concerned with action. Included in its lexicon are campaign phrases such as: ‘Lose weight!’, ‘Avoid fat!’, ‘Stop smoking!’, ‘Reduce alcohol intake!’, ‘Get Fit!’, ‘Practice safe sex!’ etc. (Tinning & Glasby, 2010 p. 112). The self-management practices promoted via these campaigns are willingly followed by millions of individuals in different parts of the world. Take for example the role of the ‘new public health’ in creating awareness about the ills of obesity; as a result of their influence there are few places in the world where societies are not aware of the health risks associated with being overweight (Thanem & Linstead, 2007).

Capitalistic economic discourse affects biokinetics and other medical professionals insofar as it promotes an instrumental view which commercializes our striving for healthy bodies through marketing campaigns like the ‘new public health’. In a South African context, there are a number of governmental drives promoting physical activity and the ideals of ‘healthism’ and ‘fitness’, such as the ‘Vuka SA – Move for your health’ initiative, Sport and Recreation’s Mass Participation programme, the Youth Fitness and Wellness Charter, and the Health-Promoting Schools Initiative (Draper et al., 2006, p. 94). These campaigns have become important platforms from which health initiatives are able to influence social relations on a local scale. However, it is the ‘new public health’ which acts as an important platform for marketing campaigns targeting social relations on a global scale.

The global awareness the ‘new public health’ enjoys is promoted by (1) its ability to utilize advanced communication technologies, and (2) new health legislations that allow direct consumer-product relationships. For example, in previous years, health interventions were only capable of influencing an individual or small community, but today entire countries are influenced by the ‘new public health’ initiatives, e.g. think of the impact a decision made by the World Health Organization (WHO) has on societies. Thus by incorporating a host of communication techniques, such as media networks, school education, propaganda promoted in gyms and wellness centres, in South Africa specifically, creating popular dialog and discussion, e.g. Tim Noake’s ‘Banting diet’ and the Sport Science Institute of South Africa’s (SSISA’s) ‘Healthy Weight’ programmes, and internationally, through campaigns like Virgins Active’s ‘Live Happily Ever Active’ and through the popular ‘Weight Watches’ programme, the ‘new public health’ is able to successfully market its policies. In addition, the ‘new public health’ has increased its supply of ‘followers’ as a result of a decrease in restrictive legislations previously circumventing health care and how it was marketed. Thus the ‘new public health’ is a powerful producer of health discourse.

Arguably, the ‘new public health’ is an effective means of governmentality as it successfully manages both the individual and group behaviours, and it does this on a global scale. It is able to do this because its pedagogy objectifies the human body and portrays it as vulnerable. From this stand

point it then encourages the individual, through obligation and responsibility, to adopt various lifestyle changes in order to improve their health status both individually and collectively (Petersen & Lupton, 1996). Smoking, diet, alcohol use, and physical activity are common variables of these lifestyle changes which the individual is encouraged to monitor and manipulate so as to align with required health norms. However, healthy living is not as simple as these campaigns present, i.e. losing weight is not always as simple as avoiding fatty foods, exercising and cutting down on carbohydrates. The ‘catchy’ branding and advertising utilized by the ‘new public health’ often reflect controversial topics in a light of certainty, omitting large portions of information (Tinning & Glasby, 2010). But according to Hancock et al. (2000, p. 1), the body is no longer understood solely as being subject to the notions of biological foundations, rather ‘cultural, social, and linguistic influences’ all compete with biological understandings and thus act as important influences in the promotion of what has been coined ‘good health’ or ‘feel good health’. Thus, ‘healthy’ living is far too complex to be presented in a light of certainty as a multitude of discourses define the complex issues surrounding health. In sum, the ‘new public health’ helps oversimplify the chaotic, complex and controversial subject of health, often presenting their initiatives as simple and easy to achieve.

Arguably the ‘new public health’ is tied to economic imperatives which make it hard to differentiate between professional advice and profit driven information. For example, the ‘new public health’ is fundamentally concerned with its ability to produce individuals who continually strive to become ‘healthy bodies’. It does this by convincing the individual that physical appearance is a signifier of worthiness or moral integrity, and as such the individual is continually encouraged to self-survey and monitor their own behaviours (Tinning & Glasby, 2010). In this way the individual’s health becomes his/her responsibility; a testament of his/her self-control, disciplines, and will power (Thannem & Linstead, 2007). However in the past, health care initiatives endorsed a more authoritative approach whereby the professional was the main (if not only) source of knowledge and the patient was considered a passive agent when it came to his/her health. But by allowing the individual to become a more ‘active’ participant in relation to his/her health, the ‘new public health’ has seemingly empowered the individual. The individual may interpret this new responsibility as liberating. But with the waning voice of the authoritative professional comes more and more deregulation and as a result decentralization of medicine, as mentioned above. Hence in contemporary health care, economic and other agendas are now associated with the body and how it is problematized. Arguably, the ‘active’ individual is more likely to be exploited by commercial interests and market values that appeal to his/her desires as a result.

3.7 Capitalism in biokinetics

The biokineticist is not immune to the economic influences currently experienced in health care in forms such as those mentioned above, e.g. transparent systems, Consumer Protection Act (CPA), and other deregulation activities. The fact that this professional is not historically invested in traditional protocols such as client confidentiality, mentioned earlier, may also mean that he/she is less ‘threatened’ by new economically driven health care than the physician. In addition, the biokineticist is a registered practitioner responsible for promoting a healthy lifestyle through the modality of exercise and therefore acts as valuable site for corporate investors who want to penetrate this sector of private health care.

The Biokinetics Association of South Africa (BASA) recently decided to include a description of the biokineticist on their website which promotes the value of this profession in economic terms (What is Biokinetics?, 2015).

[...] they maximize employment productivity and benefit economic stability; and they promote quality of life and individual independence, rather than more costly institutionalized and supported care (What is Biokinetics?, 2015).

Juxtaposing the newly added description of the biokineticist with contemporary pressures of commercialism in health care (see above), it would be naive to consider this amendment as an isolated incident. Arguably, in this amendment BASA has publicly voiced their acceptance of their member’s economic value in society; implying that the biokineticist’s actions should reflect their economic value. In sum, BASA’s amendment allows the biokineticist to widen the available constructs that determine the kind of practice he/she administers, and it has done this in a capitalist-economic direction. In addition, BASA’s website is the only accredited website specifically for biokineticists, providing a valuable platform for companies wanting to sell their products to these professionals.

Arguably, the Biokinetics Association of South Africa (BASA) plays a role in creating interactions between the biokineticist and corporate interests. For example, products such as *Bio Connect*, *Quantifi-Revolutionary Jawbone UP system* and *247 Highway* are currently marketed on BASA’s website. Because these products are marketed on BASA’s website, they are more appealing to the biokineticist. Furthermore, they are sold to the biokineticist at a discount price. Not only are professionals buying the products of these companies, but products like *Jawbone UP* are worn on the wrist and, as a result, should the biokineticist buy it, it would be visible to potential buyers like the biokineticist’s clients/patients. Thus by affiliating themselves with BASA, these

companies improve their potential of successfully infiltrating the exercise market. In this way BASA creates a platform whereby companies are able to objectify professionals as buyers and sellers of health care.

[...] risk stratification is part of a comprehensive transformation that aims to increase individualization and privatization of social risk (Lemke, 2004, p.555).

The biokineticist, as an expert, is also entangled within third party initiatives which help to create new ‘individualization and privatization of social risk’ (Lemke, 2004, p. 555). For example, medical insurance companies, like Discovery Health, incentivise (profit motive) their members to be tested by a biokineticist, i.e. ‘Vitality points’ are allocated to members who complete a biokinetics assessment and the ‘Vitality points’ acquired by the member are further translated into financial benefits or rewards. There is collaboration between the biokineticist, who encourages the members to perform health related practices, and Discovery Health, which encourages members to collect ‘Vitality points’. However, because Discovery Health creates a client that is motivated by profit, it succeeds in manipulating the ‘institutionalized form of control’ health care commands. Arguably, Discovery Health allows the body to be opened up to the ‘logic of investment and the imaginary of possible losses and desired profits’ (Lemke, 2004, p. 555). As such the body is expressed as (1) malleable by the biokineticist who teaches that exercise, smoking cessation and healthy eating are elements of optimization of quality of life, and (2) as an entity for obtaining financial gain because of the insurance company’s ‘reward system’. In sum, the biokineticist is not acting as an agent of health discourse alone, but his/her actions are tied to capitalist-economic agendas whether he/she acknowledges them or not. This is because the patient of the biokineticist, who is also a member of Discovery Health, is not visiting the biokineticist for health related reasons only, but also has business related intentions whereby he/she aims to achieve a profit through the optimization of his/her own ‘body’ (human capital).

3.8 Conclusions

In conclusion, it has been shown above that new acts of commerce witnessed in contemporary health care are iconic of Deleuze’s (1992) ‘controlled society’ as no end point ever seems to be reached. For example, consider the ‘consumer’ (governed by desire) of health care as opposed to the ‘patients’ (governed by need to reduce suffering), whereby the ‘consumer’ is always in need of better health (continuous), while the ‘patient’ is only in need of health care while he/she is a patient

(discontinuous). Arguably, for the ‘consumer’ the pursuit of ‘healthiness’ continues long after he/she is dismissed from the hospital. For example, contemporary health care provides many opportunities whereby the ‘consumer’ can perpetually progress as a ‘healthy’ agent. For instance, Discovery Health and their transparent online system mentioned earlier, whereby the Discovery member is encouraged and able to update his/her health status by persistently participating in various health related activities. These Discovery members are continually encouraged via incentives to improve their health status. In sum, there is no specific end point in sight as there are always new ways of improving upon one’s health status. These practices of continuous self-monitoring and progression resemble the never-ending flux of Deleuze’s (1992) ‘controlled society’, whereby the individual is thought to exist in an imperative of lifelong learning.

According to Deleuze (1992, pp. 3-7), the ‘controlled society’ consists of ‘perpetual’, ‘undulatory’ ‘modulations’ that are without boundaries. These ‘modulations’ are said to express a type of universal administrative control capable of transferring across all spaces of society. The ‘modulation’ is determined by a twofold appellation: ‘it consists on the one hand in forming modules and on the other it demands a constant self-(de)formation, a tendency to permanent modification of the form, to transformation, to formlessness’ (Raunig, 2009). Arguably, Deleuze’s (1992) modulation can be likened to the concept of ‘healthy bodies’. Following this line of thought ‘healthy bodies’ resemble what Deleuze (1992) calls a ‘module’, i.e. it is always the goal and therefore does not ever change. However, the ‘deformation’ and ‘continuous change’ of Deleuze’s (1992, p. 4) representation can be likened to the objectives one applies to achieving ‘healthy bodies’ because the objectives are continually changing. For example, the pedagogy surrounding weight loss, as means to achieving ‘healthy bodies’, is changing continuously, i.e. at one time a high fat diet is promoted and then it changes to a low fat diet and low intensity training is recommended and changed to high intensity training, etc. There is no end to the perpetual flux of recommended objectives one may use in order to obtain ‘healthier bodies’.

The ‘new public health’ is another example where the objectives continuously change but the goal, namely achieving ‘healthy bodies’, remains the same. Similarly, in the ‘new public health’, ‘healthy bodies’ is always the end goal (module) but it is never achieved in full as there is always more one can do to become ‘healthier’. As ‘healthy bodies’ are now defined through multiple knowledge sources and no longer only through biological understandings or professional interpretations, an insurmountable amount of choices are provided to the individual. It is in this way, whereby the individual is provided with a constant supply of self- (de)formations practices, that the concept of the ‘healthy bodies’ acts as a Deleuzian (1992) ‘module’, and is therefore able to control the behaviour of the individual by demanding constant modification of his/her parts. From a

perspective of commerce, there is no end to the amount of products that can be sold to the consumer wanting to buy 'healthy bodies'.

Chrain (2014) suggests that: 'Markets control us by convincing us that our desires can only be directed toward the products that are made available to us'. Should this be the case then the consumer/patient of contemporary health care is no longer only utilizing health care for authentic reasons of being ill or care of the self. Rather, capitalist forces have coerced the consumer/patient by manipulating the desires of the consumer/patient, e.g. the desire to feel worthy, be popular, have no fear, etc. In this system Chrain (2014) argues 'There is nothing to subvert, no grand authority to overthrow, no sovereign, not even an explicit disciplinary program. We are slaves of our own desire, or rather it is our desire that is enslaved'.

Chapter 4: The dehumanizing effects of a ‘risk discourse’

Risks stratification ensures that each individual is provided with a personal profile and additionally ensures a ‘dynamic adaptation and profitable optimization’ of their conditions. The vision of social progress is replaced by a therapeutic regime of self-improvement which rests on specific forms of subjectification (Lemke, 2004, p. 558).

4.1 Risk discourse in ‘societies of control’

One of the major constructs dominating health care in contemporary ‘societies of control’ is ‘risk discourse’. It has been argued by modern sociologists such as Beck (1992) and Giddens (1991) that contemporary societies are obsessed with risk. Beck (1992) claims risks are witnessed in ‘all aspects of modern human life, namely: work, leisure, family and sexuality’ (Beck, 1992, pp. 10 & 23). For example, financial risk advisers outline financial risks in current market trends and then provide solutions and guidelines based on their analysis to their clients helping them to steer clear of the ‘pitfalls’ of market crashes and losses in share prices. Similarly, life insurance brokers warn their clients of possible future risks involved in everyday life, offering them advice on how to reduce or prepare for them. In the same vein, the risk discourse is especially visible in health care. Health professionals, for example, point to the risks of contracting sexually transmitted diseases (STDs) and in turn offer preventative advice and guidelines to their patients. Similarly, preventative guidelines have developed out of new discoveries in coronary studies and other non-communicable diseases. New genetic risk assessments are capable of influencing important decisions, such as whether or not an individual will choose to reproduce in the future. The notion of ‘risk assessment’ is not alien to the biokineticist, who is required to classify his/her client according to risk assessment forms before exercise is prescribed. A biokineticist, for example, will know that biokinetic risks contraindicate certain exercises for cardiac patients. Further, he or she might assess the biomechanical risks that influence the way in which individuals move during sport, work, and other activities.

