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Questioning difference through the pictorial recontextualization of socio-medical documents.

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CONTENTS

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Abstract

In this dissertation and series of paintings I wish to focus attention on the interconnection between knowledge and power. This is commented on in relation to socio-medical disciplines.

The argument proposes that knowledge is a product of vested interests and should thus not be regarded as transcendent of the context in which it is used. This study examines attempts to naturalize race, class and gender through scrutiny and analyses of the human body.

Section One considers specific historical cases which illustrate the use of knowledge as a disciplinary force. Surveillance, classification, objectification and an understanding of science as neutral are identified as central to the construction of difference. These themes are investigated with regard to: Lavater's physiognomy, Charcot's understanding of hysteria, the influence of photography on nineteenth century science, eugenics, degenerationism and racial definitions in South African law from 1948 to 1994. This section draws on scholarship and research published predominantly in the areas of sociology, medical history, anthropology and ethnology. Section One is intended as a parallel text to the series of paintings produced.

Section Two offers a personal interpretation of some trends, methods and materials used throughout the series of paintings. The paintings comment on the themes of classification, objectification and discrimination mentioned in Section One. The series also reflects on the mutability of knowledge and the continuing relevance of past doctrines. Primary strategies employed in the paintings are decontextualization and recontextualization of pre-existent texts, an emphasis on aesthetics and attempts to involve the viewer in the acts of looking and interpretation.

Section Three consists of reproductions of the twenty paintings made for a Masters of Fine Art degree. Sources and processes used in the paintings are listed.

INTRODUCTION

In this dissertation and series of paintings I wish to focus attention on the interconnection between knowledge and power, and the use of knowledge as a means of control. This is commented on in relation to socio-medical[1] disciplines, which sought to define normality, morality and worth by means of appearance and comparative morphology. These sciences used knowledge to construct differences between races, genders and social groups, and as a consequence thereof, became a controlling force.

The dissertation is divided into three sections. Section One examines specific historical cases in the human and medical sciences, which illustrate the use of knowledge as a disciplinary force. This section draws on scholarship and research published predominantly in the areas of sociology, medical history, anthropology and ethnology. Such interdisciplinary research opens up a vast and diverse field of information. In this study this was particularly so since my starting premise was very broad[2]. Additionally a huge amount has been published about the interrelationship between knowledge and power in the human and medical sciences. To resolve the dilemma as to which areas of this information I should concentrate on, I decided to focus, in Section One, on six specific instances of the use of disciplinary control in the socio-medical sciences. These six areas of investigation were chosen at my discretion from a multitude of relevant subjects[3]. A synopsis of the creation of difference in the late eighteenth and nineteenth centuries precedes the discussions on these six areas of investigation[4].

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[1] Socio-medical sciences in this dissertation is taken to refer to those medical and social sciences that sought to understand human origins, development, behaviour, customs and physical and mental order. These would include anthropology, ethnology, sociology and medicine. Human science refers to the same fields, excluding medical disciplines.

I decided to focus on the socio-medical sciences because of their prominence and continuing importance in defining society and the individual (see Conclusion). This area was also of interest because of the many records of illustrations (as well as written material) that could be appropriated.

[2] The series of paintings is intended to comment and question, rather than to form a definitive and conclusive analysis. This means that a broader field could be regarded than would be practical in an exhaustive, definitive analysis.

[3] The six areas form part of the subject matter of some of the paintings in this series. (See page seven for an explanation of the envisaged relationship between the discussions in Section One and the paintings).

[4] Many complexities and details had to be excluded from discussions because of the confines of a dissertation.

Chapter One introduces the concept of "disciplinary power" (Foucault 1979), and its reliance on the creation of difference. The importance of surveillance, classification and objectification is mentioned in relation to the late eighteenth and nineteenth centuries' socio-medical sciences. In this chapter it is suggested that mathematical formulas, ratios and measurements were used by scientists to impart an aura of neutrality to doctrines and research results. I discuss how the supposedly objective status of theories allowed these to be used as justification of social inequalities. These are the principal themes explored throughout the dissertation and series of paintings. This chapter thus introduces and summarizes key concepts which in subsequent chapters are discussed in relation to specific cases in the history of the human sciences.

Chapter One mentions the significance of the late eighteenth century to the development of the human sciences and to the notion of disciplinary power. This is expanded upon in the second chapter where the doctrines of the eighteenth century theorist Johann Casper Lavater are discussed.

It is suggested in Chapter One that disciplinary power reached its apex in the nineteenth century. Chapters Two to Four illustrate this point through examining aspects of the nineteenth century's approach to the human sciences.

Chapter Two examines the theories of Johann Casper Lavater. Lavater's concern with taxonomy, objectification and the scrutiny of the external body as an indicator of internal worth and character are considered. Lavater's theories were extremely influential. His premise that the scientific gaze can read character and worth off the external body, and his stress on classification and objectification, were adopted and expanded upon in the nineteenth century. Chapter Two aims to highlight the importance of the late eighteenth century (and of Lavater) to the field under investigation.

Chapter Three deals with the epidemic of hysteria in the nineteenth century. This topic was selected as an overt illustration of how knowledge is invented and promoted for ideological ends. Mostly women were diagnosed as hysterics and as such this chapter touches on the construction of gender difference. Connections between the categorization and naturalization of genders and the socio-political context of the nineteenth century are discussed.

A central theme throughout this dissertation and the series of paintings is the importance placed upon the act of looking as the primary means of creating and defining knowledge during the periods under review. In every chapter in Section One mention is made of how scientists were presumed able to analyze and diagnose a person or groups' character, worth or soundness of mind through the gaze. The gaze was thus central to the violence and inequalities justified through comparative morphology. The camera and the photograph became prominent tools of such observation[5]. For this reason, in Chapter Four, the influence of photography on the creation of knowledge is discussed. Here unequal power relations latent in the photographic act are stressed. The importance of the nineteenth century's acceptance of photography as neutral is highlighted. Mention is also made of conventions and styles that are now recognized as being inextricably part of nineteenth century scientific photography.

Chapters Five and Six respectively discuss theories of eugenics and degeneration and their influence and status as reactions to social, political and economic contexts in the nineteenth century. Principal and recurring themes of the dissertation (such as surveillance, taxonomy, objectification, the creation of an aura of neutrality around scientific theories and consequent justification of social inequalities) are analyzed in relation to the two topics.

Darwinian evolutionary theory was hugely influential to the development of the human sciences and comparative morphology in particular. Thus the reliance of both eugenics and degeneration theories on evolution are noted. The dissertation includes a chapter on eugenics since this theory, to a greater extent than most socio-medical disciplines, advocated proactive interventions in peoples' lives to eliminate supposedly undesirable families and groups. The chapter on degeneration highlights the arbitrary nature of many classifications done on the basis of external appearance[6].

With the exceptions of Lavater's physiognomy and Charcot's understanding of hysteria (as discussed in Chapters Two and Three), all disciplines mentioned in Section One continued to be practiced with only minor changes until at least the mid twentieth century.

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[5] Chapters Three and Six discuss use of photography in the classification of hysterical patients and degenerates respectively.

[6] As an example of this, the conflation of mental retardation, criminality and lack of conformity to social norms is discussed.

Chapter Seven looks at definitions of race in South African law between 1948 and the early 1990's, that is, when apartheid underpinned official state policy. As such this chapter illustrates how principles and methodologies that informed physical anthropology and comparative morphology in the eighteenth and nineteenth centuries persisted into the late twentieth century. This chapter was also included in Section One of the dissertation for its personal relevance and because of the strong influence apartheid theories continue to have in contemporary South Africa (whether this is expressed as support of these theories, or as a reaction against these). This chapter deals not with a scientific discipline, nor with tools used by scientists. The laws discussed here, however, were purportedly based on scientific theories and principles, and tests used to determine race were promoted by the state as scientific (du Pré 1995:8).

Chapter Seven also briefly mentions the history of racial science. The Population Registration Act No. 30 of 1950 is discussed, as well as the methods by which racial types were determined. This discussion highlights the arbitrary nature of racial taxonomy.

As previously mentioned, the first section of this dissertation examines specific cases in the socio-medical sciences that illustrate the interrelationship between knowledge and power. In these chapters principal themes are surveillance and the primacy of the gaze, classification, objectification, and the creation of an aura of neutrality around scientific theories and text to justify social inequalities. These too are paramount themes investigated in the series of paintings produced. They are written about in the second section of the dissertation.

The paintings do not comment specifically on the disciplines or cases analyzed in Chapters One to Seven. They should be seen as autonomous from this text, just as the text is intelligible independent of the paintings[7]. The paintings are not meant as illustrations to Section One. Nor is the dissertation intended as a verbal illustration or explanation of the paintings. These two components were conceived as parallel texts which, when read in conjunction, may contribute to a dynamic or different view of each other. Therefore the first section of the dissertation is not mandatory to the requirements of a Master of Fine Art dissertation. It is written in the belief that two forms of commentary (one verbal, one visual) on the subject under

[7] This autonomy should apply even in those instances where the same topics are investigated in the paintings as in Section One.

investigation would allow for interesting parallels and differences to emerge in how knowledge, meaning and understanding are produced[8].

The text in Section One follows conventions expected from scholarly (and specifically social science) writing. Emphasis is placed on rational and coherent argumentation and the strict adherence to what are accepted as facts[9]. In the series of paintings produced there is no such utilization of rationality and adherence to facts. Because of this the paintings may have the ability to make the polyvalence and ambiguity inherent to all texts (including those referred to in the paintings) explicit[10].

In Section Two a personal interpretation is given of some methods and materials used in the making of the series of paintings. Rather than discussing individual paintings, trends recurring throughout the series are considered. Where formal aspects discussed apply to a minority of paintings, the numbers of the relevant paintings are listed in brackets. Where such numbers are not listed, the elements discussed apply to all, or almost all, of the paintings. Emphasis is placed on the discussion of formal elements and materials used rather than on the origin and content of particular texts[11]. These origins and contents are mentioned in Section Three.

In Section Two I consider how the central themes of objectification, de-individualization, taxonomy and discrimination may be reflected in the paintings. Also mentioned are how the paintings point to mutability of knowledge, and the continuing relevance of past theories. Primary strategies examined in relation to the paintings are decontextualization and recontextualization of pre-existent text, as well as attempts made to involve the viewer in the

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[8] This echoes the importance placed by many contemporary theorists on interdisciplinary studies. Such a concern with the interdisciplinary means that it is no longer mandatory to analyze a chosen discipline in terms of its own histories and theories. For this reason this dissertation will not include an art historical review of the subject under investigation.

[9] This dissertation and series of paintings attempt to question how precisely such rationality, coherence and emphasis on the factual, potentially allow for the justification of ideologically driven theories.

[10] A primary concern in the dissertation and paintings is how fields of knowledge are constructed and legitimized through imbuing theories with a sense of rationality, facticity and hence neutrality. Emphases on coherent, rational and factual arguments are inherent to the conventions used in most social science writing. As such Section One of this dissertation employs those practices which I wish to place in question. These specific conventions are not, however, relied upon in the series of paintings produced.

The use of ambiguity is discussed in more detail in Section Two.

[11] The word 'text' is taken to refer to images and/ or written phrases. Where written phrases are referred to, the word 'writing' will be used.

acts of looking and interpretation. Section Two concludes with a brief consideration of the importance of aesthetics in this series of paintings.

Section Three lists the sources and processes used in each of the twenty paintings. The usual catalogue details (title, date, size) and an iconographic inventory are included. A brief description is given of each iconographic element. Many of these motifs were derived from secondary sources. In these instances the original authors, documents and titles of diagrams, as well as the secondary sources, are recorded. In instances where documents were appropriated from primary sources, only these references are given[12]. Countries of origin and dates are listed, except in the case of contemporary, globally published and distributed books. Methods used in the application of elements, and the principal materials used in each painting, are indicated.

Section Three points to specific historical disciplines and theories which were used in the paintings. As mentioned previously, Section One and the series of paintings are intended as parallel elements. Section Three allows one to relate these parallel texts.

As suggested on page six, the paintings are not about specific incidences or examples of the ideological use of knowledge in socio-medical science. Rather, texts referring to particular instances are recontextualized in order to reveal general trends about knowledge production and legitimization. It is hoped that through this the viewer may become aware of the possibility and importance of questioning the uses knowledge is put to.

[12] In instances where titles explain the diagram used, they are listed together with the primary source. Only the secondary source is listed where author, original document and title are not known, or where the brief description of the text clarifies its origin.

SECTION ONE

CHAPTER ONE

OVERVIEW OF THE CREATION OF DIFFERENCE IN THE LATE EIGHTEENTH AND NINETEENTH CENTURIES' SOCIO-MEDICAL SCIENCES

Michel Foucault (1979) traces the shift from what he calls "sovereign power" to "disciplinary power". The former is defined as visible power emanating from a clearly identifiable source and operating through brute, ostentatious displays of might such as public torture and execution. Sovereign power characterized monarchical (and ecclesiastical) rule in the West and its colonies until the late eighteenth century.

Disciplinary power operates from the end of the eighteenth century onwards. It relies on diffused and covert power that finds expression not in ritualized, clearly marked acts, but functions at all times, everywhere. Sovereign power depended on the visible might of the holder of power, be it a monarch or the church. Disciplinary power in contrast disperses might, thereby de-emphasizing the source of domination. Disciplinary power functions through the surveillance, classification and objectification of the body and behaviour of each individual. It found its mature expression in the human sciences of nineteenth century Europe, and especially in techniques of systematic observation, classification and institutionalization.

The genesis of disciplinary power in the late eighteenth century created the conditions necessary for the development of the human sciences. Thus Foucault argues that whilst the eighteenth century did not practice the discipline of human science *per se,* it did found many of the discourses, methodologies and ideologies upon which the nineteenth century's 'science of man' and contemporary sociology would be built (Butchart 1997: 103).

A significant development in the late eighteenth century was the increasing secularization of knowledge and culture. With the rejection of superstition and mysticism, there arose a confidence in the ability to comprehend the world through reason. This resulted in a belief in the linear progress of knowledge and of humanity.

The modern states' approach of making disease and social deviancy a public concern to be controlled by public institutions and the emphasis in (amongst other disciplines) the human, medical sciences on rationality, empiricism, objectification and taxonomy evolved in the Enlightenment. These principles and methodologies continue to dominate in contemporary human sciences (Gould 1981: 83).

The reorganization of intellectual, social, economic and political activities in the nineteenth century meant that the medical and social sciences, which in the early eighteenth century were related to questions of individual health, increasingly became concerned with normality. This meant the comparing of people against a standard in order to determine their extent of deviation from the norm. With the division between the normal and the abnormal, scientists of the late eighteenth and nineteenth centuries embarked on a project of identifying and recording the characteristic or typical features of differing races, classes and social groups[13].

Significantly membership to any one group and the perceived differences amongst these groups or types were understood as biologically determined. Any shared behavioural norms and any political, cultural, social or economic distinctions between groups were seen as inborn, natural traits. Social hierarchies and divisions were accepted as "an accurate reflection of biology" (Gould 1981: 52).

According to Gould (1981) support of such biological determinism was[14] based on questionable and erroneous arguments. Gould identifies these as being: reductionism (the explaining of the complex, large-scale and random by the actions of a small constituent), reification (deducing abstract characteristics {e.g. morality} from concrete entities {e.g. physical appearance}), the creation of dichotomies and hierarchies; and xenophobia.