Arguably, the idea that life is full of risks is in no way modern, but as both Beck (1992, pp. 10; 23) and Giddens (1991; 1999) insist, the contemporary promotion of a ‘risk discourse’ is a uniquely modern phenomenon. Sociological studies since the 1980s have become increasingly concerned with modern risks (Zinn, 2010). How these risks are managed and embodied by the individual, how they affect social relations, and what kind of government or corporations utilizes risk discourse are important topics of discussion in sociological circles and have become the norm

when investigating the organization of contemporary societies (Douglas, 1992; Lemke, 2004; Williams & Calnan, 1996; Zinn, 2010; Hacking, 1990; Bernstein, 1997). Even the emergence of biokinetics, as a new practice, is part of the contemporary shift in health care away from enclosed disciplinary domains such as hospitals. In becoming an area of generalized concern, focus in health care shifts to preventative measures and individual responsibility. On the face of it, this appears to be a good thing. Preventative health care is tied strongly to the notion of ‘risk assessment’, emphasizing the health risks that a population may face, and focusing on preventing future illness or injury by avoiding present behaviours that are said to increase the risk or predispose the individual to such diseases or injuries. Further, in what seems to be an indication of welcome progress towards an empowering humanistic attitude in health care, dependence on a single, authoritarian medical professional is replaced with an almost moral responsibility to participate actively in one’s own preventative health care. Certainly, ‘risk assessment’ remains one of the vital procedures that must be followed to ensure the safety of a client. However, ‘risk discourse’ may have dehumanizing and disempowering consequences, particularly when it is tied closely to an economic agenda in a ‘society of control’. It is essential, therefore, to challenge unquestioning implementation of risk assessments, or perhaps the naiveté of one-sidedly endorsing them, without first considering the discursive agendas driving them and the outcomes of overemphasizing risk.

Although I do not wish to deny the value of beneficial risk assessment, in what follows I will discuss certain reasons for concern regarding the contemporary ‘risk discourse’ in health care.

4.2 Risk discourse and the identification of ‘human capital’

In the occupational setting, risk discourse helps to shape the identity of the employee by creating frameworks of ‘human capital’ potential. Here the corporate biokineticist, who influences dismissals, temporary lay-offs, classification, and wellness of employees; helps to stratify and classify each employee accordingly. These stratifications help in determining the employee’s productive potential in relation to his/her physical capabilities, thereby representing the body as a ‘resource’. In sum, the biokineticist (health professional) uses risk discourse to portray human existence as a form of ‘risk capital’, whereby the body may be articulated as a ‘disposable resource’. Here, for example, the employee’s ‘disposal’ (removal) is made easier by the fact that he/she is articulated as a mere variable of production in the form of ‘human capital’.

Risk discourse, in ‘societies of control’, acts an enterprising form of selfhood and creates ‘new relations with expertise’, thereby ‘reconfiguring power relations in significant ways’ (Novas & Rose, 2000, p. 505). For example, the corporate biokineticist constantly surveys the high-risk employee during exercise, encourages the overweight individual to lose weight, and monitors the

injured employee through rehabilitation in an attempt to have such employees 'fit for work' in the quickest possible time. In sum, the employee's ill health or injury may be represented by the biokineticist as the employee's failure to adhere to required norms related to body weight, strength, flexibility, or endurance. Thus the corporate biokineticist assists in reinforcing the employee's 'responsibilities' to remain 'fit for work', thereby redirecting the blame onto the individual. Further still, the integration of a 'health risk' discourse in corporate settings helps to minimize the social or environmental context in which health risks are produced. Crawford (1977, p. 674), for example, points to the irony that companies have begun screening workers for certain susceptibilities using 'at-risk' behaviours such as smoking, use of alcohol, or improper diet, while the environmentally hazardous conditions created by their products are not being addressed. Essentially, economically motivated strategies to reduce 'declining productivity and expanding absenteeism' are presented in terms of a health risk discourse that reminds an employee that there is always something more he/she can do in order to better avoid health risks; thereby reinforcing the idea that maintaining personal health is an employee responsibility. There are even repercussions for the employee who fails to meet certain health care norms such as 'face sanctions, dismissals or early retirement' (Crawford, 1977, p. 673). As a result, the biokineticist (health professional) has the potential to influence relationships between employee and employer, employee and their insurance company, employee and their family.

In this complex-social setting the professional promotes risk discourse by (1) educating the lay populace about health risks, and (2) by providing solutions in the form of treatment. Together these new relations participate in framing the body as a mechanism of production whereby the corporate ideology, which promotes 'the prevention of loss and the optimization of future rewards', is articulated within the embodied experience of the employee (Williams & Calnan, 1996, p. 1614). Such a rationalization of the body clearly 'ignores subjectivity, affectivity, life, and beings', and therefore can be said to refuse to 'enrich and enhance the whole experience of human living' in favour of an economic-capitalist reduction (Pellegrino, 1984, pp. 257-258; Morin, 1999, p. 7). It would be naive not to criticize an approach which does not recognize the 'contribution of emotions, love, [and] repentance' (Morin, 1999, p. 7). Neither does this approach 'challenge the physician [health professional] to know his own values and to give a reasonable account of them before daring to undertake the delicate task of deciding with another person what is 'good' for that person' (Pellegrino, 1984, p.257). As such, it is important to criticize so as to determine the 'limits of logic, determinism, [and] mechanics' which are presented by an approach, which categorizes human potential under the dehumanizing guise of 'human capital' in the name of health/progression/efficiency (Morin, 1999, p. 7). In sum, instead of obsessing over the risk potential of the employee, it is suggested that an understanding of the effects an illness has on the

humanity and values of the employee be included into the investigation so as to insure a more holistic approach (Pellegrino, 1984, p.256).

4.3 Risk discourse and the ‘object of intervention’

On the other hand, ‘risk discourse’ acts as source of a new, richer identity and ‘object of intervention’. For example, in private practice there are numerous sites in which the patient is offered a ‘healthier’ identity by the biokineticist. First, however, the biokineticist must perform a risk stratification assessment on the patient. Risk stratification is based, in part, on the presence or absence of certain health risk factors, e.g. smoking, hypertension, dyslipidaemia, impaired fasting glucose, obesity, etc. It also involves the identification of major signs or symptoms of cardiovascular, metabolic and pulmonary disease. Once this information is known, patients are stratified based on the ‘likelihood of untoward events’ (American College of Sports Medicine, 2006, pp. 27-28). Following the risk stratification assessment, the patient is prompted to participate in an exercise intervention in order to minimize the identified health risks. For example, obese individuals are encouraged to reduce their weight through exercise participation in order to prevent the possible early onset of cardiovascular and metabolic diseases such as hypertension and diabetes.

However, in the case of Discovery Health Insurance, whereby members are rewarded according to the status of their health profile, the risk stratification also has the potential to reduce certain benefits, in this case financial. In other words, should an individual not subscribe to these identified interventions, he/she is subjected to a ‘processes of exclusion or mechanisms of repression’ (Lemke, 2004, p. 561). As a result of its double-sided agenda, risk discourse ensures the individual ‘wilfully’ participates in particular ‘actions’ which encourage the ‘optimization of human capital in the name of self-determination, personal preventative provisions, and freedom of choice’ (Lemke, 2004, p. 561). This coercive, rather than productive, side of risk stratification assessment suggests that risk discourse may also be used to govern and control individuals in contemporary societies via ‘intensified self-management and regulation’ processes (Tinning & Glasby, 2010, p. 116). For example, ‘fitness’, in all senses of the word, may be constituted as what Foucault (1982) might term an ‘ethical substance’ one works upon in relation to the self and in relation to others (Novas & Rose, 2000, p. 502). The idea would be that in working to address health risks, a person also creates ‘enterprising, responsible, prudent, and self-actualizing forms of selfhood’ (Novas & Rose, 2000, p. 503). In other words, health risks may circumscribe new ‘modes’ and ‘fields’ of responsible action becoming a ‘central point of reference to expand moral duties’ (Lemke, 2004, p. 559). For instance, the individual actively engaging in regular exercise is immediately circumscribed by a multitude of new decisions such as: the what kinds of shoes to be worn while

training, where to park the car in relation to the destination, how much money to spend on exercise clothing and gear, where to meet, socialize, engage and converse, etc. These new interactions act as identity-forming agents, which help to align the body with current understandings of the ‘fit body’, ‘beautiful body’ or the ‘healthy body’. Arguably then risk discourse is an important component in the recoding of a person’s identity (Tinning & Glasby, 2010, p. 112). In sum, it becomes wise to question and beware of risk discourse as it is a powerful mode of behavioural modification. This is because it persuades individuals to adopt the ideology that any alteration from his/her ‘health related responsibility’ is an act against what is good, right and virtuous. In addition, self-management practices are more effective when they adopt a moral association. As mentioned in Chapter 3, physical appearance has become a signifier of worthiness, suggesting that the body has become a fundamental site from which the individual is able to express publically such virtues as ‘self-control, self-discipline and will power’ (Tinning & Glasby, 2010, p. 110). Thus in promoting the body as an ‘object of intervention’, risk discourse, with the aid of health pedagogy, prohibits certain lifestyle choices in favour of others. It does this by assuring patients/consumers they will acquire all manner of internal and external ‘goods’ (such as happiness and popularity) if they adhere to the promoted lifestyle choices. In other words, risk discourse hierarchizes certain lifestyle choices in favour of others. In this way no competition in the form of diversity is promoted, and as a result, individuals are encouraged to remain within the engrained processes of current discursive formations by using coercive force which ‘instils inhibitory fear in those who might have doubted’ and provides ‘evidence to those who are already convinced’ (Morin, 1999, p.9). Arguably in redirecting the individual’s focus via intensified management and governing strategies, risk discourse helps minimize potential threats to the current discursive structures, and in doing so creates dehumanized, politically-docile individuals, i.e. individuals who ‘know, think, and act according to interiorized culturally inscribed paradigms’ (Morin, 1999, p.8). Hence the individual’s behaviour is controlled and thus structured under the guise of ‘reduced risk’ or ‘better health’.

4.4 Risk discourse, absolute ‘truth’ and the ‘active patient/consumer’

In a ‘society of control’, the individual is no longer expressed as a ‘passive recipient’ of the health care professional’s advice, but rather is seen as an ‘active seeker of information and consumer’ of professional testing and other health care services (Lemke, 2004, p.558). In this way the consumer (active seeker) negotiates his/her way through the multitude of potential risks presented by modern health care, and then must compare them to other sources of knowledge before making a decision regarding his/her health.

However, there are a multitude of sites from which health risks are projected and these offer, for example, authentic or not, biochemical, genetic and scientific ‘truths’ about exercise and diet. As a result of these expanded forms of responsibility and control, the modern responsible-patient ‘becomes active in the shaping of the enterprise of science’ and medicine (Novas & Rose, 2000, p. 506; Rabinow, 1999). According to Novas and Rose (2000), the patient may do this in one or many ways, e.g. in the form of placing hope in a cure, or in reducing the risks of a disease followed by such actions as searching and posting new research findings on ‘web forums, donating parts of one’s income towards promising projects whose aim it is to find a cure, joining fundraising activities to support the search for a cure, a willingness to take part in experimental trials for potential therapies to cure the disease’ (Novas & Rose, 2000, p. 506).

A problem arises when the layperson is unable to investigate the validity or reliability of the information received for whatever reason, e.g. insufficient time, poor resources, lack of knowledge, etc., and purchases a product that may actually be detrimental to his/her health. Sadly these practices often result in greater social health related concerns. For instance, the pressure to reduce one’s risk through actions which both maintain and regulate behaviour has resulted in poorer health, e.g. ‘exercise addiction’ – a disorder which presents as a result of the overemphasis on sedentary behaviour, and ‘orthorexia nervosa’ – a condition which presents as a result of the overemphasis on healthy eating (Tinning & Glasby, 2010). In effect, the individual who attempts to navigate his/her way through the terrain of risk discourse unaided is often misguided and ill prepared. Further still, the health risks presented in risk discourse are often poorly researched or subject to change with the advances of techno-scientific knowledge. For example, probability theorems and algorithms are applied in health risks, but as Haack (2013) argues, these predictions are often formulated incorrectly by transferring scientific theories into non-scientific disciplines, rendering these risks invalid (Lemke, 2004). Also, athletes and exercise enthusiasts who are classified by the medical industry as low- risk patients can fall dead from heart attacks. In genetics, new ‘genetic risks’ are capable of predicting the probability of developing a future disease; the irony here is that these tests cannot predict when or how severe the predicted illness will be, yet these risks result in actions which effect immediate relations between the individual and his/her ‘employers, family members and insurance companies’ (Novas & Rose, 2000, p. 505). As a result, Lemke (2004, pp. 551-552), who investigated the relationship between genetic determinism and risk discourse, suggests that risks are not necessarily natural or universal phenomena, and therefore may not exist outside of the explanations used to describe them. In other words, risks do not necessary reflect natural facts alone, but are rather construed as ‘instruments and effects of a more complex social-material reality’ (Lemke, 2004, p. 551). In this regard, both Lemke (2004) and Beck (1992) agree that risk is ‘open to social definition and construction’ (Beck, 1992, pp. 10, 23; Lemke, 2004, p. 551). Giddens

(1991, p. 3) suggests that the proliferation of risk stratifications (risk discourse) reflects attempts to establish 'controlled interventions' in what is found to be unpredictable phenomena. If this is true then risks are entangled within cultural knowledge, morals, beliefs, political, scientific and personal understandings, and therefore do not necessarily reflect only rational thought based on scientific understandings.

Yet risk discourse is presented to the public with an air of certainty via media and other communication channels like the 'new public health' (see Chapter 3). In addition, risk discourse has become a radical organizer of individual and group behaviour. This inevitably means that responsible forms of selfhood in contemporary societies are developed via the negotiation between health risks presented in insurance companies, health initiatives, the biokineticist's practice, and health and fitness media. Arguably then, the validity of risk discourse presented by health initiatives like the 'new public health' are questionable and thus require further investigation, especially considering that this information has been recontextualized by political and economic interests 'often having its ambiguities and uncertainties edited out' (Tinning & Glasby, 2010, p. 116).

Instead of the 'active consumer/patient' 'pushing and shoving' his/her ideas about health into one understanding that has hopelessly failed to accommodate them, it is perhaps time to consider new ways of conceiving our own health (Morin, 1999, p. 11). Thus there is a need to encourage a more humanistic form of the 'active patient/consumer', who is empowered to develop a sense of self and agency that is removed from the shadow of 'risk'. To do this, different ways of knowing reality must be encouraged and not forbidden. Despite the certainty expressed by risk discourse, 'Wisdom is still a rare commodity, creativity is still inexplicable, and aesthetic experiences delight some of us and not others' (Pellegrino, 1984, p. 256). By reintroducing the importance of the humanities, for example, in health discourse, new methods may become apparent which better prepare individuals to 'analyze, judge and sort out competing values' (Pellegrino, 1984, p. 256). Such a method is described by Morin (1999, p. 7) as 'corrective rationality' and includes the cultivating of a rationality which is quite simply 'corrective'. Here the things like the environment, repetition, culture, other people, memory and logic are used in agreement with assertions and the empirical data to which it applies in order to establish coherency.

Building the character of the new 'active consumer/patient' so that it becomes 'corrective', as Morin (1999, p. 7) explains, is arguably a better method in which to prepare the new 'active consumer/patient' for the complexity of uncertainty presented in 'societies of control', thereby allowing him/her to avoid the pitfalls of disjunction and reduction produced through risk discourse (Morin, 1999, p.17).

4.5 Risk discourse and individual vs environmental responsibility

According to Giddens (1999), modern risks are predominantly ‘manufactured risks’, meaning that they exist as a result of human influence on the environment, e.g. acid rain, pollution, global warming, deforestation, global crime, etc. In the same vein, as mentioned earlier, some theorists suggest that many major health risks are predominantly caused by environmental factors and thus argue that there is an overemphasis on the individual in risk discourse. The consequence of this overemphasis is that blame for producing health risks is often conveniently displaced from corporations and institutions onto individuals (Day, 2008; Novas & Rose, 2000; Lemke, 2004; Zinn, 2010; Crawford, 1977). For instance, the following contemporary health risks are all environmentally induced but are often presented as individual responsibilities; social anxiety disorder (which is related to overpopulation or overcrowding); sick-building syndrome (caused from working in sealed buildings); orthorexia nervosa (an eating disorder developed from an obsession with healthy eating); E-thrombosis (caused from prolonged immobility such as office/computer related work); earbud-related hearing loss (caused by high audio sounds delivered through new-technology headphones), and computer vision syndrome (a work related health risk caused from long durations in front of a computer) (6 Modern Age Health Problems, 2011). The question these theorists ask is whether or not environmentally provoked health risks are handled with the same degree of scrutiny as those health risks which can comfortably be attributed to an ‘individually responsible’ individual.

Thus the individual who engages in ‘risky’ practices may be ‘labelled, classified or stratified’ as reckless or immoral. These individuals may be rejected from certain social relations as a result. For example, smokers are relocated to designated areas because their choice to smoke increases the risk of illness on the part of others (secondary smoke is a well-known and legitimate health risk). Some may argue that one should weigh the actual effect the small percentage of smoke has on bystanders against the greater effect of ‘social anxiety disorder’, which is one of the most common health related problems facing modern society. In so doing, one may be inclined to reconsider the removal of an entire group of people from certain spaces as a result of their ‘bad’ habit (6 Modern Age Health Problems, 2011). However, this argument is not at all likely to gain sympathy because it is very easy to hold individual smokers entirely responsible for risking their own health, and to consider them morally reprehensible for producing health risks for others.

Interestingly, this strongly unsympathetic, exclusionary stance towards individual smokers may be contrasted without response to the producers of significantly polluting emissions from motor vehicles, factories, machinery and other appliances (Crawford, 1977). These and many other harmful products are sold to the public with hardly a murmur of sanction incurred by the producers.

Thus it may be wise to query the reason why large corporations producing and profiting from the distribution of tobacco and cigarettes are not held more responsible for the health related harms of their produce. Instead the action of the individual, which by comparison is minor, is targeted by health risk discourses.

In this way risk discourse discriminates against the individual by infringing upon his/her human rights. Instead, a discourse which encourages individuals to resist the tyranny of 'political demagoguery' by freeing their minds and enabling them to 'discern the values that underlie' these public policies should be implemented (Pellegrino, 1984, p. 258). If this is not done soon there is a fear that the humanistic elements of medical care will not be guaranteed within the increasingly technological atmosphere of medicine (Pellegrino, 1984, p.253).

4.6 Conclusions

This chapter has discussed the ways in which non-absolute calculations of risk have come to affect the individual through a process known as 'risk discourse'. Risk discourse has come to pervade health practices in the form of government and surveillance of the body, managing to create truth programmes which function in the 'framework of power strategies and political rationalities', and as a result govern what actions are made available to the individual and what actions are not (Lemke, 2004, p. 554). The biokineticist, as an enforcer of risk discourse, is challenged to reassess his/her role in creating naive followers of risk discourse rather shifting their attention to the humane aspects of the health care such as developing compassion towards the suffering patient and learning to respect the different values of each patient (Pellegrino, 1984, p.256).

As mentioned in the introduction to this study, the purpose of the biokineticist is to promote patient-driven lifestyle change. It should be clear from the above discussion that this purpose is not properly served by treating the human body in the manner promoted by medical-scientific, economic-capitalist and risk discourses. In Section B, I turn to two alternative accounts of the body, offered by Foucault and Deleuze and Guattari in an effort to overcome the shortcomings of the prevailing dominating discourses surrounding health care practice. Section B thus offers the kind of philosophically and historically enriched conception of the complexities of the human body that would better serve the purpose of promoting patient-driven lifestyle change.

Section B

Chapter 5: Understanding the human body through Foucault

5.1 'Mode of subjectification' in biokinetics

'Reality' was explained in Chapter 1 to be a product of human categorization, and human categorization was said to be influenced by the discursive structures presiding over a particular period in time. What can be drawn from these two statements, when considering their effects on the subject (individual), is that each subject is effectively determined by the discursive structure. Grossly generalizing Foucault's (1991, p. 178) argument, he considered the subject to be a product of his/her environment and, as such, saw the modern individual as continually influenced by a multitude of forces, e.g. biological, cultural, medical, psychiatric and linguistic, etc. However, the subject cannot be completely determined by these forces as each subject is different. Thus, these influences are internalized only after a process of negotiation and navigation takes place between the subject and these forces. This process Foucault (1983, p. 66-67) termed the 'mode of subjectification' (*mode d'assuiettissement*).

Thus far, this study has focused on the subjection of both patients and practitioners in the field of health pedagogy; with a particular focus on biokinetics. Section A offered an outline of the dominant discourses which influence biokinetics, and these were analysed in an attempt to determine the main outcomes of the discursive structure and how they influence the process of subjection. The objectification of the patient endorsed by today's dominant discourses, the passive role given to and adopted by the patient, increased emphasis on risk assessment, and higher forms of self-surveillance were said to all result in a diminished subjective experience. Thus there is a concern that the 'modes of subjectification' promoted by the discourses are not suitable for producing autonomous or self-aware individuals/patients. In sum, there exists an asymmetrical relationship within these discourses, which favours the power figures regardless of the diminished subjective experience among individual patients.

The question following this line of argument is: "Why then are these operations tolerated by the patient if he/she is not entirely determined by discursive forces?" In asking this question, by no means is it being suggested that patients never complain or consistently fail to take legal action where necessary, or that there are no cases whereby practitioners resist the ever-encroaching effects

of commerce or standardization. But despite such forms of resistance, medical practice is progressively increasing its orientations towards commercialization and standardization within the discursive field with very little effective change in this regard. The discussion now turns to Foucault's conceptualization of 'the political rationality', which is offered as an explanation for the passive state of the contemporary patient/consumer.

5.2 'The political rationality' and the practice of biokinetics

According to Foucault (1991, p. 29) there has existed, since the classical age, a 'corpus of knowledge and power', which has progressively infiltrated strategic spaces, systems, and even individuals throughout society. What is remarkably new here is the idea that power does not belong to a single dominating discourse and should it be removed, the entire discursive structure would collapse. Instead, these mechanisms provide an almost invisible administration of control over the operations of the subject. Characteristically, it acts elusively to establish 'rigid obedience, order and a desire for certainty'. Its mechanisms groom subjects via 'habits, rules, orders, and an authority that is exercised continually allowing these relations to operate almost automatically' (Foucault, 1991, pp. 128-129). Examples of similar operations are seen in biokinetics where patients participate in regular exercise (habits) which is structured and regulated (rules and order) by biokineticists, new public health initiatives, and medical aid schemes. Their activities are continually monitored, measured, and processed by these authorities (authority that is exercised continually).

Foucault's (1978a; 1991) historical perspective outlines two areas of particular interest in medical practice, namely: 1) anatom-politics, and 2) bio-politics. The former suggests that medicine dominates the body, seeing it as a machine, which must be instructed by various procedures of power that are efficient and economical in nature. The latter suggests it dominates the population by using normative data and other classification techniques. Interestingly, similar mechanisms were discussed in Chapters 2 and 3, regarding the practices of anatom-politics, where risk discourse and commerce techniques were shown to encourage the patient to adopt self-surveillance and self-monitoring practices that were promoted by professionals. An example of bio-politics can be found in the medical-scientific discourse, specifically in Weisz's (2003) description of 'administrative rationale' (see Chapter 2), which suggested that medical progression, particularly in the form of increased specialization, was rooted in a desire to classify the population. In addition, in Chapter 2 it was noted that within the biomedical paradigm, a division occurred between 1) medical professionals who adopted an ontology which focused on the individual body and its reduction to 'cause and effect' systems of explanation, and 2) health professionals who adopted a holistic

ontology which focused on the population as a whole. A parallel can be made here between these two ontologies and Foucault's (1978a; 1991) conceptualization of anatom-politics and bio-politics.

In short, it is argued by Foucault (1991) that a 'corpus of knowledge' exists in modern societies, which dominates and dictates the processes of subjection. Together this 'corpus of knowledge' and its mechanisms and activities are called 'the political rationality', described as a means of 'categorizing individuals and distinguishing them through their identity, and it imposes on them a law of truth that must be recognized in them. It is a form of power that makes individuals subjects' (Foucault, 2005, p. 544). These operations motivate the subject, rather than using corporal force, to participate in particular actions.

As a new profession, does biokinetics then act as another location from which the mechanisms of 'the political rationality' operate? In effect, are its mechanisms built into the techniques of objectification, stratification, normalization, examination, and commercialization currently witnessed with increasing intensity in biokinetics? It is argued below they are indeed and that they are expressed in various degrees of intensity.

5.3 Functions of 'the political rationality'

Foucault (1991) ascribes three specific functions to 'the political rationality'. What will follow is an outline of these three functions and an indication of where they exist in the field of biokinetics. Arguably, understanding the field of biokinetics in terms of 'the political rationality' affords a better investigation of its everyday practices, which in turn may inspire an alternative to the current docile approach characteristic of most contemporary patients.

The three functions of 'the political rationality' are: 1) it strives to know the body; 2) it explores the body, breaks it down and re-arranges it, and 3) it reduces the body as a political force at the least cost and maximizes it as a useful force (Foucault, 1991).

With regard to the first function, striving to know the body, this is made apparent in biokinetics by the mechanisms which increase the visibility of the patient. Firstly, new definitions, both medical and non-medical now define the body of the patient creating new identities previously unaccepted in the medical field, e.g. the consumer/patient. These new identities are numerous, resulting in an increased number of 'known' bodies. Previously a patient was only identified with the physiological responses of their body, e.g. the 'diabetic', 'cardiac', 'hypertensive' and 'orthopaedic' patient. However, the medical body is no longer only confined to the physiological explanations of the body. As discussed in Chapter 3, new public health (NPH) initiatives ensure that other discourses are given authority to define what it means to be 'healthy'. As a result, the number of 'known' bodies has increased to such a degree that all patients can in effect be expected to fall

into some or other ‘known’ category. Take for example the numerous categories of weight-related bodies based on height to weight ratios i.e. body mass index (BMI) scores; these include underweight, normal weight, overweight, obese one, obese two, obese three, and morbidity obese. Risk stratification techniques also ensure that bodies are categorized into low, moderate or high risks. Distinctions are made amongst medical insurance schemes, which categorize the body into platinum, gold, silver and bronze; each category has its own rewards and benefits. Thus in sum, the body is broken down into a multitude of subjection options which the ‘actual’ body of the patient, in turn, is encouraged to adopt according to the signs and symptoms they present. In this way the ‘actual’ body is no longer the focus. Rather the focus is in ensuring the subject has an identity to choose from. Such regulated categorisation in terms of known ‘types’ allows for quick explanations of subjective experience, related to which would be a standard menu of available options for efficient health promotion.