As already stated, biological determinism was used as a means of creating and justifying a distinction between the normal and the abnormal. A binary understanding of the world was

[13] Medical revolutions in the late eighteenth and early nineteenth centuries, such as the institutionalization of hospitals, the introduction of physical examinations, postmortems, psychiatry, anatomy and the uses of stethoscopes and microscopes, contributed to the need for systematic recordings of patients' conditions (Thomased 1997: 145). At the same time the sciences gained increasing prominence and respect due to these innovations, and the establishing of a rational classificatory inventory of humanity was supposed to enhance this newfound status (Fox *et al.* 1995: 59).

[14] Many contemporary scientific and pseudo-scientific studies and theories continue to rely on such biological determinism.

created, where all was divided into, for instance, the good/ bad, beautiful/ ugly, healthy/ ill (Lupton 1996: 87). In each binary pair one term was given a positive, and the other a negative connotation.

Such a dichotomous approach allowed for the creation of the binary categories of 'Self/ Other'. Numerous contemporary theorists have stressed that the creation of the category of the Other allows a society to define, stabilize and protect its own identity (Bronfen 1990; Gilman 1985; Porter 1998). Especially in the nineteenth century, people that did not conform to a constructed social norm (whether due to disease, external appearance, lack of productivity, criminal or overtly sexual behaviour) were described as innately and biologically different, and thus as Other. In the rapidly changing world of the nineteenth century this drawing up of clear boundaries between the Self and the Other created a semblance of order and stability (Bronfen 1990: 580; Lupton 1996: 74).

Since the Self was seen as the positive, and the Other as the negative term in this binary pair, the Other was described as innately inferior, thus legitimizing control of, and domination over its 'members'. This could occur especially due to the reductionist tendency to conflate all supposedly inferior groups, creating a stereotype of Otherness that dehumanized and negated individual differences. In the words of Bronfen: "metaphors of Otherness become interrelated or merged – (...) the racially Other, the Black, the Jew, transform into the sexually Other, the Female, the Pervert, to become hyper-tropes of pollution, corruption disorder and disease" (Bronfen 1990: 580).

In order to detect, label and categorize the Other scientists relied heavily on mathematical formulas and ratios, measurements and (from the nineteenth century onwards) statistics. With these the physical body was analyzed and recorded. Measuring apparatuses, tables and diagrams were used in the physiognomic study of the body since well before the eighteenth century, but they were increasingly emphasized and, in the latter half of the nineteenth century, became more elaborate and standardized (Gould 1981: 106). The importance of these means of analyzing and recording lay in the perceived objectivity of numbers. Numbers were seen as empirical, neutral and irrefutably accurate.

Much of science and pseudo-science continues to rely on a perceived neutrality of measurement and numbers. Numbers, however, need to be interpreted in order to produce

theories and knowledge and any interpretation inextricably reflects hidden assumptions and agendas of the interpreter. Analyses of numbers thus depend on and reflect prevalent cultural and scientific contexts and procedures (Gould 1981)[15].

From the Enlightenment to the mid twentieth century, vision was privileged as the most important means of gaining information and knowledge. Thus debates on what defined the Other focused on describing the 'proper' appearance of the physical body. The exterior look of the human body was believed to be a legible text that, through scientific scrutiny and measurement, would reveal the morality and character of the so scrutinized. The physical characteristics of people (such as their skin, hair and eye colour, texture of hair, shape of facial features, skull, genitalia and body shape) were inspected and measured for signs of difference, a difference that was then accepted to represent an inherent moral and social inequality. It was thought that difference could be detected in the ugliness of the body – beauty thus signified morality and social worth, ugliness immorality and degeneracy (Porter 1998: 143; Shortland 1985: 296).

People were classified into different types on the basis of their appearance – a taxonomy that, especially under the influence of Darwinism, understood humanity in terms of zoological concepts of differing species and varieties (Leys Stepan 1998: 31).

The biological determinist view of the Other depended on, and helped to create, the aforementioned disciplinary power. For this it relied mainly on the status of science and on increased institutionalization. Greater institutionalization in the nineteenth century led to the prominence of clinics and hospitals, public health programs, workhouses and penal establishments. These specialist institutions increased the public importance and the status of the scientific disciplines. Because of their large sizes and elaborate structures, they encouraged systematized, standardized approaches to the study of human science. Through institutions the social sciences became part of the complex organization and systems of the modern state, hence also of the modern states' system of control and social organization.

The status of science and medicine rested on their perceived neutrality and objectivity and on rhetoric promoting these disciplines as ever-progressing. The increasing specialization and

[15] Numbers are understood in specific contexts, so that the one interpretation amongst many that is consistent with the contemporary context is usually taken as the true interpretation (Gould 1981: 106).

institutionalization of these disciplines emphasized their exclusivity and intellectuality in a class system that equated knowledge with value and status (Marien 1997: 133). In the nineteenth century the pairing of knowledge with power also allowed the sciences to project an image of certainty and order in an uncertain and anxiety-ridden time, thereby enhancing their status as important occupations (Lupton 1996: 87).

The growth of the social sciences and the particular manner in which the study of humanity was expressed unavoidably reflected the context in which this knowledge was articulated, and in turn also contributed to the formation of this context. Cultural and historical circumstances determine which areas of knowledge are seen as worthwhile, which figures are seen as authorities, and which methodologies are accepted. Practitioners (and observers) of social sciences are not only constrained by what is generally seen as plausible or acceptable in any particular context, but they too (consciously or not) are working within the particular framework of their own prejudices, interests and ideologies. Knowledge is thus not a reflection of the 'true', but rather an expression of a particular social, historical, political and economic context[16].

The history of knowledge and the sciences should thus not be seen as a progression towards an absolute truth, but rather as continuous reformulation of perceptions and world-views in the light of changing contexts[17]. Historical theories and doctrines should not be seen as naive, odd and erroneous interpretations of reality. Often they were the works of the most respected and accepted scientists of their day and were of tremendous importance in (and contributions to) particular contexts (Jordanova 1990: 571). Our society too has its accepted and respected theoreticians and practitioners; in the words of Gould: "shall we believe that science is different today simply because we share the cultural context of most practicing scientists and mistake its influence for objective truth?" (Gould 1981: 106)[18].

[16] I do not question the reality of disease, but rather want to point out that diseases are interpreted in non-neutral manners, and thus need to be examined and analyzed in relation to social contexts.
[17] This is highlighted by the fact that science develops mainly by replacement, not by addition of new knowledge (Gould 1981: 32).
[18] A distancing approach to the history of science and medicine is especially dangerous as many of the disciplines formed in the nineteenth century in relation to racial and sexual sciences still form the framework for many modern scientific studies (such as evolutionary biology, bacteriology, modern genetics) (Leys Stepan 1998: 31).

The study of earlier world-views may help create awareness of stereotypes and presumptions inherent to current conception of knowledge, allowing for greater insight into our own particular historically contingent context. Becoming aware of the naturalization of stereotypes in our own era allows us to negotiate alternative ways of thinking.

CHAPTER TWO

THE PHYSIOGNOMY OF JOHANN CASPER LAVATER

Prior to the late seventeenth and the eighteenth century a concern had been shown with investigating primarily nature, flora and fauna and the cultural, excluding the scientific study of humanity *per se* (Fox *et al.* 1995: 8). With the ushering in of the Enlightenment the creation of a science of man became a central ambition[19]. This was seen as part of a wider project of developing a comprehensive description of all natural species by placing them within a coherent rational order. With this taxonomic ambition, ordering and classification by comparison became the primary aim of science. Scientists sought to comprehend and classify through the systematic description and comparison of the visual aspects of natural objects and beings.

This focus on the observable and comparative reflected the secularization of knowledge which marked the Enlightenment Age. This saw a turn from a spiritual, religious comprehension of the world, to a worldview based on the concrete and scientifically observed. Stress was placed on the observed rather than the felt, the abstracted general rather than the miraculous particular, the seen and experienced rather than the traditional and metaphysical. As such the Enlightenment can be seen as the inevitable outcome of a growing tradition of western thinkers (including theorists such as Luther, Copernicus, Galileo and Newton) asserting the pre-eminence of rationality (Canguilhem 1991: 15).

These central themes of creating a science of man within a rational taxonomic tradition based on visual comparisons are also reflected in the physiognomic studies of the Swiss pastor Johann Casper Lavater (1741-1801). It was Lavater's ambition to diagnose and distinguish character and moral worth through the scientific scrutiny of external appearance.

The physiognomic practice of reading character from external signs is ancient, pre-existing Lavater by centuries. The earliest of numerous such treatises, the *Physiognomica*, has been attributed to Aristotle who compared human and animal appearances and characters and looked for morphological and moral differences between genders and races (Staum 1995:

[19] It is a widely accepted view that ethnology and the social sciences had their genesis in the late eighteenth century (Fox *et al.* 1995: 1).

284). Lavater, however, held these previous physiognomic approaches in contempt, seeing these as unsystematic, marginal and tainted by secrecy. In contrast Lavater stressed the rationality and order of his science of physiognomical perception (Staum 1995: 285).

With this approach Lavater's enterprise echoes the aforementioned secularization of the eighteenth century. People were no longer seen as made in the image of god, as spiritual beings, but rather as being rationally comprehensible through systematic scrutiny of their physical forms. Although Lavater was an avid Christian for most of his life, emphasis on observation gives his writing a strong secular flavor (Shortland 1986: 396)[20].

Lavater wanted to stress the systematized and scientific basis of his doctrine to gain legitimacy for physiognomy as a mainstream form of inquiry. To achieve this Lavater, especially in his most influential book *Fragments on Physiognomy* (first published between 1775 and 1778), stressed the use of geometry, mathematical formulae, ratios and equations and presented data in tables. Through the use of these devices Lavater highlighted the supposedly factual, ordered, rational and concrete nature of his science. For the same reason extensive rules, images and even physiognomic exercises were also included (Fox *et al.* 1995: 59; Shortland 1985: 285).

In his diagnoses of character Lavater referred to gestures, physical attitudes, voices and habits. The visual, however, was primary to Lavater's concept of physiognomy. Through the scrutinizing, analytical gaze, intellect, morality, work ethic, sensuality and other characteristics were believed to be readable off a person's features. Sizes, proportions, forms, distribution of parts in the bodily and the facial features allowed one by sight alone to rank any person in a hierarchy of moral worth. A "beautiful" nose thus would indicate an "exemplary" character, and the aspect of the forehead would serve as indication of intellectual ability (Staum 1995: 446).

The gaze reigned supreme in Lavater's world: the world became bisected into the active, judging observers and the passive, judged observed. The unequal power-relations implicit to Lavater's work allowed him to confirm and justify existent social, political and economic hierarchies based on the 'natural order of things'. Thus Staum argues that "the classification of diverse personalities fitted them into slots of the modern industrializing economy" (Staum

[20] Lavater's writings echo the contemporary secularizing context despite his own religiosity.

1995: 455); class positions were justified in terms of biology and physical appearance. The indelible biological form of women and non-white races allowed Lavater to confirm the supposed inferiority of these groups and gave legitimacy to the notion of a natural hierarchy of the races and genders[21].

Although Lavater does refer to individuals in *Fragments of Physiognomy*, he emphasized generalized depictions and descriptions, suggesting a type against which the individual and particular can be measured[22]. Historians have stressed that this concern with classifying people according to set categories has the potential of promoting order and stabilizing society, again through legitimization of the status quo (Bronfen 1990; Porter 1998; Staum 1995).

Lavater acknowledged that almost all beings seem to have an ability to superficially interpret physiognomy, yet he envisaged 'true' physiognomy as a rigorous science that demanded as many skills from practitioners as any other science would (Fox *et al.* 1995: 285). Lavater thus sought to gain respect for physiognomy (and for himself) by promoting this theory as difficult and exclusive, stating that "not one in ten thousand could become an excellent physiognomist" (Shortland 1985: 294). This echoes the increasing respect given to scientists in the eighteenth century, where science was seen to promise perfection of the human species.

Lavater's contemporary critics questioned to what extent human characteristics were pre-ordained. Innate inclination on biological grounds would imply that free will does not exist, as the simplifying statement of that time, "be a murderer, be a thief, God wanted it" suggests (cited in Staum 1995: 453). In a society still strongly regulated by the church, and regulated by law, any such implications were deeply unsettling. Indeed, Lavater's treatment of issues such as free will and determinism, or heredity and the environment are inconclusive and unresolved. Throughout Lavater's writings strains arise between the wish to base his knowledge on observed, empirical facts, and his wanting to develop a dogmatic science with irrefutable laws and rules (Shortland 1985: 291). Emphasis has been put by historians on the late seventeenth and eighteenth centuries as the genesis of linear master-narratives which naturalized a highly ideological hierarchical ordering of beings (Potts 1990: 16). Lavater echoed such a belief in innate hierarchies by constantly reiterating his wish to create a

[21] Although Lavater's theories were highly divisive, he emphasized that the main aim of his writings was to create greater understanding between people and thus to create a better world (Fox *et al.* 1995: 285).

[22] This aspect of Lavater's work became highly influential in the nineteenth century.

rationally coherent taxonomic science. In contradiction to this Lavater himself mentions that his most well-known book *Fragments of Physiognomy* (1770), was a collection of fragments rather than a clearly defined doctrine. This book was written in an informal, disjointed, conversational style[23] (Shortland 1986: 388).

It is difficult to assess Lavater's physiognomic theory and the specifics of its relation to the context in which it was produced. This is due to the many contradictions in his writings, the many reprints that were substantially changed by editors and translators and the incomplete knowledge we have of Lavater's life and career. What is certain, however, is that inherent to his work are an increased concern with secularization, the scientific, the observed, and an emphasis on the naturalization of character through an (albeit vaguely defined) system of classification.

Theories correlating physical appearance with character, and especially Lavater's doctrine, were immensely influential and popular in the eighteenth and nineteenth centuries. The popularity and long-lasting influence of Lavater's works is reflected in the internationally distributed, long print-runs of these folio. *Fragments on Physiognomy* was translated into English shortly after its original publication. Shortland mentions that by 1870 seventeen issues translated into English of Lavater's *Essays on Physiognomy* had already appeared; at least nine versions of *The Superb Lavater* were published by 1822, and at least twenty more versions appeared in the remainder of the nineteenth century (Shortland 1985: 285).

Not only did Lavater's treatise influence many of his contemporary critics and artists, but the influence of his works also continued until well after the mid-nineteenth century. Shortland sums up Lavater's influence thus: "that the body becomes legible in the nineteenth century and that this legibility redirected character description in the novel, character depiction in art, character definition in the sciences, owes more to Lavater than any other figure" (Shortland 1985: 284).

[23] The stylistically short, factual and supposedly neutral scientific paper only started to exist in the nineteenth century as an important scientific tool. Lavater's longwinded, narrative writing style reflects contemporary concerns with preserving the aesthetic and pictorial in scientific illustrations, unlike the stark, diagrammatic quality that came to characterize such illustrations from the nineteenth century onwards (Potts 1990: 12).