Subjective experiences are also regulated through surveillance techniques which ensure that the body is made more visible, either to the actual subject in the form of self-surveillance (anatomopolitics), or to others in the form of specialists or professionals who oversee or monitor the activities of the patient using techniques of normalization (bio-politics).

According to Foucault (1991), surveillance exists throughout society. He outlines its historical progression from the classical age until the late nineteenth hundreds and provides early and rudimentary examples of the ‘gaze’ seen in the architecture and design of military camps whereby the camp is laid out to support the ‘network of gazes that supervise one another’ (Foucault, 1991, p. 171). Later the hospital, school and factory began to adopt intensified versions of objectification and partitioning whereby heavier older systems of surveillance, for example, were replaced by the ‘calculation of openings, of filled and empty spaces, passages and transparencies’ (Foucault, 1991, p. 172). Surveillance and supervision increasingly became more important in the development of these spaces to the point where supervisors became ‘indispensable, constantly present and distinct from the workers’ (Foucault, 1991, p. 173-175). The ‘gaze’ being an important part of ‘the political rationality’ then explains why the oversupply of medical professionals in the medical-scientific discourse, discussed in Chapter 2, is tolerated. It helps in creating an uninterrupted system of surveillance. Thus the vast number of administrative employees, specialists and other personnel in hospitals provides a constant supply of the medical ‘gaze’, or judgement, which helps to constrict the actions of the patient who forever feels as if he/she is being watched. In this way his/her behaviour is more easily guided into a particular ‘known’ direction. Another example is seen in the increasingly popular utilization of multidisciplinary approaches. For instance, the eight week Healthy Weight programme conducted from the Sports Science Institute of South Africa (SSISA) employs three professionals – a psychologist, a biokineticist and a dietitian – to survey the patient

throughout the programme. The programme has seen a large amount of success, and arguably a core part of it is a result of the intensified and continuous system of surveillance it utilizes. Lastly, the corporate biokineticist can be used as another example of surveillance whereby the medical ‘gaze’ is extended into the work space so that the patient not only experiences it from within private practices and wellness centres, but also in the workspace where he/she spends the majority of his/her time.

The second function of ‘the political rationality’ whereby the body is explored, broken down and rearranged relies on an understanding of the ‘known’ body discussed above. This is because the ‘known’ body is the end result of this function. In other words, the actual body is explored and broken down and then rearranged into one of the ‘known’ bodies categorised by professionals. Foucault provides examples in society whereby ‘the measurement of overall phenomena, the description of groups, the characterization of collective facts, the calculation of the gaps between individuals, [and] their distribution in a given ‘population’” have become regular processes (Foucault, 1991, p. 190). He concludes that these processes of exploring, breaking down, and rearranging of the body are present and occur in varying degrees within the operations of many modern discourses and institutions. In short, these processes have become ‘normalized’.

Normalization, according to Foucault, has five specific functions, namely: it compares, differentiates, hierarchizes, homogenizes, and excludes various activities (Foucault, 1991, pp. 182-183). In effect, with reference to the exploring, breaking down, and rearranging of the body, these processes have become normalized during the biokinetics consultation as follows: 1) The body is explored using comparative techniques whereby the patient is compared and judged by the ‘gaze’ of the biokineticist; 2) the body is broken down using differentiation techniques of the biokineticist which ensures that the body is divided into particular categories. These include medical history questionnaires, risk assessments, orthopaedic testing and postural analysis, static measurements (body mass index (BMI), height, weight, resting blood pressure and heart rate) and dynamic measurements (cardiovascular fitness, muscle strength, endurance, flexibility, and functional capability), etc. Lastly, 3) the rearranging of the body adopts three of the normalizing functions, namely: hierarchizing, homogenizing, and excluding. The new public health (NPH) hierarchizes the ‘fit-healthy’ body, the ‘slim body’, and the ‘healthier’ body (Tinning, 2010). The biokineticist hierarchizes the musculoskeletal injury over the skeletal injury because he/she understands this injury better. As a result, he/she may be inclined to force the patient into a specific injury categorization, which he/she is familiar with as opposed to seeing the injury as an unknown. The homogenizing function of normalization is best represented in the effects of bio-power where individuals are ranked according to normative data values as excellent, good, or poor. This kind of ranking usually allows individuals to be categorized according to age, gender, ethnicity, height, and

weight related norms, i.e. these act as population comparisons. Exclusion occurs in the rearranging phase of the process, for instance in the biokineticist's report which may suggest that the client is of certain cardiovascular fitness, thereby excluding him/her from receiving a said amount of points for his/her medical insurance policy (see Chapter 4). Certain health choices might result in exclusion from specific spaces, for example the smoker (see Chapter 4). Lastly, various modes of training are restricted to high risk patients so that there is an exclusion of these patients from various activities.

Normalization practices are so important in the practice of biokinetics that it is plausible to assume it would be substantially devalued, as a professional practice, should it be deprived of such techniques. While normalization processes are not in anyway new, Foucault (1991) has tracked them from the commencement of the classical period and into modern society; their strong and fundamental presence in the relatively new field of biokinetics is noteworthy. In sum, what is shown here is that the desire to normalize has become fundamentally more intensified in contemporary health discourse and society, resulting in further intensification of the subjection processes of the subject/patient/consumer/client.

Foucault (1991, p. 306) argues that normalization is a proliferating form of disciplinary control with wide-ranging powers made apparent through new disciplines. He also explained that status was replaced at the end of the classical age in medicine, factories and schools by ideas of belonging to a 'normal' group, making people homogeneous while simultaneously making it possible to measure subtle differences between them (Foucault, 1991, p. 184). Arguably biokinetics has become one of these new disciplines Foucault mentions as it is caught up in power relations of normalization. It is no secret (as mentioned above) that a biokineticist's 'normalization' and 'stratification' technologies are utilized by insurance companies, health pedagogy and other industries in incentive driven campaigns which focus on both group and individual behaviour in contemporary society (practices both anatom-politic and bio-politic in nature).

The last objective of 'the political rationality' is to reduce the body as a 'political force at the least cost and maximize it as a useful force' (Foucault, 1997). Here the instrument of examination is introduced into the discussion because it ensures further usefulness of the body by introducing a process of documentation, making the body into a case (Foucault, 1991, p. 191). In this way the 'fit', 'over-weight', or 'rehab' patient (known body) of the biokineticist becomes an object of description; one with a status determined according to the 'measurements, the gaps, the 'marks' that characterize' him/her as a case (Foucault, 1991, p. 192). In biokinetics, when the body is framed by risk discourse as a mechanism of production allowing it to be represented as a form of 'capital' (see Chapter 4), it too becomes caught up in an accumulation of data whereby medical forms, report cards, and personal programme prescriptions embody it in a system of right and wrong actions that ultimately place it in a 'network of writing' which 'capture and fix [it]' and

ensures that it becomes an object of perpetual examination (Foucault, 1991, pp. 184; 189-190). The individual, who is exposed to health related interactions of this intensity and frequency whereby regular testing and examination become ritualized, is afforded less time to worry about political movements within the company or even the state. Such ritualized examination reduces the political power of the individual over time (Foucault, 1991, p. 26). This is because the immersion of the individual in health related initiatives, which consist of rewards, punishments, competition and exclusion, ultimately creates a ‘perpetual battle between a network of relations constantly in tension’, whether these derive from the biokinetic, medical-scientific, economic or risk discourse. In sum, the potential power that an individual might have wielded is diverted into a relation of strict subjection or domination, which in turn creates a more obedient, disciplined and docile individual (Foucault, 1991, p. 138). In the case of the employee, his/her usefulness to the company has not only improved from a health-related perspective, e.g. reduced absenteeism, but also from a management and economical point of view whereby he/she has become more obedient, disciplined and docile, i.e. manageable/controllable through this process.

The aim of ‘the political rationality’ is to create obedient, disciplined and docile bodies (Foucault, 1991, p. 138), and one way it achieves this is by manipulating the individual into believing that he/she is increasing his/her usefulness, whether this is financially, medically or environmentally related, when in actual fact he/she is being ‘trained, exercised and ritualized’ to become an obedient and docile body. Ideally these docile bodies must eventually respond automatically to the signals of ‘the political rationality’ (Foucault, 1991, pp. 128-129). For example, employees must realize by themselves when they fall outside of health-related normative values (e.g. body mass index (BMI) scores, blood pressure, or strength ratios) and immediately seek assistance accordingly from the required professional so as to correct these deviations in the shortest possible time.

In short, it is argued that the techniques responsible for the subjection of the patient discussed in Section A do not operate exclusively from within the medical-scientific, economic and risk discourse, but rather function as part of a ‘body, a craft, a system’, which Foucault (1991, pp. 62; 162; 206; 208) has termed ‘the political rationality’. ‘The political rationality’ brings to our attention the creation of docile bodies through the influence of specific instruments, namely: normalization, standardization, and examination. Its mechanisms are omnipresent and thus able to influence the subject and his/her decisions during everyday practices.

What makes ‘the political rationality’ so effective is that it functions ‘continuously, act[s] subtly, and remain[s] invisible’ (Foucault, 1991, pp. 206; 208). Consider, for example, evidence based medicine (EBM), which is perceived as a medical endeavour even though it is scientific in nature (see Chapter 2). It is not considered a threat to medicine as long as science and medicine are

thought as inseparable; as is now the case thanks to the biomedical paradigm. Thus despite the fact that EBM literally contradicts the goals of traditional medicine, this has not hindered it from becoming a powerful producer of medical research. This is because the majority perceive it as non-threatening, seeing it as merely a function of the medical-scientific discourse. Only those who aim to restore to medicine its traditional values and status harbour resentment towards EBM because they perceive it as an outside threat. In short, EBM is arguably a good example of a mechanism of ‘the political rationality’ because it remains under the radar and effectively helps to mechanise medical practice, while simultaneously ensuring the patient (body) becomes a source of ‘continuous’ visibility through techniques of objectification.

Another example can be seen in the introduction of the consumer/patient into medical practices. In Chapter 3 it was argued that the consumer/patient was immersed in the Deleuzian ‘society of control’ whereby interactions are seemingly ‘open and without boundaries’, ensuring that ‘transparent access systems’ and the ‘new public health’ initiatives act as mechanisms that provide almost unlimited access to information about the body. The effectiveness of these techniques is seen in the deregulation of ethical policies and non-confinement of the patient to physical spaces like the hospital, i.e. the patient can exist almost anywhere. However, these systems act under the guise of the Consumer Protection Act (CPA) and present themselves as being ‘user friendly’ and have, as a result, been accepted as part of the operations of biokinetics. Effectively, an outcome of these systems ensures that the boundaries of interaction remain hidden (online systems for profile updates, ‘Apps’ that help one self-survey, and web-cam tutorials), while the consumer/patient is exposed and the body made more visible to market trends and other commerce related objectification techniques.

In sum, the body can arguably be compared to an enterprise whereby its underwriting is completed by these mechanisms which infiltrate it from all directions, spaces and time within contemporary society. Biokineticists, although part of a specialised and new profession, utilize these same methods of underwriting, ensuring that this ‘corpus of knowledge’, known as ‘the political rationality’, is extended and re-enforced throughout the field of biokinetics. Power has its principle not so much in a person as in a certain concerted ‘distribution of bodies, surfaces, lights, gazes; in an arrangement whose internal mechanisms produce the relation in which individuals are caught up’ (Foucault, 1991, p. 202). Thus as Foucault states, ‘The individual and the knowledge that may be gained of him belong to this production’, securing the notion that knowledge and power (the political rationality) are inseparable (Foucault, 1991, pp. 28; 194). In every look, in every touch, in every piece of evidence or advertising, in every piece of equipment and every second the subject is exposed to these mechanisms of political rationality.

5.4 Humanism, liberalism and Foucault

The question which is raised following this line of argument is: “Can one ever escape these mechanisms in hopes of achieving a humanistic approach or does a humanistic approach not result in increased self-delusion and raise unrealistic expectations by merely providing another avenue from within which ‘the political rationality’ may operate?”

The answer, according to Foucault (1991) in *Discipline and Punish*, would be the latter. This is because the subject is dominated by these mechanisms. He/she embraces them in everyday life, and as a result can never escape them (Foucault, 1991, p. 28). Therefore, a humanistic approach, offered as an alternative to the objectifying paradigm, may merely come to act as another means in which to know ‘the body’ using mechanisms of ‘the political rationality’. It cannot remove all current relations of power in order to free the subject, but rather acts as part of what knowledge is made possible or acceptable by the current discursive structure. Therefore, it is still bound by the same constrictions as, for example, evidence based medicine (EBM). However, the mechanisms of ‘the political rationality’, Foucault (1991) suggests, must not be represented as entirely negative in nature. For instance, they do not resist or exclude competition, and are productive in that they enhance the development and the spread of knowledge.

Thus far this study has firstly, undergone a process of identifying and analysing the current dominant discourses surrounding biokinetics; secondly, identified a number of techniques of subjection in biokinetics which are found in various other disciplines throughout society, and lastly, explained how these techniques exist within a corpus of knowledge described by Foucault (1991) as ‘the political rationality’. If the mechanisms of ‘the political rationality’ were wholly deterministic, this study would find itself in a stalemate. In short, the predicament to be resolved is how to rewrite the biokinetic subject so that he/she may operate from a more empowered position which caters for spontaneity and expression of ‘free will’. Critics of Foucault have suggested that his theories over-exaggerate the hold discursive influences have over the individual, so that the individual is portrayed as essentially passive and uncritical in nature (Williams & Calnan, 1996, p. 1610; Wheatley, 2005). This kind of criticism might well have held for some of Foucault’s earlier analyses, but he responded to it in later works, particularly in his concept of *The Care of the Self* (1990; 2005), which marks his turn to ethics and his rethinking of the problems of subjectivity and autonomy. In this work he explores a kind of self-fashioning that would help individuals escape from complete discursive constitution via micro-disciplinary techniques. The idea would be to do this without returning to a discourse of humanism. For Foucault, humanism is suspicious in nature and therefore hopelessly fails to offer the subject any liberation from the dominant discourses or institutions (Foucault, 1988, p. 15).