CHAPTER THREE

THE SPECTACLE OF HYSTERIA

From 1862 Jean-Martin Charcot was head of then Paris' largest women's hospital, the Salpêtrière Clinic, working as neuropathologist in the newly created chair of clinical diseases of the nervous system. Although an increasing interest in hysteria could already be noted in the 1850's, before Charcot's entry into this field, in his position at Salpêtrière he was to a large degree responsible for the epidemic proportions diagnoses of hysteria reached in the mid to late 1800's. Between 1842 and 1881 the number of patients identified as suffering from hysteria in this hospital increased from one per cent to twenty per cent of total patients. This led Briquet to estimate in 1859 that about a quarter of the poor in Paris were afflicted (cited in Noel Evans 1991: 11). In retrospect this epidemic has been seen as highly significant because it occurred not primarily due to medically identifiable and analyzable symptoms, but was also to a large degree (consciously or unconsciously) invented and promoted for ideological reasons.

Hysteria is one of the oldest recorded mental disorders, being mentioned in Ancient Egyptian and Grecian texts. This was however a vague term applied to a variety of not easily classified symptoms and often confused with epilepsy (Goetz *et al.* 1995: 172). In the spirit of Positivism Charcot wanted to place this awkward category on a more scientific basis by developing standardized procedures for identification and treatment of hysteria.

Hysteria was seen as a disorder almost exclusively suffered by women. The disease, according to Charcot, consisted of the overemphasizing and overexaggeration of supposedly innate feminine characteristics. Whilst men were seen as rational, women were defined as emotional: on the one hand sensitive, caring and loving, on the other hand impressionable, lazy, seductive, vain, capricious and untruthful. Hysteria was understood as an exaggeration of these allegedly inescapable characteristics, so that Charcot's assistant Richet in 1880 wrote that: "hysterics are more womanly than other woman" (cited in Noel Evans 1991: 30). This argument reinforced stereotypes of masculine rationality and feminine emotionality. Stereotypes which patriarchy projected onto the female (and that women interiorized) became the symptoms of hysterical disorder (Schade 1995: 514).

Thus all women were seen to contain the seed of hysteria inextricably within their nature. Many nineteenth century commentators saw in this justification for the limiting of womens' experiences. It was emphasized that study, work outside the home and spinsterhood would emotionally destabilize women to such an extent that there would be the danger of this latent hysteria being unleashed. This argument was especially common in England, America and the rest of Europe where, unlike in France, hysteria was primarily diagnosed amongst middle and upper class women[24] (Noel Evans 1991: 11).

Charcot after 1880 believed that isolated cases of male hysteria existed, in contrast to the view held by most of his contemporaries. His interpretation of this affliction in men is revealing. Male hysterics were seen as adopting feminine characteristics as a mark of uniqueness. Hysteria was "worn as a badge of courage in a revolt against bourgeois values" (Noel Evans 1991: 18) and as such was associated with the heroic rebel or the artistic genius. The male hysteric, in contrast to his female counterpart, was seen as misguided but creative, constructive and inspiring. Whereas traumatic experiences were seen to cause male hysteria, Charcot ascribed female hysteria to emotionality or immorality (Goetz *et al.* 1995: 174). This conception of hysteria increased concrete and ideological control over women.

Significantly huge increases in diagnoses of hysteria occurred in an era in which social roles, and thus too the roles of women, were radically redefined. The nineteenth century saw the emergence of the first feminist movement as women sought more active social, political and economic roles. Charcot's conception of hysteria not only attempted to describe such a more active role as detrimental to women (in that this could lead to hysteria), but further allowed feminist agitators to be scornfully labeled as hysterical themselves (Noel Evans 1991: 10).

The industrialization and concomitant urbanization of the nineteenth century meant that women were employed as cheap factory labor in the city and surrounds. These workers were seen as destabilizing and a threat to the status quo and were thus (especially in France) subjected to control through the specter of hysteria. Patients in Charcot's hospital rarely admitted themselves: employers, as well as family members and the police, brought them for

[24] Diagnoses of hysteria can be interpreted as a response to the shifting of power from the aristocracy to the bourgeoisie. Due to this shift many middle and upper class women were isolated in the home, and this view of the vulnerability of women towards hysteria justified such a confinement (Noel Evans 1991: 11). Hysteria was seen as a particular threat to unmarried women and was frequently equated with nymphomania, reflecting the wish to constrain women in their traditional roles (Noel Evans 1991: 17).

internment (Noel Evans 1991: 23). Clearly this allowed for vast powers to be vested in the employer (or the police or family, for that matter), powers that could be used as a means of control.

The tremendous rise in interest and diagnoses of hysteria under Charcot in the Salpêtrière Clinic highlights how fields of knowledge are inextricably context bound. Disciplines reflect the vested interests of those that define and construct these fields (as these disciplines in turn re-define and influence the broader social context). Charcot's working methods can be seen as steeped in patriarchal ideology. Two themes underlie his methodology (with scopophilia being central to both): the theme of theater and spectacle, and the polarization of the position of patient and doctor.

Charcot rarely interacted with his patients. For diagnosis he silently observed the women, stripped of their clothing, in his office (Schade 1995: 508). The women were seen as gesturing and babbling incomprehensibly and Charcot implied that the rationality of man was required to interpret and order their language. Binaries between masculine/ feminine, emotional/ rational, active/ passive, constructive/ fickle, observer/ observed are evident, dichotomies that have been repeated throughout Western history.

The skewed power-relations evident in the dichotomies which underlay Charcot's theories and working methodologies were most obvious in his *Tuesday Lectures*. During these lectures Charcot examined patients in front of audiences of up to five hundred people, including medical and non-medical members of the public (Noel Evans 1991: 21). In these lectures patients were turned into a visual spectacle, "performing the special Charcot symptomatology of hysterical body language" (Schade 1995: 505) for the gaze of curious observers. This exhibition of patients was echoed in Charcot's view that the neuropathology department of the Salpêtrière hospital was a "living pathological museum" (cited in Schade 1995: 511). He saw his patients thus as a collection of specimens to be studied, classified and exhibited.

In the context of the Victorian fascination with the Other (witnessed, for instance, in freakshows and the exhibition of Saartjie Baartman[25]) Charcot seemed oblivious to the

[25] Saartjie Baartman was a woman of Khoisan ancestry who was taken to England and France in 1810 to be publicly exhibited as an illustration of a primitive, animal-like being. After her death in 1815 her body was cast and dissected. Sections of it were preserved and continue to this day to be housed in the Musée de l'Homme in Paris. Saartjie Baartman has become a symbol of humiliation and suffering of

voyeurism and asymmetric power-relations underlying his methods (Schade 1995: 511). Some of his contemporaries, however (especially towards the end of Charcot's career), did question his integrity. The English doctor James Jackson Putman wrote in a letter after a visit to Salpêtrière that: "there is a charming variety of hysterical patients who will have fits for you at the shortest notice, which amuses M. Charcot very much" (cited in Goetz *et al.* 1995: 177). Charcot was seen as establishing an atmosphere that encouraged fits.

Charcot was fascinated with images of possession and exorcism in the arts from the twelfth to the eighteenth centuries, seeing the poses depicted there as echoing the bodylanguage of his fitful patients. Contemporary reports state that a large number of photographs and engravings after artworks representing such gestures were displayed on the neuropathology department's walls (Schade 1995: 508). Conceivably these served as models that patients consciously or subconsciously mimicked in their hysterical behaviour.

The publication by Charcot's assistant of the first of three books called *Iconographie Photographique de la Salpêtrière* in 1876 increased the hold hysteria had on the medical and popular imagination in nineteenth century France (and also influenced the occurrence of this disorder in England and the rest of Europe). These hugely popular books included sensational stories of individual patients together with graphs, measurements and tables that served to emphasize the scientific basis of the study of this disorder. A great number of photographs and images (themselves based on photographs) of hysterics were displayed in these books.

In order for many of these illustrations to be produced, fits were induced in patients through the use of hypnosis, ether, loud noises or even electric shock and pressure on the ovaries (Noel Evans 1991: 39)[26]. At times constraining braces were used to keep the patient still for long enough to record particular phases of a fit. Photographs were later retouched or copied as engravings so that they could serve as 'specimens' or models. In drawings and engravings,

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South African indigenous populations under the classificatory drive of eighteenth and nineteenth century racial sciences.

[26] In Ancient Greece the belief arose that a wandering womb caused hysterical symptoms. According to this belief (which continued until the nineteenth century) a woman's womb could dislodge itself and wander through the body, causing hysteria. It was thought that this was particularly apt to happen if a woman did not 'satisfy' her womb through bearing children. Charcot denied the wandering womb theory (Schade 1995: 510), yet the use of devices that put pressure on the ovaries shows that he continued to suspect a link between hysteria and the female reproductive organs.

individuality of the subject was de-emphasized and poses were schematized (Schade 1995: 510).

Medical scientists in the nineteenth century placed such emphasis on what they perceived to be innate causes of disorders such as hysteria that the actual conditions of their patients' lives were disregarded. Social, economic and political issues, such as poverty, powerlessness and isolation, and sexual and emotional abuses, were not taken into consideration (Noel Evans 1991: 50). Hence the social, economic and political status quo was not questioned.

After Charcot's death in 1893 the number of diagnoses of hysteria diminished rapidly. A period of strong reaction to Charcot's doctrine and methodology followed, culminating in Freud's development of a verbal rather than visual approach to the cure of disorders, whose genesis he sought in traumatic events, rather than in innate biology.

CHAPTER FOUR

THE INFLUENCE OF PHOTOGRAPHY ON THE CREATION OF SCIENTIFIC KNOWLEDGE IN THE NINETEENTH CENTURY

Photography was invented in 1839 and within a relatively short period of time this new process was being used in medical and scientific fields. It was, however, with the development of speedier dry-plate processes that photography came to be inextricably linked to the creation of scientific knowledge. In the period from 1870-1914 this application of photography became codified, especially through its use as a system of documentation within large institutions[27] (Legmagny & Rouille 1987: 71).

For scientists the value of photography lay mainly in its perceived objectivity. The image was seen as created directly by the sun, leading a French Journal to state in 1854: "we can hardly accuse the sun of having an imagination" (cited in Goldberg 1991: 19). Whereas medical and scientific illustrations inescapably reflected the idiosyncratic style of the artist, the photograph was thought to be unmediated, thus being absolutely objective with no style.

Discoveries through photography of the hitherto unseen, such as Muybridge's recording of time-sequences, X-rays, or the documentation of bacteria, led to the belief that understanding could only be achieved through photography, since a photograph would render visible what the eye could not see (Legmagny & Rouille 1987: 75). The extent to which human vision and artistic illustrations depended on conventions also emerged. A striking example is how prior to Muybridge's photographing of the gait of a galloping horse, all European and American images showed leg-positions that through photographs were proved to be incorrect (Goldberg 1991: 30).

This perceived objectivity and accuracy of photographs meant that photographic images became privileged over other techniques of representation, rapidly establishing demands for more visually accurate information and evidence. The myth of photographic transparency meant that photographs were seen as irrefutable, authentic testimony that could annul any disbelief. Photography was assured its prominence in scientific discourses of the nineteenth

[27] Charcot, for instance, set up a photographic laboratory at Salpêtrière.

century by its "apparent consistency with the empiricist assumptions and methodological procedures of naturalism" (Green 1985: 3).

The emergence of photography played an important role in how knowledge was defined. The long-term process of secularizing knowledge by privileging the seen over the unseen and the typical over the particular started in the Enlightenment and reached its high point in nineteenth century Positivism (Goldberg 1991: 11). Photography influenced this worldview, but in turn was also shaped by this Positivism.

Photographs were seen as an indication and assertion of the modernity and progressiveness of the scientists which made use of such photographic images and of the studies in which these images appeared (Marien 1997: 57; Thomased 1997: 125). Photographs symbolized and affirmed authority since for much of the nineteenth century photographic processes were still technically difficult and expensive (Goldberg 1991: 62). The supposed neutrality of the photograph, together with the idea of scientific objectivity, aided the equation of access to information with upward social mobility (Marien 1997: 132). Hence viewers of photographs and photographic books had a stake in the myth of photographic neutrality.

Whilst photography has at times been seen as allowing for a democratization of knowledge by "making more things more visible to more people" (Marien 1997: 47), the creation and control of this knowledge were in the nineteenth century still firmly ensconced in the middle and upper classes. The power these classes gained through access to knowledge and through increasing professionalization was used to extend a new form of dominance over the lower classes (Marien 1997: 33).

The nineteenth century burgeoning of institutions, including hospitals, public schools, police forces, prisons and workhouses, fundamentally shifted the power relations between state and the citizen. As increased control was exercised over the population, the camera became a central tool of observation and classification in public institutions. The perceived neutrality of photographs strengthened the claims of these institutions and allowed them to increase their jurisdiction through ever more intensive recording and observation[28].

[28] This institutional use of photography as a means of surveillance was prevalent in western countries, as well as in their colonies.

Common to almost all nineteenth century scientific photographing of people was the tendency to reduce the subjects to anatomical specimens. The depicted were disempowered, mostly having no means of controlling how they were presented, nor what these presentations would be used for. Significantly non-European people or people with lower social status were more likely to be photographed for scientific and especially anthropological reasons, and to have these images published without their consent (Lupton 1996: 148). Power relations implicit to the (scientific) photographic act thus echoed wider ideological power relations.

Servitude and perceived inferiority were reinforced by objects placed in the photograph, especially by measuring devices which emphasized the subject's position as a depersonalized specimen. Clothing too played an important role in the (conscious or unconscious) creation of a photograph's meaning. Subjects were frequently stripped or, especially in the case of non-white women, depicted bare-breasted.

The codifying of anthropological, criminal and medical photographic techniques emphasized the subject's position as a specimen to be studied and classified by visual comparison to an abstract norm. Thomas Huxley (1825-1895), on request from the British Colonial Office for the "formation of a systematic series of photographs of the various races of men comprehended within the British empire" (cited in Thomased 1997: 130), created the widely used standardized method of photographing the body in full-face with one arm extended and in profile, with measuring rods placed beside the subject.

The Frenchman Alphonse Bertillon (1853-1914) devised a similarly systematic procedure which was used internationally by countries with advanced policing and recording systems for the photographing of criminals (Thomased 19976: 142). In 1882 Paris was the first city to install a photographic laboratory in a police station; 90 000 photographs were taken and filed here in the next seven years alone (Lloyd 1987: 74). Just as medical and anthropological images served to define the normal and the deviant through comparison of physiognomic types, so too photographs of criminals were used to classify criminal types primarily by external appearance and measurement. Photography was thus extensively used as a means of surveillance, classification and hence control.

As mentioned previously, the authority of photography arose out of its perceived neutrality. By the turn of the century this objectivity was increasingly being questioned and issues of

consent were being raised (Thomased 1997: 148). Although in many instances photographs still continue to be promoted as unproblematic and objective recordings of 'truth', a greater awareness exists of the subjectivity of the photographic process, and how this subjectivity expresses covert, often inadvertent, intentions. Historians have thus emphasized that photographers' choices in setting, exposure, printing and styling were as important to the creation of meaning in nineteenth century scientific photography as the more overt subject matter (Thomased 1997; Legmagny & Rouille 1987). By viewing these images retrospectively and with reference to the context in which they were produced, often more is revealed about the photographer than about the photographed. Far from being the universal, neutral language they were thought to be, photographs clearly articulate their creator's social, cultural, political and economic aspirations. From this much about the broader ideology of the time can be inferred.

At times the styling of nineteenth century scientific photography mimicked traditional aesthetic conventions. Many photographers of scientific and medical subjects were schooled and continued to practice in standard genres of professional photography (genres such as portraiture or still-lives). Inevitably they brought with them the techniques and conventions they had acquired (Thomased 1997: 149). Significantly many of these traditions and conventions would be taken from an aesthetic that was primarily accessible to, and appreciated by, the middle and upper classes – thus perpetuating a particular class-based way of seeing and representing.

Towards the end of the nineteenth century emphasis was increasingly placed on simple, unadorned, stylistically sober representations. This was seen as an objective and neutral manner of depiction. The supposedly non-stylistic approach, however, was itself laden with covert subjective messages: it suggested the objectification of the depicted and the control and professional status of the photographer.

Photography was seen as a mark of modernity. Through extensive application as a tool of classification and typecasting, it was used to impose order and control on a world so rapidly changing that it seemed chaotic; as Marien wrote: "[it] lent hope that modernization was not anarchic, that it had a pattern" (Marien 1997: 83).

CHAPTER FIVE

EUGENICS

Charles Darwin's theory of evolution by natural selection was one of the most important and pervasive doctrines formulated in nineteenth century natural science. Arguably the dominant study to arise out of evolutionary theory was Herbert Spencer's bid to explain racial, national and class privilege by elaborating the principles of natural selection into the notion of "survival of the fittest" (Green 1985: 8). This version of Darwinism was rapidly adopted by contemporary scientists and social theorists. By means of this theory groups outside the social and behavioural status quo (such as the pauper, unemployed, criminal, insane and chronically ill) were declared innately unfit, and thus as biologically predetermined to suffer and fail.

Influenced by social Darwinism, the English naturalist Francis Galton introduced the concept of eugenics in his book *Inquiries into Human Faculty* (1883). According to Galton procreation of people should be based on what was believed to be their innate fitness, so that high-ranking people should procreate with each other to strengthen the genetic base of society. As a corollary to this the control of the breeding of 'deviant' groups was suggested. Galton wanted to "further the ends of evolution more rapidly and with less distress than if events were left to their own course" (Galton 1883: 16), thus ensuring an, according to him, fast and humane improvement of the species.

Eugenics rapidly influenced both scientific and political philosophies. It became a major concern amongst the public due to Galton's active attempts at popularizing his doctrine[29]. Galton stressed the scientific grounding and therefore supposed credibility of this enterprise. Mathematical and statistical methodologies were emphasized in his writings, together with an extensive reliance on what he accepted to be neutral, objective photographs.

Eugenics was based on heredity. A central concern for Galton therefore was to demonstrate the transference of mental and moral traits from one generation to the next. Adopting the dominant and accepted contemporary paradigm, Galton sought to trace such mental and moral

[29] In 1884 Galton's *Life History Album* was published. This was an attempt to popularize and disseminate eugenic theories through an album in which families could record bodily measurements (Green 1985: 13).

characteristics in visible, exterior features of the body[30]. Not only were a person's characteristics accepted as readable on the physical body, but transmission of the external appearance of a person onto the next generation was taken to imply a transmission of a similar morality and mental ability. Changing contexts and political, social and economic positions were thus not seen as important influences on a person's actions. Morality, character and behaviour were rather seen as predetermined by inherited traits.

Innate genetic superiority (as supposedly reflected in the appearance of the body) was invariably attributed to white European middle and upper classes, and to the productive (that is, economically 'useful') lower classes. The perceived natural, biological basis of 'fitness' or 'unfitness' was accepted as a legitimate reason for dominance over, and inequalities between certain classes, races or groupings. Social, political and economic structures and hierarchies were thereby explained and legitimized as natural phenomenon.

Eugenics, however, went further than justifying and confirming social disparities: it sought to actively eliminate those it defined as defective. Eugenicists wanted to achieve this through isolating the unfit in institutions where, by surveillance or primarily by sterilization, these individuals would be denied procreation. The first recorded case of such enforced eugenic sterilization occurred in Germany (Heidelberg) in 1897. At the time this operation was not sanctioned by law (Pick 1989: 237). Numerous countries did adopt sterilization laws in the ensuing years, with the United States Enforced Sterilization Law for Imbeciles being upheld for 48 years, from 1924 to 1972 (Gould 1981: 365). The 1913 Mental Deficiency Bill in Germany was passed into law in 1930 (Pick 1998: 238).

In the 1920's eugenic concerns also dominated the birth-control debate. Margaret Sanger noted in 1919: "more children from the fit, less from the unfit -- that is the chief issue of birthcontrol" (cited in Lupton 1996: 139).

Only in isolated cases, however, were eugenic principles adopted into law. Eugenics had its major impact on the general cultural and intellectual climate, and found expression in subtle influences on procedures and systems in public institutions. Aspects of the educational system,

[30] Lavater's physiognomic principles were thus continued in Galton's theory: the unfit were revealed by the shapes, sizes and proportions of their facial and bodily features (Porter 1998: 144).

town planning, poverty and slums, mental and public health care were thus rethought in the light of eugenics.

In 1867 the franchise was extended in England. Galton's writings responded to this by covertly questioning the level of political and social maturity of members of the enlarged electoral constituency. Through eugenic theory the democratic rights of those not conforming to social norms were questioned, not on the basis of ethics, but on the basis of biology (Pick 1998: 199).

The attentions given to eugenics in the nineteenth century (and during the resurgence of this theory, mainly in the 1930's and 1950's) were largely responses to fears about social stability, surplus labor and circumstances of urban existence. In nineteenth century Europe eugenics reflected the concerns and experiences of the middle, and especially the professional middle classes. By placing emphasis on the innate superiority of people with intellectual expertise, eugenics legitimized the scientific, technical, medical and governmental sectors that employed the newly professionalized middle class (Green 1985: 14). Eugenics was a means by which members of this professional class could address fears of the potential for social disruption they perceived in the unemployed and unemployable and in the procreation of these social groups. The solution to the negative social influences of industrialization, urbanization and surplus labor which marked nineteenth century urban existence, was thus believed to reside in eugenics (Green 1985: 9).

CHAPTER SIX

DARWIN AND DEGENERATION

Inextricably bound to eugenics was the notion of degeneration. Although questions of regression in morality and character had surfaced repeatedly in history before the late nineteenth century, the impetus that evolutionary theory brought allowed degenerationism to be reformulated in terms of Darwin's notion of the development of humankind.

Degenerationism never developed into one coherent doctrine, rather it became an all-embracing phrase with differing emphases given to it in different contexts and especially in the different nations[31]. Because of its vague, ill-defined character, degeneration was not a specific mental condition. It became instead "the condition of conditions, the ultimate signifier of pathology" (Pick 1989: 8). In retrospect many historians have noted the importance of degeneration as a form of social critique (Gelb 1995; Pick 1989). Similarly to eugenics and hysteria it formed a response to the fears brought by rapidly changing societies.

Evolutionary theory had proposed that humankind's development was progressing on a linear tangent from beast, to savage and to civilized humanity. According to degenerationism certain individuals reverted to an earlier type of less evolved being (atavism). Degenerates were thus seen to represent reversions to less civilized types. In the words of Talbot: "Some anomalies found among degenerates recall types less elevated than man, and very distant from him, even his possible Lemurian precursor" (cited in Gelb 1995: 4)[32].

Degeneration was thought to be expressed in the physical appearance of the afflicted. Certain morphological characteristics thus were seen as indicative of degeneration. These included asymmetries of the head or face, a large and protruding jaw, long arms, high cheekbones, coarse skin, unusually large or protruding ears, a cleft palate and club foot or hands (Gelb 1995: 3). This supposed visual degeneration led to a comparative morphology between degenerates and the 'normal'. It was believed that degenerates were specimens illustrating

[31] Degenerationism was pervasive in Europe and North America, but also had some influence in their colonies.

[32] After the 1920's this theory of degeneration was often replaced by neoteny. According to neoteny, whites developed at a slower pace than non-whites, where fast pace of development supposedly caused regression to apishness (Gould 1981: 148).

what human ancestors had looked like and that, through these 'living fossils', the evolution of appearance could be traced (Gould 1981: 143)[33].

In their atavism degenerates were thought to display not only the physical, but also the moral characteristics of civilization's forerunners. Contemporary theorists argued that morality was the most recent evolutionary progression, being lacking in animals and 'primitives'. Any reversion to a less evolved type would consequently mean a loss of moral sense. Under the influence of evolutionary theory degeneration thus meant a lack of moral reason, which was interpreted as a deviation from the social norm. By 1880 the mentally deficient, the insane, alcoholics, tramps, prostitutes and habitual criminals were all defined as degenerates, often having in common nothing but a perceived deviation from the status quo (Gelb 1995: 4)[34].

There was no one stable, standardized list of behavioural symptoms linked to degeneracy. Amongst the wide range of vaguely defined symptoms were: "masturbation, absence of shame, impulsiveness, egotism, tendency to have strong emotional responses to music, fearfulness, reverie, mysticism, treachery, vanity, cruelty, laziness, vindictiveness, indecisiveness, enjoyment of the colours red and violet, the urge to collect things, insensitivity to pain, gambling, fondness for animals, enjoyment of slang and tattooing (Gelb 1995: 3). This list of symptoms illustrates the tendency to conflate mental and moral behaviours.

The Italian Cesare Lombroso's highly influential doctrine of criminal anthropology (published in 1876) conflated morphology and character with degeneration in order to identify innate criminals. According to this doctrine criminals were evolutionary retrogressive and identifiable through their simian appearance. Lombroso believed that forty per cent of all criminals had inherited their anti-social behaviour and were thus criminals because of their biology and not because of social, political or economic circumstances (Gould 1981: 162).

As mentioned earlier, in many interpretations of degenerationism there were no clear boundaries between the criminally deviant, the socially deviant (who included the unemployed, homosexual, the unwed mother) and the mentally delinquent. As a consequence penal systems and workhouses at times tended to intern all categories of degenerates, that is,

[33] Here scientists followed a circular argument: degeneracy was used to confirm evolution, yet the defining of degeneration itself was based on evolutionary theory (Gelb 1995: 3).
[34] Social deviancy was seen as caused by mental retardation. Social deviancy, however, also became a ground on which mental retardation was diagnosed (Gelb 1995: 7).

those people that did not conform to the (middle class) norm of society. These included especially the mentally deficient. Gelb (1995) points out that the feeble-minded were seen as persistent evildoers and the gravest threat to society.

Degeneracy was believed to be inheritable, with the genesis of degeneration being 'sinful' living and the abuse of drugs and alcohol. Nineteenth century writers tended to stress the moral corruption of slums in modern cities as the primary origin of degeneration without recognizing underlying economic problems. Also mentioned was the notion that life had become too easy, and had thus corrupted sections of humanity such as the unemployed (Gelb 1995: 2). In the nineteenth century there was thus generally no acknowledgment of the social, political or economic causes underlying such issues as surplus labor and consequent unemployment, poverty, criminality or prostitution. Although mid- and early to mid-twentieth century degeneration theories tended to acknowledge that these cultural factors could influence what they interpreted as degeneracy, biology and inheritance were still stressed as the primary causes of degeneration.

By accepting degeneracy as inherent to the nature of slum-dwellers and other disadvantaged people, it was proposed that change to the material and social lives of these people would not improve their lot – they would remain reversions to the 'savage' and 'primitive'. Changing social circumstances was seen as a possibly futile attempt at "forcing people into unnatural arrangements" (Gould 1981: 53). Degeneration was used as an argument for maintaining the status quo and for justifying unequal power relations. In this degeneracy became a justification for imperialism, classism and sexism[35].

Degenerationism was hugely influential in the nineteenth century. Although in most countries it did not lead to changes in legislation, its impact on medical, academic, legal and penal thought led to numerous changes in the theories and methods employed in these sectors.

After the turn of the century degenerationism was increasingly criticized for its vagueness and lack of distinction between mental and moral deficiencies (Gelb 1995: 4). Nonetheless degeneration continued to play an important political role and directly influenced numerous early twentieth century laws. In Britain the Alien Immigration Act of 1905 attempted to ensure

[35] Similarly to Lavater's approach, here too questions of responsibility and determinism were intentionally repressed (Beirne 1986:530).

social purity by declaring criminals, prostitutes, anarchists, the diseased and poor as "undesirable aliens" (Pick 1989: 215). In North America an enforced sterilization law aimed at mental deficiency was introduced in 1924 (as mentioned in the previous chapter) (Gould 1981: 170). Many other less prominent laws reflected a similar influence of degenerationism, often with strong eugenic undertones.

CHAPTER SEVEN

SOUTH AFRICAN LAW AND THE DEFINITION OF RACE

Racial science found its genesis in Europe during the late eighteenth century, and rose to prominence in the nineteenth century. Under western racial science it was assumed that humanity consisted of separate biological types that could be ranked according to worthiness, with white persons at the apex of such a hierarchy. Races and genders were seen as wholly natural, rather than socially constructed entities. Whiteness, in being constructed as normative, was seen as a non-race, as a universal (Leys Stepan 1998: 29)[36]. The perceived biological differences of racial types, and their dissimilarity from the normative whiteness, were used as justification for differential treatments of human groups[37].

These racist notions were (and are) extremely influential in scientific domains. In response primarily to the genocidal atrocities of World War Two, however, mainstream scientists have questioned the validity of the scientific meaning of race, and the naturalization of social inequalities. Often racial theories were questioned and discarded without the uncovering of any new scientific information. Racial prejudices were thus rejected due to changes in social and political contexts (Leys Stepan 1998: 37).

As increasing numbers of measurements of differing racial groups were collected, scientists found it more and more difficult to agree on any one interpretation of their findings, forcing them to question the starting premise of their studies. Faced by the intricacies of identities brought about by migration and interbreeding, scientists faced the constant problem of finding representative individuals that would posses all, or most, of the attributes of 'their type' (Leys Stepan 1998: 31). Increasingly questions arose as to the extent such 'types' were biologically different from other groupings in the first place, and thus in how far any taxonomy of humanity was valid at all.

The policy of apartheid, which was the state ideology in South Africa from 1948 until the early 1990's, was inconsistent with what was put forward as the mainstream international

[36] Maleness was also accepted as normative.

[37] In the late nineteenth and early to mid twentieth centuries the poor and 'degenerate' were often seen as separate races, a premise that scientists attempted to prove through extensive measurements of bodily differences (Leys Stepan 1998: 48).

conception of race in the years following World War Two[38]. As suggested above, mainstream international thought increasingly questioned the validity of racial classification and discrimination, whilst apartheid policies in South Africa championed racial differentiation and segregation.

Under apartheid ideology in South Africa, society was divided into a hierarchy of distinct social and racial groups, where access to political, social and economic rights, freedoms and privileges were determined by race. Racial classification thus determined benefits (for instance employment, rates of pensions, residential rights, rights of freedom of movement and speech) and determined obligations (including the carrying of passes and paying of taxes)[39].

Until the early twentieth century race classifications in South Africa were only vaguely defined in statutes, but an increasingly complex social and legal system necessitated the codifying of racial definitions into law. Racial classifications were incorporated into South African laws from 1910 onwards, and in ensuing years new and increasingly complicated racial definitions were written into statute books. The professed biological, scientific bases to these classifications were stressed (Suzman 1960: 339).