Humanism, Foucault (2005, p. 544) argues, is a constraining, normalizing, and managerial mechanism of the institution or state that limits the potential of possibilities of subjectivity available to the individual. An example is expressed in the humanistic conception of patient autonomy that currently is gaining increasing popularity in bioethical circles (Moreno, 2007). Here the autonomous patient is commonly perceived as a liberal entity with more rights and afforded more forms of equality than the so called ‘passive patient’ of the past. However, Moreno (2007, p. 418) argues that its existence in modern medicine has instead ensured that commerce related mechanisms are allowed to infiltrate the practice of medicine to the point whereby the lines between a medical disorder and an unfulfilled desire have become blurred. In other words, autonomy ironically acts as a front, promoting at face value liberal and humane agendas, behind which the true mechanisms ‘in play’ are capitalist in nature, thereby opening the patient/consumer to new, more insidious mechanisms of control (see Chapter 3).

Secondly, humanism, expressed in René Descartes’ (1596-1650 CE) iconic phrase ‘I think therefore I am’, is comfortably aligned with the dominant medical discourse since it ensures that the subject becomes obsessed with obtaining a truth about him/herself as opposed to achieving a truth via right actions, which Foucault (2005, p. 522) argues was the case in antiquity. This new obsession ‘strives only to reduce the gap between what I am truly and what I think myself to be; what I do, the actions I perform, only have value insofar as they help me to know myself better’ (Foucault, 2005, p. 523). Hence the expression ‘I need to find myself’ commonly employed by students who have just completed their final year of schooling and are thinking about taking a ‘gap year’ before beginning their tertiary education. They believe that somewhere out in the world, external to their being, there exists a discovery of immanent truth about themselves. This kind of mentality is perfectly consonant with the form of professional categorizations which become internalized, e.g. ‘overweight’, ‘fit’, ‘fast’, ‘strong’, ‘weak’ bodies. However, because these categorizations describe the physical nature of the body, they help to create a distinction between the body and the mind (self), whereby the body is perceived as foreign to the self. In effect it becomes acknowledged as an object that must be disciplined, monitored, and measured. Ultimately the body, through these disciplinary measures, becomes an enemy to the subject, i.e. an entity that holds it captive to a regime of constant management (Heyes, 2006).

Foucault (2005) contrasts this managerial regime with what he calls the care of the self; an ethos predominant in antiquity. Referring to the ancient Greco-Roman ethos, Foucault (2005) outlines a few practices (askesis) that may be used as tools to help formulate a care of the self. They include: promoting new forms of subjectivity; establishing a certain relation of rectitude in the self between actions and thoughts; an ethical withdrawal which allows sufficient ‘distance between oneself and one’s actions that constitutes the necessary state of vigilance’, and developing an opposition to

political inactions (solitude) (Foucault, 2005, pp. 523; 537). By applying these principles, a patient would not be appealing to a humanistic version of autonomy (since this is perverted in the prevailing discourses), but instead would aim to create new forms of his/her own subjectivity which are ‘unknown’ to these discourses. In this way Foucault encourages the subject to embrace the uncertain, not in a quest for truth or self-discovery, but rather as a departure from the need for external validation of the self. Distance between one’s actions and oneself becomes important in the sense that any actions performed by the autonomous patient (e.g. making the final decisions regarding his/her treatment) are governed by ‘the political rationality’. Becoming aware of one’s own actions results in a ‘sharpening’ of one’s skill and ability for identifying the mechanisms of ‘the political rationality’ and their effects on the body. In this way biokinetics may find itself more aligned to the practices of the care of the self should it adopt a philosophy that strives to determine the ‘condition and undefined possibilities of the subject’s transformation’ as opposed to its ‘limits’ as an object’ (Foucault, 2005, p. 526).

5.5 Conclusions

In sum, Foucault’s conceptualization of the self is useful. It moves the discussion of identity into the realm of political actions, whereby forces (discourses and institutions) act to gain control and invest their relations of power within the construction of the subject. This then opens up new discussions of how individuals may either be empowered or disempowered depending on their current position within the discursive structure. However, such a conceptualization of the subject fails to provide a reading of the body which moves beyond these mechanisms of domination. His response to this dilemma is found in his ‘trajectory’ conception: the care of the self. This concept is an embracing of uncertain and ‘unknown’ forms of identity through the adherence of a number of self-formulating practices in an attempt to achieve rather than to discover a ‘truth’. However, the self-formulating practices provided seem somewhat outdated and generalized, or perhaps incomplete due to the fact that Foucault died while he was still constructing these theories of the care of the self. In addition, because these practices were discovered in works of antiquity (Socrates, Plato, Alcibiades, Seneca, Rufus, Galen, and Plithy, etc.), their value and meaning are arguably misplaced when articulated into contemporary settings. It is ironic that Foucault presents solutions from older extinct discursive structures when he so meticulously elaborated on the constraining properties that a particular discursive structure has on the individual at a particular time. “For example, how practical is it to suggest that one must apply ‘distance’ or set aside time for oneself in a discursive structure that demands rigorous surveillance, normalization and examination?” “Aren’t

such practices as Pliny (23- 79 BCE) (cited in Foucault, 1988, p. 27) advises, e.g. to set aside a few moments a day, or several weeks or months for a retreat into oneself, simply incompatible with discursive structure that requires progressive and continuous connections and interactions such as those recommended in health discourse via new open, transparent systems?” “Instead, is there not a need in contemporary health discourse for new practices which encourage individuals to create, formulate, and experience their own unique identities?” Arguably what remains important in Foucault’s conception of the care of the self is that the process of creativity is where our power is revealed (Foucault, 1988, p.140).

Thus the concern in contemporary settings is not to apply practices which were beneficial in antiquity under a different discursive structure, but rather to encourage new practices which help formulate undefined limits and possibilities of self-transformation compatible with current technologies of power. The discussion now turns to Deleuze and Guattari and their work which sought to establish new and creative ways of understanding the body, its limits (or lack thereof), and its function.

Chapter 6: Understanding the human body through Deleuze and Guattari

Rather than constructing concepts (or systems) based on the singular, they seek to embrace the multiple. Rather than developing concepts that are similar to those they seek to replace, they seek to differentiate. Rather than seeking to become the major or dominant paradigm, they become minor (Reardon, Sanzogni, & Poropat, 2006, p. 162).

Deleuze (1925-1995 CE) and Guattari (1930-1992 CE) were part of the French post-structuralist wave of the 1950s. Gilles Deleuze was a professor of philosophy recognized for his studies on Spinoza, Hume, Kant, Nietzsche, Bergson, and Proust. Felix Guattari was a psychoanalyst and political activist (Best & Kellner, 1991). Together they wrote a number of important works, of which *Anti-Oedipus* (1983) and *A Thousand Plateaus* (1987) have become their most influential. These two texts have been applied to a vast range of domains, including: politics, art, education, health, and sociology. ‘Rhizomes’, ‘assemblages’, ‘desiring-machines’, ‘affects’, ‘desiring-production’, and ‘becoming’ are examples of the unique terminology developed within these books. Among many other things, this new lexicon serves as alternative psychoanalytic ‘language’ in the wake of Deleuze’s and Guattari’s criticism of Sigmund Freud’s (1856-1939 CE) ‘Oedipal complex’ and its association with psychic repression. Arguing that signs cannot be fixed and reduced to serve any singular theory or interpretation, they also borrow and adapt signs from other discourses (including economics, psychology, biology, and science) to build a theory of ‘materialism’ that attempts to create alternatives to normalized and universal systems of logic. In sum, Deleuze and Guattari anticipate a restructuring of thinking as an activity in which it becomes rhizomatic and thereby approaches life as a practical process of becoming.¹⁰ Thinking, in other words, becomes open and experimental rather than directed towards seeking deterministic representations (Best & Kellner, 1991).

Key to this new approach to thinking is the concept of desire, which is argued to have the potential for removing social repressions caused by the state, capitalism, psychoanalysis, and scientism (Deleuze & Guattari, 1983; 1987). The conception of power as productive, in Foucault’s work, is taken up by the term ‘desiring-production’ in Deleuze and Guattari’s. ‘Desiring-production’ is responsible for the development of knowledge, the creation of institutions, for stimulating social interactions, for the motivation and drives of an individual, and so on. But for

¹⁰ If the primacy of identity is what defines a world of representation (presenting the same world once again), then becoming (by which Deleuze means ‘becoming different’) defines a world of presentation anew (Colebrook, 2002, p. 26).

Deleuze and Guattari, productivity also simultaneously and inherently includes the potential for explosive creativity, change, and disruption of pre-existing realities. It is an important feature of desiring-production that it inherently has the capacity to upset repressive power relations of domination and subordination.

6.1 The world as ‘machinic’

The Deleuzian-Guattarian (1983; 1987) world is completely made up of organic and non-organic ‘machines’ (or dynamic mechanisms). For instance, the body is seen as a machine that is composed of a mouth-machine, a hand-machine, a tongue-machine, a skin-machine, etc. Each one of these machines has its own unique functions. For example, the mouth-machine eats, the hand-machine grabs and touches, the tongue-machine tastes, and the skin-machine allows certain substances to pass through it and others it rejects. Together these machines form what Deleuze and Guattari (1987, p. 37) term an ‘assemblage’. An assemblage is a temporary collection of machines acting together which cannot be reduced to its individual parts. In other words, the whole is more than the sum of its parts. A living body is a good example of such an assemblage. To reduce the body to its parts (organs, tissues, and muscle structures) is to neglect the entirety of the embodied experience which is comprised of both explicit knowledge (explained) and tacit knowledge (unexplained). Similarly, Deleuze and Guattari (1987) argue that institutions are assemblages that cannot be reduced to the buildings, people and policies that constitute them, and the state is an assemblage which cannot be reduced to constitutive parts such as land, people and politicians. Every machine in an assemblage is connected to another machine forming a ‘coupled machine’. These ‘coupled machines’ form an endless network of interconnected machines, which form what is referred to as an immanent flow of production. The flow of production is said to be stimulated by desire as it passes through each ‘coupled machine’, and the entire process is referred to as ‘desiring-production’ (Deleuze & Guattari, 1983, p. 5-8).

The unconscious, represented as machinic, opposes Sigmund Freud’s (1856-1939 CE) representation of it as a theatre where fantasies are played out (Elliot, 2012). In the Deleuzian-Guattarian world of machines, desire is produced by the unconscious-machine and is not seen as something which must be repressed in order for individuals to function in a society as Freud suggested with his concept of castration. Nor is it, as conceptualized by Jacques Lacan (1901-1981 CE), associated with lack. Rather it is conceptualised as positive, having endless potentials, and being responsible for the production and creation of new experiences of ‘becoming’. It is therefore something which is essential to life and joy (Colebrook, 2002, p. xxii). However, Deleuze and

Guattari do not deny that desire can be destructive. For example, the intransitive nature of desire is changed when a social assemblage uses biological interpretations, discursive structures, and modes of subjection to commit it to particular ends (Buchanan, 2007, p. 3). Here the social assemblage, through the production process, both provides desire with an object and forces it to reproduce ready-made or 'known' representations (Buchanan, 1997). Thus, for Deleuze and Guattari, it is only when desire is forced to reproduce 'sameness' that it becomes repressive.

A problem arises because identity and the social assemblage are entangled in the same projection of desires, i.e. one does not exist without the other. Deleuze and Guattari (1988, p. 159) write: 'But who is this we that is not me, for the subject no less than the organism belongs to and depends on a stratum?' As such, they take particular care to explain that individuals cannot simply rid themselves of the social assemblage or the reasoning/logic of their time, cautioning that any attempt to disentangle oneself from the social context (deterritorialization), if done violently, could result in a reconnection (re-territorialization) that would involve far greater entanglement and may result in it becoming cancerous; that is producing in excess whatever the social machine demands, thereby, losing its degrees of diversity, differentiation, and mobility (Deleuze & Guattari, 1987, p. 503). Braidotti (2006, p. 143) writes about such cancerous behaviour which can take the form of addiction: 'Addiction is not an opening up, but a narrowing-down of the field of possible becomings'.

6.2 Subjectivity and 'becoming'

It may seem odd to use a philosophy that defines the world as an assemblage of machines to launch an attack on the mechanization of medicine/health pedagogy and its effects on practice. However, it is exactly by representing life as machinic that Deleuze and Guattari are able to shift focus and set up a counterargument to the well rooted ontology of dualism surrounding the mechanization of medicine/health pedagogy. For instance, the machinic world has no subject and object. It is asubjective.¹¹ This means that it does not acknowledge the existence of a self that pre-exists the experience or event (Fox & Ward, 2008, p. 1008). As a result, functionality and the capacity to connect (compatibility) become important indicators and points of investigation of embodiment. This replaces restrictive essentialist discourses concerning what the body means, and how to reduce it to its essence (Parsons & Clarke, 2013, p. 93). However, as Buchanan (1997, p. 75) cautions, the

¹¹ A sense of the self is explained as the result of a momentary delay which occurs as the flow of production moves from one set of 'coupled machines' to the next set of 'coupled machines'. Thus the sense of the self is that which develops alongside the producer-produced interaction of desiring-production as an almost secondary effect (Deleuze & Guattari, 1983, pp. 7-8).

body must not be reduced to the functionality of a ‘previously stipulated clinical condition’, but rather understood as an ‘a posteriori product of newly connected capacities’. By applying a Deleuzian-Guattarian approach to human development, Duff (2010, p. 622) argues that human development is not merely shaped by an ‘unravelling of biological codes dividing it into sequential stages of development’, but rather includes ‘socialization and education, employment and training, kinship structures, popular culture, meaning making and so on’. She adds that the quality of experiences and relations rather than the quantitative increments defined by the chronological property of age are central to human development (Duff, 2010, p. 622). Therefore it is the collection of affects¹² and relations a body is capable of (ethology) that Deleuze and Guattari’s conceptualization of embodiment highlights, and not the cause and effect relations (aetiology) which produce binary distinctions between, for example, man and nature, subject and object, and state and citizen (Buchanan, 1997, p. 74).

Duff (2010, pp. 626; 628) concludes, ‘Power grows as the body becomes more capable of entering into novel relations with other bodies, and thus more capable of affecting and being affected by other bodies’. With regard to fitness, the ‘becoming-fit’ body increases its affects as it forms new intense relations to air, food, gravity, water, rest/sleep, etc. These new affects of the fit-body are never fixed and, as such, one never reaches an end state of being fit. Understanding fitness as a process of affects and relations (‘becoming’) admits that we cannot know in advance, but rather must discover through active engagement with the world what we are capable of (Deleuze, 1992, p. 212–214). ‘Becoming- fit’ is therefore a fluid, dynamic and unique account of embodiment juxtaposed against the essentialist approach which strives to ‘lock’ an identity into sameness and consistency (Markula, 2006, p. 36). ‘What we are talking about is not the unity of substance but the infinity of the modifications that are part of one another on this unique plane of life’ (Deleuze & Guattari, 1987, p. 254). In sum, the Deleuzian-Guattarian body is composed of ‘multiple’ identities capable of constant metamorphosis which must not be interpreted simply by comparisons to norms, risk assessment criteria, or body image, but rather understood as an ‘outcome of the lived body/self and its relations with its material and psychosocial environment’ (Fox & Ward, 2006, p. 476). In short, the focus of embodiment must change from the product of knowledge to the process of learning in order to become experimental in nature (Cull, n.d.).

In the field of psychology, research is now showing particular interest in a concept known as ‘flow’. Although the term ‘flow’ is not a derivative of Deleuze and Guattari’s use of the term, it does, however, provide a valuable image of their asubjective experience.

¹² ‘Study of relations of speed and slowness, of the capacities for affecting and being affected that characterise each thing. For each thing these relations and capacities have an amplitude, thresholds and variations or transformations that are peculiar to them (Deleuze, 1988, p. 125).

'Flow' or 'optimal experience' is described as a state whereby one is absolutely absorbed within an activity. Many professional athletes have experienced states of 'flow' during their careers, but it is not limited to athletes. In fact, most people can experience it depending on the circumstances. According to Nakamura and Csikszentmihalyi (2002), an important requirement for achieving flow is an adequate challenge to one's skills, that is, the individual's skills need to be fully involved in overcoming the presented challenges of the activity. While in a state of 'flow', both time and one's sense of self are affected, so that time is no longer perceived in a linear fashion and the boundaries between the self and his/her environment are perceptively diluted. For example, in the case of a cricketer, the batsman perceives the bat and himself as a singular entity (Csikszentmihalyi, 1990, p. 5). For argument's sake, one may suggest that the cause of the distortions in both time and self-perception are the effect of an intense connection between the cricketer and his/her environment created by this state of 'flow'. In the Deleuzian-Guattarian world of machines, this connection would be between different 'machines and assemblages'. Thus, just as the connection between the cricketer and the bat is responsible for bridging the gap between these two entities, creating a somewhat asubjective experience, so too are connections of desire between machines said to create asubjective experiences in the machinic world of Deleuze and Guattari. The work done by Nakamura and Csikszentmihalyi offers a valuable account of the way in which experience may become asubjective, and offers empirical evidence in support of this phenomenon.

Other common shifts in attention and perception while in a state of 'flow' include: a heightened sense of control despite a loss in self-awareness; absorption in the process; the development of 'emergent motivators', and a reduced focus on end-goals or product (Csikszentmihalyi, 1990, p. 5). Arguably, all of these changes in perception are not synonymous with a self-contained (closed/fixed) entity. Rather they describe something more fluid, dynamic, and unstable. For example, the production of 'emergent motivators', which are a by-product of being immersed in a 'state of flow', offers some insights into the fluidity of this experience. Nakamura and Csikszentmihalyi (2002, p. 91) explain that end goals, usually used as motivators, are replaced by 'emergent motivators', which act as proximal goals. These proximal goals provide immediate and constant feedback, are regularly updated and developed and, as such, one's actions become almost automatic. In this way 'emergent motivators' depict the creative and adaptive functionality of the body, revealing its ability to form new possibilities in every moment or situation. In sum, it offers useful contributions to the question posed by Spinoza, and later taken up by Deleuze and Guattari (1987, p. 256): "What can a body do?" Conversely, when one focuses on the end goal/product, the act becomes a reductive endeavour as it attempts to encode relations into one singular point of origin (Buchanan, 1997, p. 86). This is exactly what oedipalization entails. It

is legislative as opposed to inventive (Deleuze & Guattari, 1987, p. 121). Deleuze and Guattari's ambition is to reconsider such methods of encoding.¹³

6.3 Rhizomatic thinking

The discussion now turns to Deleuze and Guattari's (1987) concept of rhizomatic thinking offered as model of thought that attempts to transcend, if only temporarily, the hierarchical, homogenising, rational, and repressive models of thought present within Western society.

“What does it mean to think rhizomatically?” Or rather, because it is the functions, affects, and relations of things in which Deleuze and Guattari are interested, and not its essence or meaning, the question should rather be: “What is rhizomatic thinking capable of?”

The rhizome is a unique root system, which instead of burrowing linearly down to form tap roots in the ground, runs parallel to the ground forming a lateral root system (Deleuze & Guattari, 1987, p. 6-15). As a result, on the surface plants appear to be isolated entities; however, due to the horizontal nature of the root-system, they are in actual fact all connected. Rhizomes are decentred and therefore do not start or grow from one specific point in an orderly fashion. Instead they grow from the ‘middle’ outwards. This decentred property allows a rhizome to merge with new environments even after being uprooted, cut, or broken. Deleuze and Guattari offer the rhizome as a model of thought and action, arguing that its value is in its ability to remove the oppressions caused by traditional thought (arborescent thinking), and its distinct order and direction, currently dominating Western society.

In *A Thousand Plateaus* (1987) they outline six principles of rhizomatic thinking, namely: ‘connectivity’, ‘heterogeneity’, ‘multiplicity’, ‘asignifying rupture’, ‘cartography’, and ‘decalcomania’. What will follow is a brief summary of these six principles and how they relate to other terminology used by Deleuze and Guattari, such as ‘machines’, ‘desire’, ‘affects’, as well as their social significance.

The Deleuzian-Guattarian world of machines is, quite simply, rhizomatic. For instance, machines are continuously connecting, forming assemblages, disassembling, and reconnecting to other machines (Deleuze & Guattari, 1983, pp. 43-44). Much like the plant of a rhizome root-system, which appears isolated from above the ground but is actually connected by its root system below the ground, rhizomatic thinking encourages one to see knowledge structures, like the machinic world, as an interconnected network. It therefore strives to develop relations between

¹³ ‘When information is translated into some form of private language’; in this case psycholinguistics (Buchanan, 1997, p. 84).

differing discourses. Deleuze and Guattari (1987, p. 7) write, ‘It is not impossible to make a radical break between regimes of signs and their objects’. Thus, rhizomatic thinking encourages one to see past social barriers, such as status, age, race, or language.

No pattern of connections in a rhizome is identical. This is why rhizomatic thinking opposes homogeneity created by ‘arborescent assemblages’, such as hierarchical structures, normalization mechanisms, and state policies. Instead it encourages a readdressing of logical assumptions, a disorganising of structures, and effectively a refusal to reproduce ‘sameness’. Deleuze and Guattari (1987, p. 24) create a contrast between heterogeneity and reproduction more than once, suggesting that culture and society should not be remembered (reproduced) but rather forgotten (so as to create anew) if it is to become rhizomatic.

Rhizomes are made up of many multiplicities. A multiplicity has neither subject or object, only magnitudes and dimensions which cannot increase in number without changing in nature (Deleuze & Guattari, 1987, p. 21). Rhizomatic thinking is an attempt to create an ‘irreducibly multiple’ identity – one which prevents it from ever becoming ‘overcoded’.¹⁴ Therefore, rhizomatic thinking as a multiplicity ensures that identity remains ‘open to metamorphosis as its constituent elements increase or decrease’ (Deleuze & Guattari, 1987, pp. 8; 21; Bogue, 2005, pp. 12-13).

Rhizomatic thinking is not reliant on a pre-existing subject, an ‘I’ that is ‘cut off’ and isolated from the world, but instead relies on affects and relations of connectivity. Therefore, like the decentred rhizome, it may be shattered, broken or cut, but it will still be capable of starting up anew without a sense of loss as there is no self to lose (Deleuze & Guattari, 1987, p. 9). It is an ontology which lives for the moment, and thus as long as a sensation is present, that sensation is your body and therefore is you (Watts, 1951, p. 84). One should not be living through the moment, absently lost in representation, but for the moment actively engaged without any self from which to move away.

There is no starting or ending points to the conglomeration of connected machines that the machinic world is composed of. Similarly, the continual flux and unstructured nature of the rhizome prevents it from being navigated using a linear or systematic approach. This is why Deleuze and Guattari use the concept of the map to illustrate how rhizomatic thinking is developed and grown. Like a map, a rhizome has no designated starting points and so can be entered from any point or position. Its map-like qualities also suggests that a rhizome is always able to be added to and is therefore never completed. Conversely, consider a sketch, diagram, or tracing; all these images have specific stages of completion, and once complete are not normally added to (Deleuze & Guattari,

¹⁴Multiplicities and rhizomes, unlike systems of unity or tracings, are unable to operate in an empty dimension supplementary to that of the system considered (Deleuze & Guattari, 1987, p. 8).

1987, p. 12). As a result they are said to represent fixed and closed representations of the world (arborescent model).

Rhizomatic thinking arguably has value in its ability to embrace the dynamic atmosphere of change, creativity, and desire. ‘Emergent motivators’ (such as those experienced in a state of ‘flow’) provide a useful image of how dynamic this atmosphere actually is. Similarly, unlike the fixed perspective that attempts to ‘chain’ the body down to definitions which are quantifiable, such as medical-scientific classifications, rhizomatic thinking provides an ‘emergent’ description of the experience of embodiment. Here, instead of stifling the body’s potential, its immense capabilities of ‘becoming-other’ are acknowledged. Thus the body of ‘becoming’ is always, like a rhizome, entirely unique and never ending. Colebrook (2002, p. 26) writes: ‘Rather than a product, final or interim, ‘becoming’ is the very dynamism of change, situated between heterogeneous terms and tending towards no particular goal or end- state’.

Rhizomatic thinking has been applied to studies in a number of fields, including health, sociology, education, medicine, knowledge management, information systems, organizational activities and art (Parsons & Clarke, 2013; Reardon et al., 2006; Semetsky, 2004). In education, rhizome thinking better connects students to their environments, creates strong bonds between peers, reduces competitive behaviours, and replaces the story of the individual (the one) with that of the group, forming an interconnected assemblage (Parsons & Clarke, 2013, p. 95). In books and writing, like education, more often than not arborescent models are used. Honan and Sellers (2006, p. 2) argue that in order for texts to meet academic requirements they are expected to run linearly using order, demonstrate progression of theoretical ideas, and produce practical applications so as to arrive at coherent conclusions. In an attempt to remove writing and books from exactly this type of structured thought, Deleuze and Guattari wrote *A Thousand Plateaus* in a true rhizomatic style. For example, the book can be read by starting at any particular chapter. In this way the book has no beginning and no end; each chapter is both connected to the others and able to exist and develop on its own as it contains all the necessary components (heterogeneous) within its pages. Furthermore, in order to move beyond subjective constructs, both writers erase their own identity by supplementing ‘we’ for ‘I’, thus the reader never knows who is writing at any particular point. The large range of disciplines that have utilized the ideas in *A Thousand Plateaus* speaks to its success as a rhizomatic formation; hence it has helped form connections between previously unconnected discourses.

6.4 Conclusions

In sum, Deleuze and Guattari resist the domination of arborescent models in society as they cause a slowing down or damming effect on the flow of desire, which, one could argue, is used as a simile for creative potential. However, arborescent models/structures remain necessary. For example, how would one travel safely while driving on a road without the structure and order created by robots, stops signs, and demarcated spaces? But these systems of thought are becoming so ingrained in consciousness, especially through new technological advancements, that it is often difficult to see beyond their symbolism, resulting in a confusion whereby representation misplaces reality. Thus, its rationality, efficiency, and its power to regulate our lives are dangerously tempting. Arguably it has become necessary to apply a system which, like that encouraged by the rhizome, has the potential to promote creative change and acknowledge the complexity inherent in the embodied experience (e.g. its emergent qualities). For example, medical generalizations and normalizations are necessary and do save lives, for instance in the case of health screening; however, they do not acknowledge the uniqueness of the affects and relations. In this way not all high risk patients will have the same affects and relations, and equally the affects and relations of that same patient are never going to be identical the second time round. In other words, they do not acknowledge that these generalizations and normalizations are nothing more than ‘abstract and logical elements - inferences, guesses, and deductions’ which cannot predict the future in its entirety (Watts, 1951, pp. 60-61).

These generalizations and normalizations are thus just parts of the experience of embodiment, which consists of a whole that is far more than its parts (an assemblage). As an alternative it is suggested that one find temporary, as opposed to fixed, ways of understanding embodiment. ‘Punctuated equilibrium’ is a mainstream theory of organizational activity that understands life in a similarly non-static manner. It defines it as predominantly stable; however, it also acknowledges bursts of instability and randomness. This theory aims to open a person to new experiences by encouraging one to ‘acknowledge the fear of letting go and giving up the stability that routine provides’ (Reardon et al., 2006, p. 162). Reardon et al. (2006) argue that in trying to understand the complexities of life, ‘punctuated equilibrium’ provides an example of how rhizomes and arborescent structures can and do coexist.