Statutory definitions of racial groups showed little consistency (especially during the Union of South Africa, 1910-1960), and until the 1990's apartheid laws running concurrently did not have uniform racial definitions. One person could consequently fall into different groups under different laws (Suzman 1960: 339)[40].

The most notorious and most systematic racial classification in South African law was defined in the Population Registration Act, Number 30 of 1950. When this act was introduced the responsible ministers emphasized the necessity of statistical information to a modern state and the importance of identification of the populace to avoid illegal immigration, tax-avoidance, and other unlawful acts. The discriminatory intentions behind this act were thus concealed. After the passing of the Population Registration Act (and using this act as a basis) white

[38] Reports of passive policies of non-intervention, or active economic co-operation of governments and international agencies with South Africa during periods of apartheid rule have been analyzed by some critics as showing tacit support for racial differentiation and inequality.
[39] Horrell reported that in the 1950's a 'coloured' bricklayer earned $60 a month, whilst a black person would earn $15 for the same work (Horrell 1959: 64).
[40] It was also argued that apartheid was founded on biblical principles.

privilege became further ensconced and rigidified with the passing of, amongst others, the Representation of Voters Act, Separate Amenities and Bantu Authorities Act (Horrel 1959: 6).

According to the Population Registration Act the Director of Census had to determine the racial type of every person in South Africa on the basis of census information, where relevant on information from the Department of the Interior, and on the basis of definitions contained in the act. The act stated that blacks had to prove their race based on appearance, ancestry and acceptance. Whites were classified according to appearance and acceptance alone, whilst coloureds were defined as neither white, nor black (Du Pré 1995: 3).

Although the so-called coloured group were often referred to as 'mixed', that is people of black and white ancestry, coloured people according to the Population Registration Act included pure-blooded Asians (Chinese, Taiwanese, Japanese and Malaysians). Later changes to the definition of coloured types illustrate the lack of scientific basis to, and the constructedness of racial classifications. Largely because of complaints by pureblooded Asians, a further racial category of 'Asiatic' was eventually introduced (Du Pré 1995: 19). As trade between South Africa and Japan strengthened in the 1970's and 1980's, Japanese were reclassified as 'honorary whites' for diplomatic reasons and in order to ensure favorable economic relations. Politics and economics, rather than nature and biology were here the true basis for racial classifications.

As already stated, whites, unlike blacks, were defined according to appearance and social acceptance, and not with reference to ancestry. Political rhetoric, however, constantly implied that white South Africans, and Afrikaners especially, were a pureblooded *volk*. Du Pré (1995) mentions numerous studies that have shown conclusively that very few South African whites have pure blood, especially amongst the Afrikaner group. If descent had been included in the definition for whiteness, almost all Afrikaners, including the ruling National Party's leaders and members of parliament, would have been classified as coloured. Ancestry was thus deliberately omitted from the definition for whiteness (Du Pré 1995: 16).

Although architects of apartheid declared that they were basing distinctions between people (and subsequent access or lack thereof to human rights) on scientific, biological data, facts behind the rhetoric display the ideological constructedness of the racial taxonomy. This reveals the desire to secure social, economic and political privileges of the ruling group.

The Population Registration Act empowered the Director of Census to reclassify any South African without having to state his reasons for having done so[41]. Large numbers of these reclassifications were due to intermarriages or relations between different racial 'types'. Any woman married to or living with a man of a different race was reclassified to the same racial group as her partner or husband, except if the man involved was white, in which case (under an amendment of the race classification act in 1952) he adopted the woman's classification. Again it becomes clear that separation did not occur on the grounds of purity of race, but rather to ensure that privileges would not have to be shared more widely.

Children of racially mixed parentage assumed the same classification as the less privileged of their parents. Many such children were at a later date reclassified to another racial type, primarily on the basis of appearance. This resulted in a number of differing classifications within the same family, with tragic social and emotional consequences. As in the eighteenth and nineteenth centuries, appearance remained the primary indicator of Otherness – here Otherness to an implied white norm.

Individuals could appeal against their racial classification. The process of such appeals, and the bases on which their success were decided, again highlight the spurious nature of the apartheid system. In addition to humiliating questioning (including questions about height of bed, preference between rugby and soccer and whether the applicant ate porridge), applicants at times had to endure what du Pré has called: "some of the most ludicrous, hilarious and tragic 'scientific tests' in history" (Du Pré 1995: 8). These included the notorious pencil test used to distinguish coloureds from blacks. In this test a pencil was pushed into the applicant's hair; if upon shaking his or her head the pencil fell out, the applicant was declared coloured, if it stayed in the hair, he or she was declared black. Amongst others, some tests were based on scrutiny of profiles, reminiscent of the eighteenth and nineteenth centuries' analyses of facial features.

Historically arguments of biology were used to emphasize that positions in social hierarchies were innate and pre-ordained, but given the reclassification of large number of people and the many changes made to statutory race definitions, such arguments in apartheid South Africa

[41] This opened the way for informers in the system.

were merely rhetorical. Thus section one of the Population Registration Act, the section defining racial types, was amended eleven times between 1950 and 1988 (Du Pré 1995:28).

In the final analysis apartheid was a system of social engineering that for a long time was highly successful at creating a political, economic and social elite through using race classification as a means of social control. The threat of reclassification could effectively be used to silence opposition to the status quo, as the case of the reclassified 'Mr. B.' attests. Horrel quotes 'Mr. B.' as saying: "I am afraid to say anything because something might happen. They told me that if any complaint was made against me they could reconsider my case and change their decision" (Horrel 1959: 24).

The ruling party also used racial social engineering to limit the powers of opposition parties. Thus in the Orange Free State in 1969 thousands of blacks without identity documents were issued coloured identity papers to secure victory for the pro-government Federal Party in the Coloured Persons Representative Council Election (Du Pré 1995: 20). Similarly, when the governing party came under increasing threat in the 1970's large numbers of middle-class, mainly white-looking coloureds were reclassified as white to strengthen the white group against rising black protest (Du Pré 1995: 26).

In 1991 the Population Registration Act was repealed, as were many other racially discriminatory laws. The concept of race remains, however, prominent in politics, the law and the wider social milieu. Locally and internationally race still forms the basis for many debates on citizenship, immigration and affirmative action policies. Race thus continues to be used as a biological given by which inclusion and exclusion are determined. The survival or founding of conservative groupings internationally (such as the Ku Klux Klan and the Neo-Nazis, as well as the prominent attention given to 'new' racist theories (such as Herrnstein and Murray's *The Bell Curve* (1994)) highlight the continuing centrality of the concept of race in the contemporary context.

SECTION TWO

GENERAL COMMENTARY ON THE SERIES OF PAINTINGS

Central themes considered in this dissertation are the creation of difference in the socio-medical sciences and the ideological (and hence mutable) character of interpretation and legitimization of facts. It is also suggested that past theories continue to be of relevance in that they contribute to the shaping of contemporary interpretation and understanding. In this section each of these concepts is briefly re-introduced, whilst under various sub-headings it is considered how these concepts are reflected in the series of paintings as a whole. Similarly introduced and discussed are strategies of decontextualization, recontextualization and viewer-involvement. These are used in the paintings to comment on the interconnection between knowledge and power. Section Two should give insight into my personal interpretation of some primary concerns explored in the paintings.

Methodologies used in the Creation of Difference

As mentioned in the introduction, this series of paintings investigates disciplines, which sought to define normality and Otherness with reference to peoples' external appearances[42]. Methodologies used in the creation of difference were mentioned in Section One. These included objectification and de-individualization, taxonomy, and justification of abuse and discrimination through naturalization of social, political and economic inequalities. These practices are reflected on in the paintings.

Objectification and De-individualization

Some of the paintings include isolated body fragments (Figs. 1, 2, 12, 19) or heavily cropped photographs (Fig. 7). Where people are portrayed, individual features are often difficult to see. Figures are written over, scratched into and in areas merge with the surface they are depicted upon (Figs. 4, 6-8, 14, 18, 20). These formal aspects assist to deny the importance and integrity of people depicted and thus simulate de-

[42] The subject matter of *Gene* (Fig. 20) is contemporary genetic science. As such this painting refers to internal, rather than external structures of the body. *Gene* was included in the series to question possible ideological uses of contemporary and future fields of knowledge (as mentioned in the Conclusion). Current discussions on prospects of using genetic therapies to alter or improve appearances suggest disturbing links between genetic research and the historically discriminatory use of comparative morphology (Katz Rothman 1995: 8; Wilkie 1993: 129).

individualization. Schematized, emblematic figures are used to reinforce this sense of objectification (Figs. 2, 5-7, 11-15, 18).

Taxonomy

The content of most writings, tables and graphs incorporated into the paintings suggest classification. In some paintings images of people are placed behind glass sheets or in rectangular cutouts in the paintings' surfaces (Figs. 7, 8, 10). Through this framing the figures are isolated, which is intended to give the impression of specimens displayed[43]. The function of a specimen is to exemplify a distinct group or class. The association of people with specimens thus points to classificatory concerns.

Discrimination

Depictions of body-fragments and figures incised with texts, scratches, cuts and cracks suggest violence and violation. This may imply discrimination and abuse suffered by many under racist and stereotyping sciences[44].

In the paintings marks or texts are gouged into surfaces. The rough and uncontrolled appearance of these marks and texts refer to abuse inflicted. Such abuse and disregard for human rights is also reflected in the intolerant tone and content of many writings included in the paintings.

The sense of decay that permeates the paintings may act as an analogy for corruption and exploitation justified by doctrines and theories referred to in this series.

Decontextualization and Recontextualization

In the contexts of the late eighteenth and nineteenth centuries (which most of the texts used in the paintings originated in) scientific writings, tables, graphs and linear diagrams were generally associated with the neutral representation of data and facts. The supposed rationality and neutrality of such devices were then used to legitimize theories that promoted social

[43] Simplification of the images by cropping may reinforce the sense that these depictions represent specimens.

[44] Such strategies run the risk of revictimising the depicted. I hope that the series of paintings as a whole is sufficiently critical to justify the use of these devices, and to avoid such revictimization.

inequalities for ideological reasons[45]. In the paintings these texts are decontextualized and recontextualized. In this manner I am attempting to undermine the supposed objectivity and rationality such devices were originally credited with. Once this legitimating aura has been eroded, questions may arise as to how and by whom these images were created, and what purposes they served[46]. It is hoped that through such questioning the ideological nature of knowledge production becomes explicit.

Use of Existent Texts

The images and writings appearing in this series are all based on existent documents. These were sourced primarily from socio-medical records. In their original contexts these images and writings were explanations and illustrations of (mainly scientific) facts. As such these texts represent what was accepted or promoted by their creators as truth. Read from the perspective of the late twentieth century, the contents of many of the images, and especially many of the writings, seem contentious and subjective. They are seen as such since most of the texts are historical and the theories they illustrate have fallen into disrepute. Many of the tables and diagrams in the paintings also include words that in the late twentieth century are rejected as derogatory and politically incorrect (Figs. 1, 3, 6, 7, 10, 12, 19). Contentiousness emphasizes the subjective and political character of the theories represented by these graphs, tables and diagrams.

Images and writings used in this series originally appeared in books and journals. In the paintings they are, however, isolated from the texts that would have surrounded and validated them in such publications. Representations and writings are transferred from scientific domains to the domain of a painting and an art gallery. The diagrams and written passages are isolated from original contexts, and thus from explanations and from the authority implied by science. This may make explicit these motifs' seemingly contentious and subjective character.

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[45] Phrases included in the paintings are written in a style that suggests officialdom, distantiation and efficiency. When read in combination with other images and writings in the paintings, the tone of these texts connote apathetic objectification and de-individualization.

[46] Stafford sees tables, linear scientific diagrams and graphs as rhetorical devices implying "a code of behaviour: earnestness, restraint, silence, cleanliness. [They] involved certain social ideals: an isolated and superior distancing from the disorderly and cacophonous crowd, avoidance of pointless activity and evident signs of toil, and the vaulting of (...) reason and intelligence over emotions" (Stafford 1991: 150).

Layering and Juxtaposition

Texts used in the paintings were originally produced in differing disciplines or eras. In the paintings these dissimilar images and writings are layered and juxtaposed. Rather than being understood as they were intended to in their original contexts, the recontextualized images are read in terms of other motifs that appear in the paintings. The interaction between these divergent texts may allow for reinterpretation of their meanings and statuses.

Alienation from Original Appearance

Most of the images and writings are depicted in the paintings at a greatly enlarged scale. Frequently they are reproduced using materials, textures, colours or tones that would not have been associated with them in their original circumstances. This alienation of the texts from their initial appearance is intended to make the images and writings look unusual and unfamiliar[47]. Defamiliarization may cause the validity and messages of the texts to be reconsidered.

In the late eighteenth and nineteenth centuries' socio-medical sciences, graphs, diagrams and tables were conventionally shown against a stark white background. This manner of depiction was a rhetorical device which was supposed to communicate efficiency, rationality and objectivity[48]. In some paintings of this series scientific images and graphs are placed on dark (especially graphite) surfaces, as opposed to the white pages of their original contexts (Figs. 1, 11-20). This inversion is supposed to undermine the objectivity and rationality a black linear image against a white surface was meant to connote. Placing the objective, rational status of these images in question might make explicit the political character of such doctrines and theories.

Mutability of Knowledge and Facts

Meaning is not fixed, but is endlessly deferred as interpretations shift and change in altering contexts[49]. Formal elements in the paintings are meant to reflect this inability to fix meaning, interpretation and knowledge.

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[47] Some of the texts were taken from mundane, everyday sources, such as phrases from marketing textbooks (Figs. 4, 9, 19).

[48] As mentioned previously, this perceived neutrality and rationality were meant to mask subjective, ideological agendas.

[49] Knowledge cannot be regarded as autonomous or transcendent of the context in which it is used because it is itself the product of vested interests. This is illustrated by the fact that changes in the social

Materials

Galvanized metal (Fig. 1, 7), glass (Figs. 7, 8, 10, 11, 16, 20), high-gloss enamel paint (Fig. 2) and compressed graphite (Fig. 1, 11-20) were utilized in the paintings. These substances are all reflective or lustrous. The appearances of the paintings incorporating such reflective or sheeny surfaces alter depending on light-source and the angle paintings are viewed at. This is meant as an analogy for the manner in which disciplines and meanings change depending on the contexts they are interpreted in.

The predominance of vertical and horizontal lines and rectangular forms in the paintings create a sense of rigidity, permanence and control which echoes the authoritarianism and scientism of the texts the paintings are based on. The sobriety, order and fixity of knowledge implied by angular compositions is contrasted and subverted by the fluid, experimental and uncontrolled manner in which many materials were manipulated or applied onto the paintings.

Sense of Disintegration

A sense of disintegration and erosion imbues all paintings in this series. Surfaces seem to flake off the canvas and are pitted and cracked. Texts are faded, scratched and torn, metal pieces are patinated or rusted. Images and writings on the paintings seem decayed and degraded[50]. As previously mentioned, texts used in the paintings were appropriated (primarily) from existent socio-medical documents and thus originally represented facts and disciplines. The visual disintegration and degradation of the writings, images and surfaces in the paintings are intended to parallel the deconstruction and erosion of such facts and fields of knowledge due to changed interpretations and contexts.

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sciences occur primarily because of reinterpretations of existent facts, rather than through addition of new facts (Gold 1981: 350).

[50] *The Faces of Twelve Idiots* and all ten small-scaled paintings in the series (Figs. 1, 11-20) have compressed graphite surfaces. Graphite is a form of carbon, where carbon is the most stable element found in the universe. Due to this stability carbon in its various forms is used extensively in scientific research (for instance in carbon-dating). This notion of stability is undermined in the paintings by manipulating the graphite surfaces in such a way that they look disintegrated.

Use of Found Objects

Sections of electrical boards, cloth-covered wires and pieces of old batteries are incorporated into some of the paintings (Figs. 9, 11, 13, 15, 19). These found objects are recontextualized so that their *raisons d'être* seem lost. As abraded surfaces are meant to suggest erosion of knowledge, so worn and recontextualized found objects imply erosion of function. Once potentially valuable and important components have become obsolete, analogous to formerly eminent doctrines' losses of legitimacy and purpose.

Ambiguity

Contents and functions of decontextualized and recontextualized texts appearing in the paintings are enigmatic. Often associations between texts juxtaposed and layered are deliberately cryptic. Such ambiguity may point to the instability of meaning. Ambiguity occurs on the level of content, but also on a visual level. The contents of texts are obscure primarily because of their isolation from original contexts, or because of their juxtaposition with other motifs from dissimilar disciplines or eras. Visual ambiguity is created by means of layering, materials used, textures, colours, tonality, placing and size.

Use of Indistinct and Unreadable Texts

Some texts in the paintings are indistinct or unreadable. These words and diagrams may imply that complete understanding of the paintings cannot be reached as elements seem to have faded, eroded or been written over. This is meant as an analogy for the unattainability of absolute understanding.

Indistinct and awkwardly positioned writings and images are a deliberate attempt at frustrating the viewer. Very small type is used (Figs. 3, 4, 11, 13, 17, 18) or elements are placed where they are difficult to see. Images and writings are behind reflective and hence obscuring glass (Figs. 7, 8, 10, 11, 16, 20)[51]. In other instances they are positioned in such a way that viewers must bend or stretch if they want to see the text clearly (Figs. 1, 4-10). It is hoped that by this frustration and physical involvement the

[51] Depending on light-source, glass sheets incorporated into the paintings may mirror the viewer. This obscures sections of the paintings, but is also meant to hint at the viewer's involvement in the (interpretation) of the painting.

viewer can become aware of being an active participant in the process of looking and ongoing interpretation.

Continuing Relevance of Past Knowledge and Facts

Stuart Hall wrote that: "identities are the names we give to the different ways we are positioned by, and position ourselves in, the narratives of the past" (cited in Enwezor 1997: 25). Historical doctrines are thus inextricably part of how identities are adopted or imposed in contemporary society. With changing contexts fields of knowledge may erode, change and be devalidated, but they continue to be an ever-present subtext to new theories, which are produced[52]. The continuing relevance of past fields of knowledge (and the uses they were put to) is suggested in various ways in the paintings.

Layering

In the paintings texts are layered on top of each other, so that writings and images visually merge. Such layering is intended to suggest polyvalence and the presence and significance of historical doctrines as a subtext to contemporary disciplines and theories.

Indelible Texts

Some features are applied with thin paint that becomes absorbed into the canvas (Fig. 10). Others are etched (Figs. 1, 7) or engraved into graphite, paint or metal surfaces. Due to these techniques the texts are indelible, which is meant to imply the enduring impact of theories represented by these images and writings.

Use of Glass

Conventionally objects and images that are precious are placed behind glass. This can be seen in museums, or in the display of photographs, certificates and artworks. Glass sheets placed over diagrams and writings in the paintings thus connote value and importance of the glazed elements[53]. Ambiguously, however, the sheets of glass, their

[52] The continuing impact of historical doctrines is demonstrated by both support and opposition to such theories.

[53] In *30 of 1950* (Fig. 10) a South African Bureau of Racial Affairs (SABRA) newsletter was placed behind bulletproof glass sheets. SABRA was an ultra-right-wing organization, and the bulletproof glass should thus refer to violence committed in the name of the apartheid doctrine supported by SABRA. As suggested in the main text the glass also points to how South Africa continues to be influenced by, and grapple with its racist past.

edges, and metal clasps supporting them are chipped, old, scratched or dirty (Figs. 7, 8, 10). Here I hope to suggest an inconclusive combination of the formerly mentioned approaches to knowledge in the paintings. On the one hand instability of knowledge is suggested by the sullied appearance of glass and metal supports. Protective glass sheets, however, also hint at the continued importance of historical doctrines.

Restricted Palette

A restricted palette was used in the creation of the paintings. Muted colours create a sense of age and erosion. Particularly in the lighter paintings the hues used cause the artworks to look like parchment (Figs. 2, 4, 6, 10). These paintings are thus meant to look like the historical documents iconographic elements were sourced from.

Involvement of the Viewer

Indistinct and Awkwardly Positioned Texts

Indistinct and awkwardly positioned texts are an attempt at highlighting the viewer's active involvement in the process of looking and interpretation. This is explained in greater detail on page 49 (see: Use of Indistinct and Unreadable Texts).

Use of Forms

Involvement in interpretation and the creation of meaning is connoted by forms[54] incorporated into some paintings (Figs. 1, 4, 8, 16-18). Contents of the forms imply judgement[55] or the recording and analysis of personal details. The forms are not yet filled out, which may suggest that the viewer can theoretically complete these, thus contributing to judgement, recording and analyses. The viewer's own susceptibility to judgement and observation by society and social institutions is also being intimated. The forms included in the artworks thus may point to the viewer's ambiguous position of being both potentially judge and meaning-creator, and being judged and analyzed by others.

[54] The type of forms referred to here are pages with blanks for the insertion of details.

[55] Judgement of character is a recurring theme in the paintings. Due to recontextualization, phrases, graphs and tables that were meant to quantify peoples' worth and morality seem ludicrous and biased in the paintings. This may point to the unequal power-relations between observer and observed.

In conclusion: in this series of paintings a strong emphasis was placed on aesthetics through the exploitation of visual and tactile qualities of a wide range of materials. This is intended to draw viewers to the paintings. Whilst contemplating the surfaces, images and writings depicted should become evident, conceivably leading to the unfolding of intellectual concerns underlying the paintings.

SECTION THREE

SOURCES AND PROCESSES

Fig. 1

The Faces of Twelve Idiots

1998

180cm x 148cm

ICONOGRAPHIC INVENTORY:

Table classifying knowledge.
Origin: English, 1738
Author, title, original document and secondary source: Ephraim Chambers, *The organization of knowledge* from *Cyclopedia* (Stafford 1993: 147)
Method: Table hand-engraved into compressed graphite and metal plate

Text "Knowledge on three levels...".
Source: Found amongst torn-out pages in second-hand bookstore, origin unknown
Method: Text painted on compressed graphite

Engravings illustrating Lavater's physiognomic theory (where physiognomy is the analysis of facial features to determine a person's character and worth).
Origin: Swiss, 1789
Author, title, original document and secondary source: Johann Casper Lavater, *Twelve faces of idiots* from *Essays on physiognomy* (Stafford 1996: 135)
Method: Images hand-engraved into compressed graphite and lead

Graph including numbers and words " Happiness, Surprise, Anger, Sadness, Disgust, Fear", used in marketing textbook to explain consumer behaviour.
Source: (Hankinson & Cowking 1993: 217)
Method: Graph simplified and adapted, etched into galvanized metal plate

Diagrammatic hand and text "Handwritten Signature____", "Typed or Printed Name____", "Date____".
Source: Based on conventions commonly used in official forms
Method: Elements etched into galvanized metal plate and partly painted

PRINCIPAL MATERIALS:
Compressed graphite on canvas, galvanized metal plate, sealant, metal strips set into graphite, paint


10

Fig. 2

Untitled

1998

180cm x 148cm

ICONOGRAPHIC INVENTORY:

Engraving illustrating Lavater's physiognomic theory.
Origin: Swiss, 1792
Author, title, original document and secondary source: Johann Casper Lavater, *Lips* from *Essays on physiognomy Vol. 3* (Stafford 1993: 101)
Method: Illustration painted on at greatly enlarged scale

Form specifying how identity photographs for official immigration or naturalization documents should look.
Origin: North American, *circa* 1980
Title, original document and secondary source: *Color photograph specifications* from *U. S. Immigration and Naturalization Service form* (Brilliant 1991: 42)
Method: Illustration painted on at greatly enlarged scale

Black rubber square and white plastic square with '10' glued on it.
Method: Squares set into painted canvas

PRINCIPAL MATERIALS:
Enamel paint on canvas, metal insets, rubber, plastic


90
88
85
27
29

Fig. 3

Untitled

1999

180cm x 148cm

ICONOGRAPHIC INVENTORY:

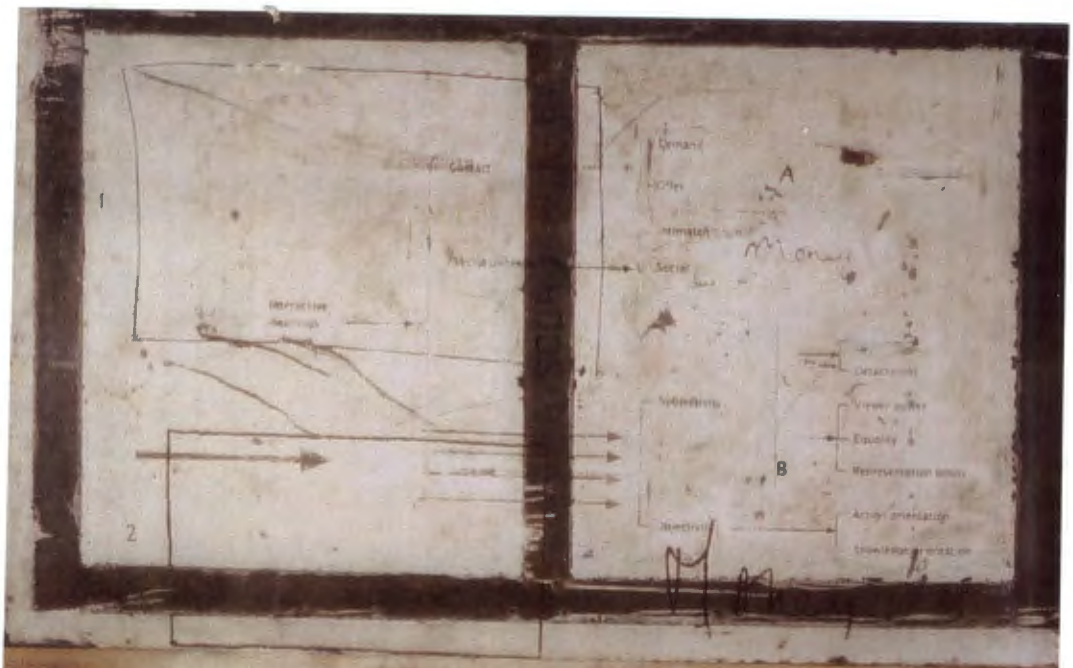
Diagram of woman with physical measurements, original context and purpose unknown.
Source: (Barreca (ed.) 1995: book cover)
Method: Diagram painted on and engraved into patinated aluminum

Chart illustrating aspects of Wilson's theory of degeneracy (where degeneracy was the theory that some groups of people are less evolved and hence are of lesser worth).
Origin: British, 1910
Title and source: *Figure 2* (Wilson, 1910: 11)
Method: Chart painted on patinated aluminum

Family tree illustrating Wilson's theory on the hereditary nature of degeneracy and his subsequent support for eugenics.
Origin: British, 1910
Title and source: *Figure 17: Family tree* (Wilson, 1910: 11)
Method: Image transferred, painted on and hand-engraved into patinated aluminum

Childrens' Snakes and Ladders game board, reflecting the importance given to the precepts of good behaviour in the nineteenth century.
Origin: British, 1895
Secondary source: (Simon, 1994: 79)
Method: Game board's numbers and moralizing texts painted on patinated aluminum

PRINCIPAL MATERIALS:
Patinated aluminum, Fabriano paper, compressed graphite block, mild-steel strips, acrylic paint, bitumen



1 IDENTIFICATION

Quiz 1

Each of the four rectangles has been drawn by one of each of the four writers of the word 'money.' Try to find out which rectangles belong to which writer, and give reasons for your decision.

Fig. 4

Identification

1998

180cm x 148cm

ICONOGRAPHIC INVENTORY:

Face of George Washington from a U. S. Dollar bill.
Method: Image computer-morphed, transferred and painted

Diagram, flowchart and vector arrows, used to explain pictorially the relationship between representations and viewers of these representations.
Source: (Kress & van Leeuwen 1996: 70, 86, 154)
Method: Diagrams painted on metal and rubber

Texts: "Here is a whole volume of truth in a few words. Anyone can overwhelmingly demonstrate the truthfulness of this by careful observation and examination" and "It is ready for use. It is practical. Use it." These phrases are the concluding sentences to the introduction in Vaught's book on phrenology.
Origin: North American, 1907
Source: (Vaught 1907: 1)
Method: Texts transferred in original *circa* 12-point font size onto metal and rubber, repeated at regular intervals

Handwriting 'quiz'.
Source: Adapted from various texts on graphology (handwriting analysis)
Method: Elements painted on metal and rubber sheets

PRINCIPAL MATERIALS:
Metal sheet (originally part of security-door), mild-steel strips, rubber sheet, lead, paint, ink