Arguably, the challenge put forth by this theorization of the self (or lack thereof) is in gathering the courage to leave the ‘known’ behind in an attempt to find a dynamic encounter with the world that is experimental in nature. ‘To find out about thresholds, you must experiment, which means always, necessarily, relationally or in encounters with others’ (Braidotti, 2006, p. 140). One way in which to do this is to liberate the ‘I’ (subject) by encouraging him/her to think differently about the nature of things, particularity his/her own subjectivity. Here actions, specifically

‘involuntarily actions’, offer valuable suggestions of how to move the body into experiences which promote new affects and relations (Cull, n.d.; Fox, 2002, p. 351). ‘Involuntary action’ effectively means acting in the present, not wanting to separate oneself from life through representational projections. In involuntary action, no feelings but the present feelings are embraced, and whatever those feeling are, that is considered to be all there is. Such an ontology must become sensitive to the wisdom of the body, to the hidden depths of its own substance, where the desire for ‘becoming’ is made an ethical endeavour (Watts, 1951, p. 71; Braidotti, 2006, pp. 133; 134). Such an ethic is arguably found in the complexities of Deleuze and Guattari’s conceptualization of embodiment as it strategically welcomes, for example, the ontology of safety in medicine (an arborescent model), but not without drawing it back into the present experience, ensuring that it and its patients are effortlessly aware of the uniqueness inherent in each experience (Watts, 1951, p. 73; Parsons & Clarke, 2013, p. 91). In other words, they encourage a person to see and feel what he/she is experiencing ‘...as it is, and not as it is named’ (Watts, 1951, p. 76).

What will follow in Chapter 7 is an outline of possible ways in which the biokineticist and his/her patient can learn to appreciate the uniqueness inherent in each moment, while simultaneously existing within the arborescent model of contemporary medicine. Such an approach hopes to free the biokineticist from the worry of not being fully identified or defined, as for instance, in the confusion of the general public regarding the difference between a biokineticist and a physiotherapist. It also presents examples of best practice in light of the discussions in Section B.

Section C

Chapter 7: Redefining the biokineticist's role and relation to patients

It is the becoming-artistic of scientific knowledge and the becoming-scientific of artistic creation (Grosz, 2005, p. 12).

In such feeling, seeing, and thinking life requires no future to complete itself nor explanation to justify itself. In this moment it is finished (Watts, 1951, p. 152).

7.1 The 'gap'

A biokineticist understands the body's biological responses and adaptations to repetitive and stressful physical activities. As a result, helping clients achieve fitness is a key aspect of this profession and providing measures of safety in order to prevent injury becomes an essential component in achieving this goal. In order to reduce the risk of injury the profession is dominated by assessments and testing (standardization), programs and planning (long term goals), health education, data collections (surveillance), and classifications (normalisations). In addition, biokineticists use reasoning and practices which provide valuable quantitative information useful in directing exercise in a safe manner. However, there is a tendency, for example, to repeat *ad infinitum* bio-politic and anatom-politic procedures (see Chapter 3 & 4). In such repetition, the information 'unpacked' by the professional becomes a narrow and sterile procedure of specialization, diagnostic reasoning, and standardizations techniques (see Chapter 2). Unfortunately, these practices have resulted in a reduced interest in the subjective voice of the patient (see Chapter 2). Similarly, they support a corpus of knowledge referred to as 'the political rationality', which strives to create politically passive (docile) patients (see Chapter 5). In sum, these practices serve to produce a 'gap' between the practitioner and patient.

But on a macro scale, health discourse, having become an operation largely dictated by professional techniques which valorise a particular mode of reasoning¹⁵, is also responsible for creating a significant 'gap' between the patient and practitioner (see Chapter 2). Mirroring this 'sterile' environment is the confusion of the general public regarding the roles of the biokineticist

¹⁵ 'The whole problem of reason will be converted by Spinoza into a special case of the more general problem of the affects. Reason indicates a certain type of affect' (Vincennes, 1980).

and the physiotherapist mentioned in the Introduction to this study. Although in some ways their scopes of practice overlap, and, therefore, would result in some confusion, the confusion arguably points to the entire plane of health/medical discourse in which the patient has developed a growing mistrust towards the practitioner (see Chapter 2). Thus, in spite of the ‘need’ for biokineticists in South Africa, they remain underutilized.

7.2 Professional reasoning and safety

In Chapter 1 it was argued that, historically, exercise has not always been associated with health. Instead, its associations are politically determined and have ranged from mythology, war, entertainment, religion and education; suggesting contemporary discursive reproductions of ‘exercise as health’ are, therefore, temporary (unfixed). “Why then have professionals allowed these practices to dictate what experiences are produced to the point whereby what is often (re)produced is ‘sameness’ (homogeneity)?” For example, patients are being made into objects of the medical-scientific ‘gaze’ (see Chapter 2 & 5), are manipulated into becoming ‘active’ consumers through capitalist-economic agendas (see Chapter 3), and stratified and classified according to risk criteria, which effectively creates docile/disciplined subjects who are politically inactive, but economically ‘useful’ (see Chapter 4). Essentially, the ‘event’ of exercise remains ‘shut’ to the unknown capabilities of the body through its consistent association with safety and health.

Perhaps one reason these systems are tolerated is because it is still professionally acceptable to remain within the confines of these practices, “so why change or challenge them?” However, if they are creating docile patients it becomes ethically irresponsible (perhaps even negligent) to contribute to the continued framing of everyday actions in a ‘hard shell of tradition’ (Watts, 1951, p. 94). Ethical responsibility requires action that goes beyond ‘the call of duty’; that is, action that faces contemporary society’s need to cope with the uncertainty of change in what is commonly referenced as ‘the age of anxiety’ (Watts, 1951, p. 94). Professionals must realise that not all conditions are known, nor will they ever be. A quote from the Paramount film *Into the Wild* (directed by Penn, 2007) helps to disclose the essence of this ethical responsibility, ‘If we admit that human life can be ruled by reasons, then the possibility of life is destroyed’. As such, professional reasoning must not be used as a shield of protection which safeguards the professional from new, unknown experiences and growth. Rather, it is a matter moving beyond professional expectations set by health discourse which often stifle the potential of the body.

Unfortunately, practitioners have become facilitators and implementers of a reasoning which favours: 1) the mechanism of ‘the political rationality’ (e.g. observation, normalization, and examination) (see Chapter 2 & 5); 2) the reproduction of ‘sameness’ whereby all health actions and

decisions of the patient are made according to health related reasoning and professional advice (see Chapter 6); and 3) the tactics and strategies that appeal to human emotions, desires, and insecurities in order to secure or lock identities in 'known' bodies, and the reduction of all human potential into terms of capital investments, i.e. human capital (see Chapters 4 and 5). This reasoning finds its power in the insistent need to define and categorize all spheres of life and has significantly widened the gap between the professional and the patient (see Chapters 5 & 6). Therefore, it is posited in this study that it is to no avail to redefine the role of biokineticist (or any other professional) as this would simply be another reproduction of this insistent desire to name or define, i.e. to 'box in'. Instead, what is required is a 'thinking of difference' whereby things are appreciated in their specificity and generality, and not just according to terms and definitions.

7.3 A 'thinking of difference'

A philosophy of change, understood as, '... an undoing, unbecoming, of this proper place, the unhinging of place and space itself, a return to the fluxes of becoming that constitute the real' has become necessary (Grosz, 2005, p. 12). This rationality is open and engaged in dialogue with the real, while it also understands that the real, in its complexity, will ironically resist any such method of encoding. Hence, both fixed, and unfixed states are understood as temporary in nature. As such, this philosophy acknowledges the importance of structure in the form of rules, procedures, and methods in health practice, but equally it appreciates the responsibility to move fixed, rigid structures into states of flux through techniques of imagination, discussion, and creating of new concepts, so as to reject the illusions of certainty. As this study has shown, health pedagogy tends to ignore the necessity of the latter. The absence of such a philosophical approach in health pedagogy has resulted in an inability to deal with the emerging grey areas.

In response, practitioners and patients are encouraged to actively challenge these systems which are often based on 'false assumptions and remain closed to dispute from contradictory arguments' e.g. evidence based medicine (EBM) (Morin, 1999, p. 7). In the field of research, for example, empirical studies are given priority by the health sciences (Holmes, Murray, Perron, & Rail, 2006). However, these studies are said to ignore the impact cultural and historical circumstances have on the body and its treatment; and, thereby, ignore the body's inherent 'multiplicity' (Wright, 2000, p. 21). Conversely, the equal inclusion of non-empirical studies in research circles has the potential to challenge the current hierarchical character of empirical studies by ensuring that freedom of speech and thought is maintained within the interactions of health practice (See Chapter 2). Therefore, to encourage the promotion of non-empirical studies is one

method in which to stimulate critical intellectual ‘wars’ that offer potential for deterritorializations of homogeneity in the form of hierarchical preferences to empirical studies (Holmes et. al., 2006, p. 185).

Similarly, biokineticists are bound by their professional status to practices which rely on the illusions of certainty and safety in health, and, therefore, are limited in the degree to which they may venture so as to realise new relations (unknown bodies) and free exercise from its fixed position within health discourse. Thus, biokineticists must realise the contradictory nature of their position; that is, that they are both, agents of the medical/health discourse and its methods of territorialization, as well as ethical agents of change/difference with the potential to deterritorialize these assemblages of health.

As an agent of ethical change/difference biokineticists have a responsibility to investigate, acknowledge, and attempt to transcend the discursive structures dominating their profession even if at times this ‘pushes’ the boundaries of their professional status. One way to do this is by developing a commitment to the ‘unparalleled learning created when things break down’ e.g. pre-defined concepts or expectations, as recommended by supporters of ‘experiential learning’ (Bannerman, 2009). ‘Experiential learning’ is currently being applied in educational spheres. It understands that learning only really takes place when individuals are given a chance to try it out and experience it. Simply knowing about something is only the first step of ‘true’ learning (Bannerman, 2009, p. 1).

Biokineticists are in a unique position in which to challenge these fragmented and mechanistic conceptions that understand the body using reductive conceptualisations, for two reasons: 1) biokinetics is a relatively new profession, meaning it finds itself in a space which is less striated or territorialized than other older or more traditional professions. This suggests it would be easier for biokineticists to make connections between other discourses or to create hybrid concepts which uniquely challenge the discursive structure; 2) because biokineticists generally spends more time¹⁶ with their patients than other health professionals e.g. doctors, nurses, nutritionists, and psychologists, strong relationships are often built; thus the time shared between professional and patient acts as valuable space in which to challenge preconceived ideas about health.

Understanding exercise as an experience and not as a set of instructions, biokineticists can attempt to temporarily invert power relations. For example, the hierarchy of the professional’s voice may be challenge by encouraging patients to use their exercise experiences to challenge ‘cultural inscriptions’ of the body. Here patient become producers of their own experiences of health/life

¹⁶ Biokineticist consultations usually last between thirty minutes and one hour. Thereafter patients may see this professional anywhere between one to five times per week for a period of usually three to six weeks. However, some relations may last years. The duration of each session is usually between 30 minutes and one hour.

and, as such, may learn to appreciate their body as a site of ‘resistance and refusal’, that is ‘constructed and restructured (territorialized) continually’ (Fox, 2002, p. 352) and not fixed, objective and docile.

In addition, patients must realise they have a responsibility to recognize the threshold, borders or limits of health pedagogy (Braidotti, 2006, p. 142). For example, practitioners are not immune to using poor reasoning to justify their methods; often making appeals to ‘the art of medicine’ or ‘gut feeling’ (Czeresnia, 1999, p. 704). Equally some practitioners apply one-size-fits all approaches thereby dismissing the complexities inherent in medical decisions (Czeresnia, 1999, p. 704). Therefore, patients must learn to see health pedagogy in a relative light (Braidotti, 2006, p. 142). Patients need to appreciate this so as not to harbour false illusions regarding their health e.g. that health can be achieved without any risk, complication, pain or pressure (see Chapter 2).

7.4 Asubjectivity

Grosz (2005, p. 12) suggests that a Deleuzian-Guattarian ontology favours a temporal movement whereby ‘flow’ and ‘connectivity’ is preferred to a privileging of substance, form and self-identity. This can be explained by the fact that time only becomes relevant in the Cartesian provoked split between subject and object (mind and body) as a result of a perceived distance/duration. Presumably then, as an experience becomes more asubjective (e.g. as the boundaries between the self and environment dissolve) the experience of time becomes less relevant because of the perceived reduced distance between subject and object. Therefore, the asubjective experience approaches a state of empty time. The high speed at which the flow of desire moves in ‘well-connected’ machines arguably reduces the distance between the subject and the object (the gap), ultimately creating the asubjective experience. Hence, without connectivity, and the speed it produces, the asubjective experience is unachievable. One might assume then that the more connections a machine (body) has to other machines (bodies or assemblages) the less it will be affected by the realm of time. Although speculation, this relationship might offer some useful options for principles and activities (exercises) presented in biokinetic practice, so as to, stimulate and create new forms of effects and relations of the body. These proposed activities, for example, may be less governed by the constraints of routine, protocol and obligation and rather focus on methods of increasing connectivity and de-emphasising time as a point of focus. Further still, this may lead to alternative approaches in exercise prescriptions, testing, instruction, and education for biokineticists.

In sum, Deleuze and Guattari (1987) arguably revive an age old philosophical discussion specifically regarding the nature of time in their appeal to a rhizomatic connectivity of thought and asubjectivity. For them the present is the productive moment of ‘becoming’, which means that ‘becoming’ is without past or future and as such it exists within a pure and empty time (Colebrook, 2002, p. 27). Essential to this state is the experience of asubjectivity created when the distance between object and subject (mind and body) is reduced or dissolved.

Following from this, biokineticists cannot know in advance what ‘distinctive affects and relations a complex body may be capable of’ (Duff, 2010, p. 626). A body does not simply have affect like it has attributes. It is, therefore, essential to realise ‘...relations are external and thus do not rely on an author or a self’ (Buchanan, 1997, p. 78). Buchanan (1997, p. 82), following from Deleuze and Guattari, explains health as, ‘The happy union of a capacity to form new relations and the new relations themselves, which, in their turn, permit the body to go on to form other new relations’. It is arguably in creating a desire to form new and multiple relations from an asubjective perspective which must remain central if one is to facilitate experiences which are promotive of health in this sense. One way of doing this would be to teach patients to transcend, at least temporarily, long-term motivations, which are often associated with solitude and isolation of the prior self, into a desire to apply themselves to the process at hand forming ‘emergent motivators’, which are associated with interaction and collaboration between the body and its immediate surroundings (see Chapter 6).

7.5 Conclusions

In closing, if one is to create a completely unmatched and incomparable new experience between the practitioner and patient it becomes necessary to dissolve any pre-defined conceptualizations of their relationship. As Buchanan (1997, p. 75) comments, ‘think these practices of the self for themselves instead of interpreting them according to the dictates of a previously stipulated clinical condition’. As a profession, biokinetics has the responsibility to challenge these dominant structures so as to prevent the monopolization of exercise by a fixed conceptualization of health pedagogy. As such practices which stimulate new ideas, create connections between different systems and their signs, facilitate states of flow, and other asubjective experiences must be encouraged. It is the aim of this study to emphasise the impact culture and history have on the current power relations invested in the body, and, in response, to give a voice to other methods of analysis, such as philosophical insight, which are ostracized under the new scientific-capitalist regime of health pedagogy. Thus, the study attempts to prevent biokinetics from becoming a naive distributor of neo-

liberal health practice. Health is about choice, and the realization that the kind of knowledge that does not promote choice (in the form of seeing difference) is limiting. In sum, redefining the role of the biokineticist is not the answer as it will not remove the confusion surrounding his/her role just as naming a bad desire doesn't automatically remove it. Instead the foundation to the proposed paradigm shift is to encourage enquiry which asks what more a practitioner (a body) can do in order to form multiple relations with the patient (another body) and thus reduce the 'gap' currently presented between these two parties. Key to the success of this operation is to foster deterritorializations that remain sensitive to the entire spectrum of forces making up our understanding of the body and health, while simultaneously being able to invent new experiences by appealing to the multiple affects and relations of a body.

Conclusion: Recommendations for best practice in contemporary biokinetics

8.1 Best practice recommendations

Scientific construction cannot escape the need for a circumscribed plane of reference. Within these limits, explanation becomes possible by creating operative resources to deal with reality (Czeresnia, 1999, p. 704).

Best practice recommendations are provided as a summary to the points of departure discussed in this dissertation. They should not be interpreted as set or fixed principles, e.g. protocols or standard operating procedures (SOPs), as an interpretation of this kind would contradict the process of ‘becoming’ promoted in this study. Thus, these best practice recommendations are by no means being set out here as a method to be followed rigorously, nor a set of practices that will remain valid for all of time.

Firstly, the reduction in trust, respect and communication apparent within contemporary health practice has resulted in a critical collapse in the connection between the practitioner and the patient. In order to mend the collapse, elaborate mechanisms of connectivity and interaction on both a community and individual level are needed. These mechanisms should operate across racial, social, economic and national boundaries. Fox (2002, p. 361) concludes: ‘To engage productively with such agendas collapses disciplinary boundaries and establishes a pressing need for collaboration between medical and caring professions, social and political, social activists, indeed everyone with a body’. In conjunction with Fox’s (2002) conclusion, the appeal to the humanities to achieve better methods to prepare individuals to ‘analyze, judge and sort out competing values’ inherent in health discourse, mentioned in Chapter 4, is not entirely misplaced (Pellegrino, 1984, p. 256). However, collaboration may do well not to ‘stop’ with the humanities, but should be practiced everywhere; that is it should become rhizomatic.

Interdisciplinary approaches allow practitioners from different disciplines to work together in order to ensure that biological interpretations are no longer given priority when considering relations of the body. In this way, interdisciplinary approaches promote the collapsing of boundaries through building of bridges between various disciplines (connectivity) and they also stimulate diversity (heterogeneity), thereby resisting the arborescent models of homogeneity from being hierarchized. In sum, biokineticists who adopt a role of diversity, connectivity and open mindedness

arguably realise that the health professional is dealing with something as ‘broad as the notion of life itself’ (Czeresnia, 1999, p. 705).

Secondly, patients are also encouraged to build bridges (make connections) between different discourses such as philosophy, art, politics, and the health pedagogy. In this way, patients put themselves in a better position from which to frame critical questions capable of challenging both the expectations and the ‘known’ bodies of health assemblages.

Critical questions must not merely be presented in hopes of receiving quick and simple answers. In such cases, the answers are always already ‘known’ (pre-defined). Rather, questions should be conceptualized as opportunities for learning collaboratively, whereby they are framed as processes in which new relationships may be developed. Here, for example, the patient must no longer be represented as a consumer who needs fast and efficient answers (see Chapter 3) and the biokineticist as a dashboard of answers for frequently asked questions (FAQs). Instead identity must be seen as an open-ended and continuous process. In adhering to principles of the multiple (multiplicity) of rhizomatic thinking, practitioners and patients force each other outside of their comfort zones, creating new opportunities of enhanced learning created from unique asubjective perspectives.

What is of importance within this dynamic struggle between practitioner and patient, no matter the outcome, is the realisation that perspectives, identities, and modes of being are constantly shifting as information is being processed, past experiences are being drawn from, ideas are being negotiated and presented, and decisions are being made. As such, contemporary fixed signs of health pedagogy which associate, for instance fat with laziness and strength with valour, can be challenged. Here, nobody is thought to know the ‘answer’ in its entirety. Instead, the focus shifts to the ‘event’ and, with creation as the aim, both patient and practitioner are able to temporarily remove their illusions of absolute truths, so as to appreciate what is not yet known (they invent something different by temporarily forgetting what they know).

Thirdly, either party may enter the experience from any point and begin a line of flight or a deterritorialization by critically engaging with this dynamic relationship of affects and relations. However, such decisions are not without their risks. The biokineticist and patient may be projected into something dangerous (cancerous) whereby reterritorializations occur which further solidify their belief in the rules of safety and their ideological appeal to certainty. However, this does not mean these parties cannot once again resist their discursive surroundings. The ‘couple machine’ of the bio-patient is understood as a myriad of forces capable of deterritorializations and reterritorializations which are ‘enacted and engaged with, not simply imposed’ upon these embodied entities (Fox, 2002, p. 354). In remaining engaged with these forces, one ensures that the material world is openly investigated, thus allowing a continual re-inventing of the self (unknown).

The patient, who is understood as multiple, removes the need to ‘lock’ identities into ‘boxes’ which perceive him/her as a passive, obedient, disciplined and, essentially, docile subject.

These recommendations reflect only the tip of the iceberg. There are many ways in which one may stop, momentarily, and reflect, so as to challenge the mundane prescriptions of everyday life. What is encouraged in this study is that practitioners take the time to reflect¹⁷ in order to make the necessary alterations enhancing of change. However, the necessity of structure and organization must not be overlooked either as constant change is not sustainable. No system is able to survive within a constant state of metamorphosis. Thus, limits will arise if one tries to change a constant. There is value in both fixed and unfixed; the difficulty and complexity lies in deciding when to remain in the organization and structure that definitions and constructs provide, and when to accept the uncertainty that moments of ‘becoming’ demand. It is, therefore, in accepting this dynamic relationship that is ironically both for and against the mechanisms of the current discursive system in which this philosophy of ‘becoming-health’ arises and acts.

8.2 Final remarks

A doctor who looks after the overall health of people, time, race, humanity – who will even once have the spirit to take my suspicion to the limit and venture the proposition: all of philosophizing to this day has not dealt with ‘truth’ but with something else; call it health, future, growth, potency, life...(Nietzsche, 1983, p.190).

‘Known’ reality consists of shared representations created by discursive structures. These discursive structures are formed through the interactions of forces including the technologies of power, social forces, as well as forces of self and production (see Chapter 1). In Chapter 1 of this study it is argued that the discursive structures influencing the practice of biokinetics and its interpretation of the body have produced three fundamental concerns, namely: 1) The segmenting of its parts into organic, physical matter and explained through the lens and ontology of biomedicine (see Chapter 2); 2) The dilution of barriers between health pedagogy and commercialisation whereby techniques of subjectification and significance are applied so as to create a continual artificial desire for a

¹⁷ Although these concerns have come to light through reflection, it is not only through reflection that philosophy has effect (Deleuze & Guattari, 1994, p. 6). Actively investigating the biological, physical, psychical, historical, sexual and emotional thresholds of ‘sustainable’ becomings is an important real- time philosophical enterprise (Braidotti, 2006, p. 142). Without knowledge of these limits and their affects, there would be nothing to challenge, but equally, and what is being called for in this study, without challenging the known there would be nothing new to give limits to.

product instead of for a life that is content (see Chapter 3); and 3) convinced of its powers of predictability, health pedagogy prescribes lists of risk to be avoided, which, through its affiliation with other parties, e.g. insurance, corporate, and government institutions, has resulted in a reproduction of ‘sameness’ (homogeneity) throughout society whereby individuals are forced to adhere to these rules under the guise of safety and its ideological appeal to certainty (see Chapter 4). Because this discursive structure is largely responsible for the way in which biokineticists and patients act, are acted upon, articulated into society, adopt certain self-practices, and produce particular types of products, there is a necessity for methods of deterritorialization in contemporary health discourse.

Initially, a social constructivist viewpoint was taken to widen the scope through which the body is understood. A social constructivist approach suggests the body is not independently determined by biological forces but is also shaped by historical, cultural, social, and psychological forces. However, social constructivism has been criticized for neglecting the body’s potential for resistant or revolutionary action as it understands the body to be completely determined by its discursive structure. Acting like a polar opposite, essentialist approaches, which appeal to a prior human essence, are criticized for overemphasising the individual’s ability to act freely despite the discursive structures surrounding him/her (Fox, 2002, p. 348). Another problem with essentialist approaches is they acknowledge the existence of a prior self, which effectively is unable to develop equally valued new versions of itself after being diagnosed with an illness.

Constructivists and essentialist approaches have been predominately adopted by contemporary health to problematize disease and treatment. As such, it becomes necessary to take caution in how one approaches concepts and definitions in health pedagogy as they have the potential to produce concrete practices (e.g. treatments) which are portrayed, despite these ontological shortcomings, as if they are able to capture the lived experience in its entirety (e.g. the experience of falling ill) (Czeresnia, 1999, p. 702).

In response to these concerns, this study proposes a post-structuralist approach to health, which accepts the complexity inherent within the treatment of the body and, as such, understands the body and health, to exist within a social milieu dominated by discursive structures, while simultaneously understands them to have both the potential to transcend the power relations created by these structures. In other words, it understands that the body and health cannot be reduced to constructs that are ‘incapable of resistance, nor can they ignore the impact of context on experience by elevating subjectivity as prior and essential’ (Fox, 2002, p. 348).

The proposed philosophy is one in which signs are freed (at least temporarily), along with conceptual and pragmatic constraints, not through resistance but via engaging actively with life in its timeless state of ‘becoming’, i.e. through accepting the experience or the ‘event’ without

expectations. Fundamental to this conceptualization is the realization that when dealing with health, one is dealing with something as complex as life itself. Hence, it is argued that the rigidity of science, its isolation and inability to make connections as result of its closed systems and definable terms is unable to appreciate the state of ‘flow’ necessary for life, and thus health.

In addition, science’s arborescent structures have resulted in an over-supply of homogeneity within society. The study highlighted two related areas of concern specific to health discourse: 1) Medical-scientific and risk discourse apply mechanisms which invest in structuring what patients do and do not think, act, speak, or hear, limiting their potential to move beyond the production of ‘sameness’ (homogeneity) inherent within this discourse; and 2) The capitalist – economic discourse, which is progressively influencing medical practice, strategically proliferates difference, however, not without reducing it to market- related ends. As a result, although a unique operation, it is an equally reductive technique producing ‘sameness’ because all human endeavours are inevitably reduced to the derivatives of human capital. Thus despite the difference created, all action is eventually reterritorialized into the confines of the economic discourse.

Conversely, a thinking of difference embraces asubjective experiences that do not adopt ‘known molds of identities’, but rather embrace effects and relations which are created within/by an experience and, as a result, are not dictated by mechanisms of the market or health discourse. As a result, practitioners and patients are not crippled by desires that lack; that is are ‘locked’ into specific modes of subjectification. Furthermore, the patient is not interacting within set parameters which are supervised by the biokineticist, but instead parameters are temporarily set by both parties during the experience (e.g. emergent motivators), and as such are removed from ‘sameness’ in the form of normalized or standardized data.

Thus, interactions of the bio-patient ‘coupled machine’ effectively aim to remove pre-conceived ideas about health, challenge false assumptions, as well as to create new ‘becomings’ of health. This study argues that to remain oblivious to the creative potential harboured by a life of ‘becoming’ is to exclude a truly holistic conception of the body.

In short, it is all for nothing should healthy pedagogy manage to prolong life or make life more ‘safe’ using professional reasoning if in the process both parties forget how to live (Watts, 1951, p. 104).

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