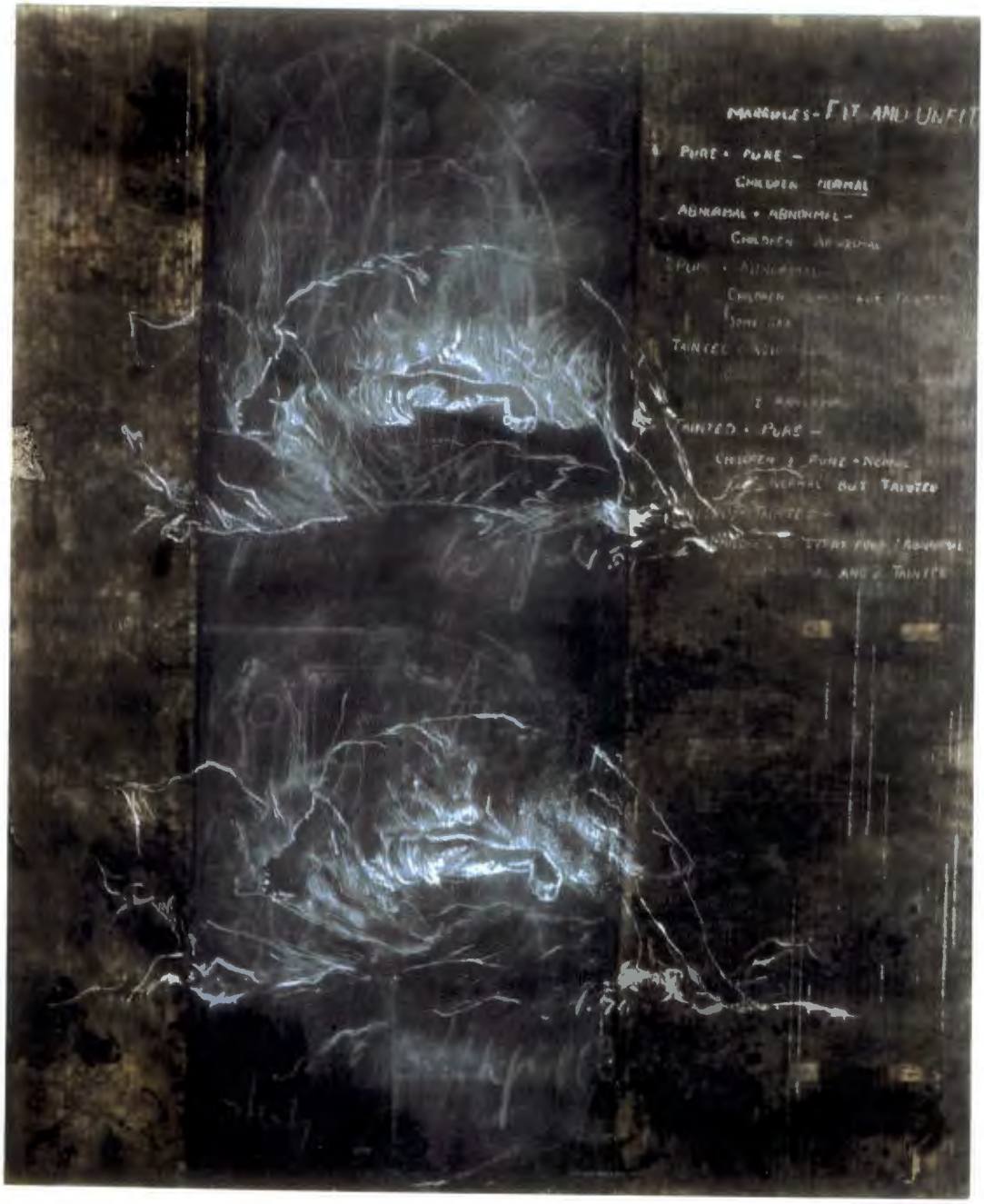

MARRIAGES - FIT AND UNFIT
PURE + PURE –
CHILDREN NORMAL
ABNORMAL + ABNORMAL –
CHILDREN ABNORMAL
TAINTED + PURE –
CHILDREN 1 PURE + NORMAL
AND 2 TAINTED

Fig. 5

Fit

1999

180cm x 148cm

ICONOGRAPHIC INVENTORY:

Diagrams showing phases of hysterical fits, as suggested by Charcot and his assistant Richer.
Origin: French, 1881
Author, original document and secondary source: Paul Richer, from *Études sur la grande hystérie ou hystero-épilepsie* (Schade 1995: 503)
Method: Diagrams painted and drawn on with wax-crayon and acrylic paint and cut into fiberglass

Figures with ergonomic measurements, used to show maximum efficiency based on standardized human measurements.
Source: (Tilley & Dreyfuss 1993: 24)
Method: Figures painted with acrylic paint onto schoolboard paint and partly wiped off again

Chart used at the 1925 Kansas Free Fair to promote eugenic principles.
Origin: North American, 1925
Author, title and secondary source: American Eugenics Society, *Marriages fit and unfit*, (Paul 1995: 14)
Method: Text hand-engraved into, and gouged out of fiberglass

Phrases "Good– one should be", "Industrious– one should be", "Threaten– one should not", "Despise– wickedness", "Scoundrel– disgrace", from word-association tests devised by Carl Gustav Jung. Tests were completed by what Jung called "normal subjects" and "abnormal subjects".
Origin: Swiss, 1918
Source: (Jung 1918: 121)
Method: Phrases painted on reverse side of fiberglass sheets

Dictionary definitions for 'hysterical' and 'eugenics'.
Source: (Hawkins 1979: 312, 211)
Method: Texts hand-engraved into fiberglass sheet

"The subject sees _____as_____ and is seen by him as _____", from a form developed by the psychologist Leary for the diagnosis of personalities.
Origin: North America, 1957
Source: (Leary 1957: 415)
Method: Text transferred and painted onto fiberglass

Library cataloguing cards.
Method: Cards placed behind fiberglass sheet

PRINCIPAL MATERIALS:
Fiberglass, schoolboard paint on canvas, wax-crayon, acrylic paint, cataloguing cards


Homo sapiens
(Super-normal)
(Normal)
(Sub-normal)
Degenerates
Weak-minded
(Abnormal)
Idiots
The Genus of Humanity

Fig. 6

Unfinished Man

1999

180cm x 148cm

ICONOGRAPHIC INVENTORY:

Table showing Wilson's division of humanity into separate species as a means of illustrating his theory of degeneracy.
Origin: British, 1910
Title and source: *Figure 1: The gamut of humanity* (Wilson, 1910: 6)
Method: Table painted on, then partly sanded off

Graph used by Sheldon to determine the Somatotype of males (where somatotype means type of physique and, according to Sheldon, subsequent character).
Origin: North American, 1940
Title and source: *Figure 94: Table for somatotyping* (Sheldon 1940: 287)
Method: Graph hand-engraved into paint and in areas drawn over with smudged graphite

Photographs of 'degenerate' youths used by Wilson to illustrate his theory that delinquent people can be identified by their physique.
Origin: British, 1918
Source: (Wilson 1918: 47, 59)
Method: Photographs greatly enlarged, changed from black and white to orange tone and transferred onto the painting

Images of nude figures photographed against a grid in order to determine their somatotype.
Origin: North American, 1940
Source: (Sheldon 1940: 146-147)
Method: Photographs were simplified and reduced to a grid. This grid was then hand-engraved into paint, with 'specimen no' and 'date' added ('specimen no' and 'date' frequently were added to anthropological photographs in the nineteenth century).

Phrase: "He is UNFINISHED" from Wilson's book on degeneracy, entitled *Unfinished Man.*
Origin: British, 1910
Source: (Wilson 1910: 5)
Method: Engraved into paint

Text "as a matter of fact nothing is or can be desired except pleasure".
Source: Found amongst torn-out pages in second-hand bookstore, origin unknown
Method: Engraved into paint at greatly enlarged scale

PRINCIPAL MATERIALS:
P.V.A. paint, ink

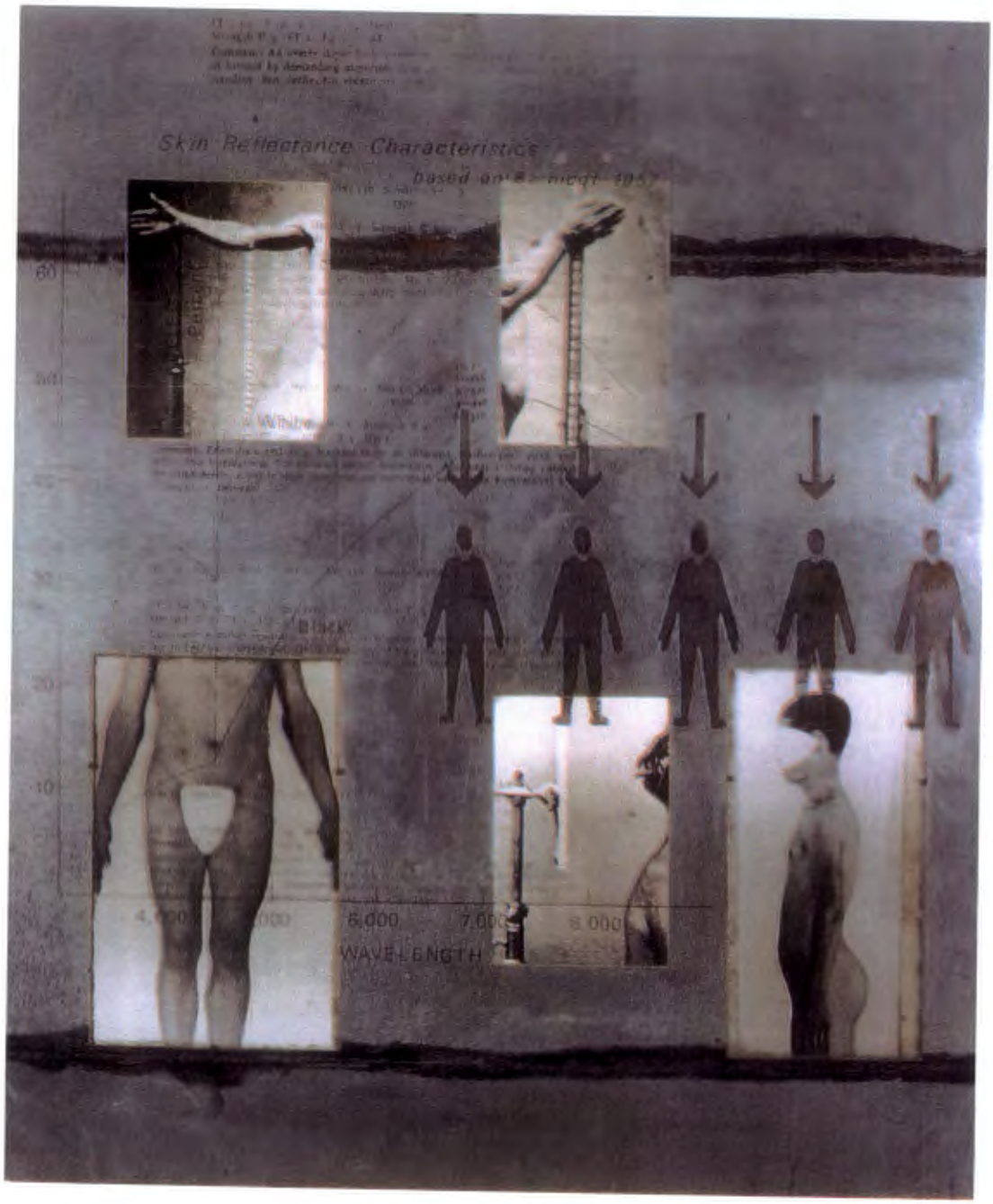

Skin Reflectance Characteristics
WHITE
BLACK
6,000
7,000
8,000
WAVELENGTH

Fig. 7

Untitled

1999

180cm x 148cm

ICONOGRAPHIC INVENTORY:

Schematic image of men, repeated five times.
Source: Based on numerous similar diagrammatic representations
Method: Image etched into galvanized metal plate

Graph showing skin reflectance characteristics of black and white people. This graph formed part of an anthropological text looking at the difficulty of differentiating races and groups.
Origin: North American, 1975
Source: (Molner 1975: 122)
Method: Graph transferred onto galvanized metal sheet and photographs and sealed

Descriptions of people and their somatotype used by Sheldon to illustrate his theory of somatotyping and its link to degeneracy. Through these Sheldon wanted to promote eugenic principles.
Origin: North American, 1942
Source: (Sheldon 1942: 441-490)
Method: Texts etched into galvanized metal plate, painted on photographs, applied with lacquer and pastel powder on glass

Photographs of full-frontal and profile figures with masked facial and genital area. These images were used by Sheldon to illustrate his theory of somatotyping and its link to degeneracy. Through these Sheldon wanted to promote eugenic principles.
Origin: North American, 1949
Source: (Sheldon 1949: 504, 599)
Method: Images photographed at greatly enlarged scale, cropped and placed behind glass

Anthropological photographs of a San (//Kabbo) and a South Australian aboriginal female. These photographs show the concern in nineteenth century anthropology with measurement in order to classify 'type'.
Origins: South African, 1870-1 & Australian, *circa* 1870
Sources: (Skotness (ed.) 1996: 117) & (Edwards 1992: 110)
Method: Images photographed at greatly enlarged scale, cropped and placed behind cutouts in galvanized metal

Diagram of Darwin's theory of evolution.
Origin: British, 1859
Title and source: *The origin of species* (Darwin 1859: 14)
Method: Diagram hand-engraved into galvanized metal sheet

PRINCIPAL MATERIALS:
Galvanized metal sheets, photographs, glass, transfers, lacquer, paint, pastel

Should the latest photo no longer be a recognizable image of the holder, a further photo will be affixed.

Indien die jongste foto nie meer 'n herkenbare weergee
sal 'n verdere foto aange

Writer ☐

Artist/Poet ☐

Composer ☐

Philanthropist ☐

Financier ☐

Monarch ☐

Politician ☐

General ☐

Explorer ☐

Scientist ☐

Philosopher ☐

Social reformer ☐

Writer ☐

Artist/Poet ☐

Composer ☐

Philanthropist ☐

Fig. 8

Variety of Human Nature

1998

180cm x 148cm

ICONOGRAPHIC INVENTORY:

Photographs and text used by Galton to support his theory of the hereditary nature of undesirable traits and his consequent championing of eugenics.
Origin: British, 1883
Title and source: *Specimens of composite portraiture* (Galton 1883: facing page i)
Method: Text painted on canvas and almost completely erased by tinted body-putty layered over it. Photographs transferred onto glass squares, which were then set into the canvas and heavily scratched

Sections of the table of contents from Galton's book *Inquiries into human faculty and its development*. The text reflects Galton's concern with anthropomorphy, statistics and eugenics.
Origin: British origin, 1883
Source: (Galton 1883: v)
Method: Text transferred at a slightly enlarged size onto canvas layered with body-putty, and partly sanded off again

Text: "If the photograph..." from a South African Identity Book.
Source: Member of family's identity book, *circa* 1980
Method: Text painted on at greatly enlarged scale

Text: "Writer, artist/ poet, composer, ...".
Source: From a found photocopy, origin unknown
Method: Text painted on body-putty

PRINCIPAL MATERIALS:
Glass, ink, body-putty on canvas, bakelite, paint

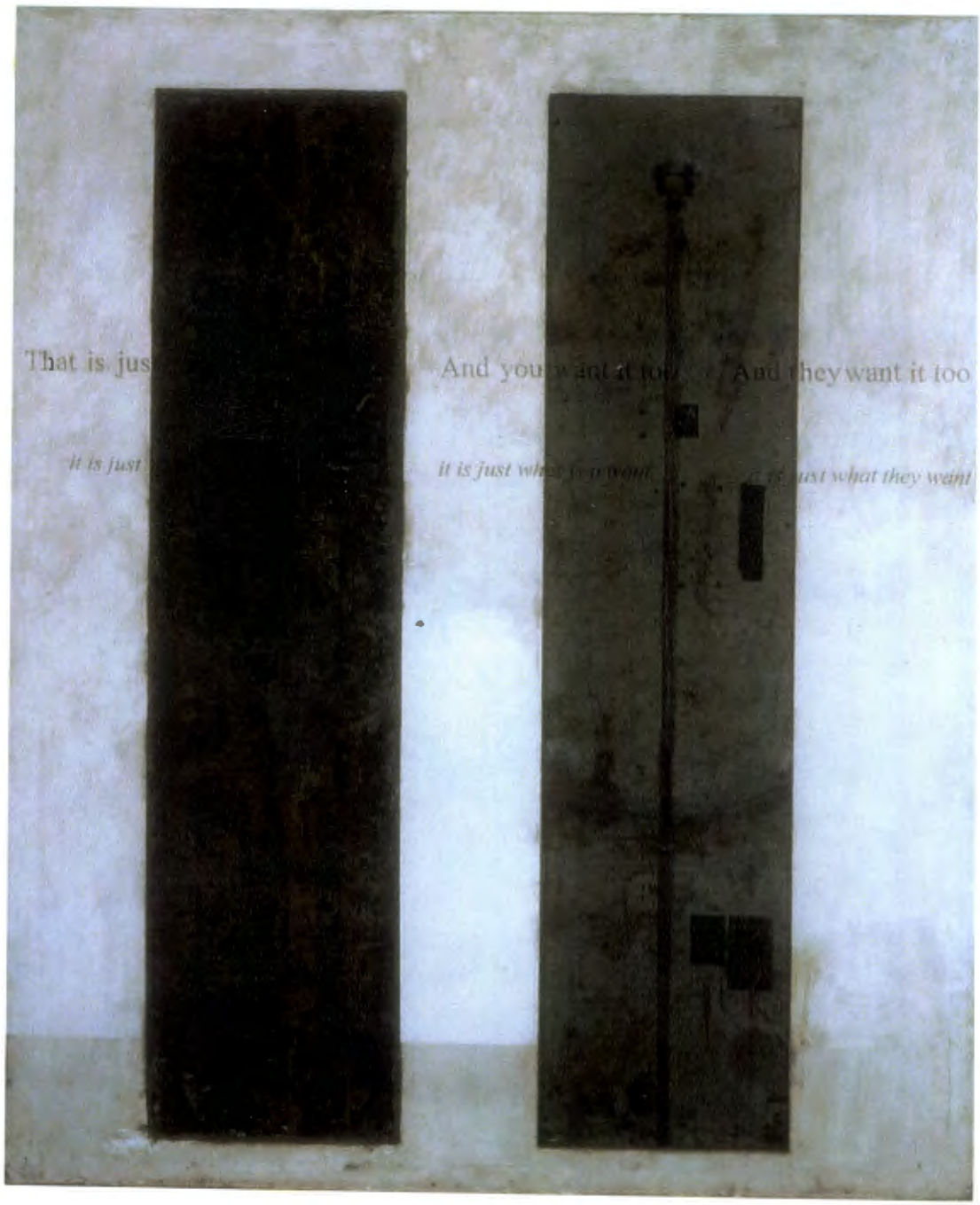

That is jus
And you want it too
And they want it too
it is just
it is just what you want
it is just what they want

Fig. 9

The Infinite Wants of The Mind

1998

180cm x 148cm

ICONOGRAPHIC INVENTORY:

Parts of old electrical appliances.
Method: Set into metal sheets

Graph and scale with string and weight (indicating pendulum or balance).
Source: Adapted from various diagrams and graphs
Method: Screwed on and engraved into metal plate

Texts: "That is just what I want ...", " You did what you pleased with something ...", "Buy it or break it into its parts ...".
Source: Adapted from various marketing textbooks in which these texts illustrated consumer behaviour.
Method: Texts transferred onto painting

Dictionary definition for 'desires'.
Source: (Hawkins 1979: 122)
Method: Engraved into metal plate

PRINCIPAL MATERIALS:
Canvas, acrylic paint, metal plates set into canvas, bakelite electrical boards, string, metal strips and clamps, paint, ink

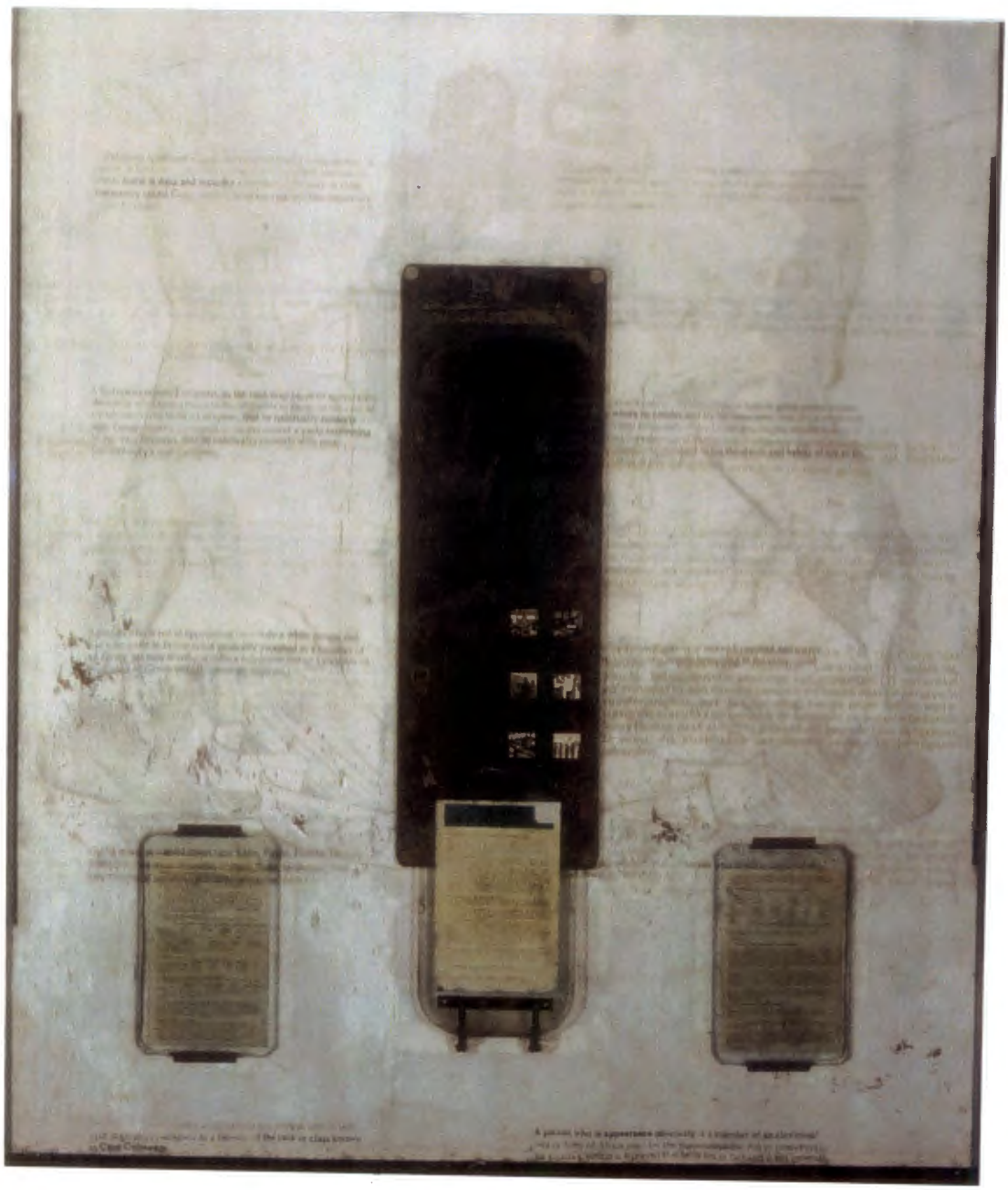


Fig. 10

30 of 1950

1999

180cm x 148cm

South African Coat of Arms.
Source: Copied from South African government forms
Method: Image drawn onto raw canvas with watery acrylic paint and pencil at greatly enlarged scale

Introductory paragraphs to the Population Registration Act, no. 30 of 1950. These paragraphs introduce the purpose of this act, which was to classify all South Africans according to racial groups.
Origin: South African: 1950
Source: (South Africa 1950: 275)
Method: Text painted on raw canvas with watery acrylic paint

Definitions of race according to various South African laws which were on the statute books between 1910 and 1960.
Origin: South African, 1910-1960
Original documents and secondary source: Various *Government Gazettes*, (Suzman 1960)
Method: Definitions painted with watery acrylic paint on raw canvas

Newsletter from the now defunct ultra right-wing organization, South African Bureau for Racial Affairs.
Origin: South African, 1955
Source: (SABRA 1955, 1, 2, 4)
Method: Three pages of newsletter photographed and placed behind bulletproof glass

Various photographs from *Bantu* magazine, a propagandistic publication emphasizing supposed benefits "natives" would gain under separate development policies.
Origin: South African, 1954-1978
Source: (South African Department of Information 1954-1978)
Method: Images rephotographed and placed behind cutouts in metal sheet

PRINCIPAL MATERIALS:
Metal (originally part of a shelving system), bulletproof glass, metal clamps and strips, aluminum, photographs, canvas, acrylic paint, pencil

Fig. 11

Probes of Character

1999

66cm x 44cm

ICONOGRAPHIC INVENTORY:

Engravings illustrating Lavater's physiognomic theory.
Origin: Swiss, 1803
Author, titles, original document and secondary source: Johann Casper Lavater, *Cipher of Madness* and *Hair growing from a mole* from *Règles physiognomiques* (Stafford 1993: 153)
Method: Illustrations painted on glass and section of old electric board, texts transferred onto compressed graphite and bakelite

Engraving illustrating Lavater's physiognomic theory.
Origin: Swiss, 1792
Author, titles, original document and secondary source: Johann Casper Lavater, *Calculating facial disproportion* from *Essays on physiognomy Vol. 3* (Stafford 1993: 32)
Method: Image hand-engraved into section of old electrical board

PRINCIPAL MATERIALS:
Compressed graphite on board, section of old electrical board, glass, bakelite, compressed graphite blocks, metal, paint

Fig. 12

Moral Person

1998

66cm x 44cm

ICONOGRAPHIC INVENTORY:

Engravings illustrating Lavater's physiognomic theory.
Origin: Swiss, 1798
Author, title, original document and secondary source: Johann Casper Lavater, *Twelve faces of idiots* from *Essays on physiognomy* (Stafford 1996: 135)
Method: Images hand-engraved into compressed graphite and lead

Images of profile and eyes produced by Lequeu as an illustration of his theory that mathematical principles underlie all natural shapes.
Origin: French, *circa* 1790
Secondary source: (Duboy 1987: 96)
Method: Images hand-engraved into compressed graphite and lead

Graph adapted from various tables and graphs.
Method: Engraved into compressed graphite and lead, stamped into compressed graphite, printers lead typesetting letters set into compressed graphite

Text: "WHEN RINGING FOR BOY PLEASE INSERT COIN IN SLOT", which appeared on a bell that served as a "call system used by officials at a [gold]mine office when they wanted the services of an African messenger" (Goldblatt & Gordimer 1973: 13).
Origin: South African, 1967
Secondary source: (Goldblatt & Gordimer 1973: 14)
Method: Text painted on compressed graphite

PRINCIPAL MATERIALS:
Compressed graphite on board, lead, cast-iron, fiberglass, paint

Fig. 13

Serial No 41369/ Fair Average

1999

66cm x 44cm

ICONOGRAPHIC INVENTORY:

Schematic image of men, repeated four times.
Source: Based on numerous similar diagrammatic representations of men
Method: Figures carved into compressed graphite plate

Metal strips with serial numbers.
Source: Strips taken from an old electrical apparatus
Method: Metal pieces set into graphite surface

Identity numbers.
Source: Own and families' South African Identity books, 1980-1990's
Method: Numbers transferred onto graphite surface

Text: "Good, Fair, Average, Objectionable, Bad".
Source: Not taken directly from any original source
Method: Words stamped into graphite and painted

Linear diagram showing in pictorial form "will, taste and feeling" as illustration of Vaught's theory of phrenology.
Origin: North American, 1907
Author, title, original document and secondary source: Vaught, *Will, taste and feeling* from *Vaught's practical character reader* (Vaught 1907: 132)
Method: Diagram first carved into compressed graphite block, then carved lines filled with mixture of graphite, paint and resin

PRINCIPAL MATERIALS:
Compressed graphite slab, paint, metal, fiberglass, resin

Fig. 14

Content Provider

1998

66cm x 44cm

ICONOGRAPHIC INVENTORY:

Victorian portrait photograph with woman's face scratched out on original negative.
Origin: British (?), nineteenth century
Secondary source: (Klochko 1995: XII)
Method: Image rephotographed, covered with graphite dust, scratched into and painted on, set into compressed graphite slab

Repeated images of schematized female figures based on graph used to illustrate number of women employed.
Origin: North American, 1952
Secondary source: (Kress & van Leeuwen 1996: 104)
Method: Original image slightly altered and transferred onto photograph and metal plate

Scale used throughout book *Consumer behavior: Advances and applications in marketing.*
Source: (East 1997)
Method: Scale transferred onto photograph and hand-engraved into metal plate

Two playing cards from childrens' game. These were ostensibly used to teach different languages (English/ German). Their contents reflect the importance given to the precepts of good behaviour in the nineteenth century.
Origin: French, *circa* 1850
Secondary source: (Goodfellow 1991: 94)
Method: Writing transferred onto fiberglass

Text: "Content Provider/ Sinnlieferantin".
Source: Title of one of American performance artist Laurie Anderson's art-shows, 1997
Method: Text painted on metal plate

PRINCIPAL MATERIALS:
Cold-pressed steel plate, compressed graphite block, photograph, fiberglass, ink, paint, lead

Fig. 15

Untitled

1998

66cm x 44cm

ICONOGRAPHIC INVENTORY:

Series of photographs showing woman walking. These photographs were part of Eadweard Muybridge's extensive project documenting motion through time.
Origin: British, *circa* 1880
Source: (Muybridge 1955: 96)
Method: Images painted on sections of an old battery

Handwritten letters.
Method: Placed behind section of an old battery

PRINCIPAL MATERIALS:
Compressed graphite slab, sections of old batteries, letters, electrical wires, plastic, paint

Fig. 16

Preliminary Particulars

1999

66cm x 44cm

ICONOGRAPHIC INVENTORY:

Anthropological field chart for recording physical appearances.
Origin: British, 1894
Authors, title, original document and secondary source: Portman & Molesworth, *Preliminary particulars* from *Observations on external characters* (Edwards 1992: 81)
Method: Text transferred and painted onto paper which subsequently was soaked in resin. Text painted on, hand-engraved into lead and in areas patinated with chemicals

Anthropological field chart for determining skin colour.
Origin: German, late 1800's
Author, original document and source: Von Luschan, *Von Luschan's Skin Colour Table,* (University of Cape Town Medical Museum)
Method: Table painted on and text hand-engraved

Glass Plates, original function unknown, possibly cataloguing system.
Method: Glass plates set into lead

PRINCIPAL MATERIALS:
Compressed graphite on board, Fabriano paper, lead, glass, resin, paint, ink

Fig. 17

Existing/ Preferred

1998

66cm x 44cm

ICONOGRAPHIC INVENTORY:

Texts: "Person A, Subject _____, (complete below)", "Existing, Preferred", "TEST CHART", "theory of planned behaviour".
Source: Taken from various questionnaires and psychology textbooks
Method: Text painted on metal plate

Chart showing "components of model attitude" used in marketing textbook to explain consumer behaviour.
Source: (East 1997: 125)
Method: Chart painted on metal and compressed graphite slab

PRINCIPAL MATERIALS:
Compressed graphite slab, mild steel plate (patinated, painted, scratched, gouged into and sealed), paint

Fig. 18

Untitled

1998

66cm x 44cm

ICONOGRAPHIC INVENTORY:

Portrait.
Method: Portrait transferred and painted onto compressed graphite slab

Applicant Screening Profile form used for screening Job applicants.
Source: Based on numerous tests found in psychology textbooks
Method: Text hand-engraved into, and painted on, compressed graphite slab

Police diagram showing angles at which bullets were estimated to have entered and exited a murder victim's body.
Origin: North American, 1940
Secondary source: (Norfleet 1993: 70)
Method: Diagram painted on lead and compressed graphite

PRINCIPAL MATERIALS:
Compressed graphite slab, lead, ink, paint

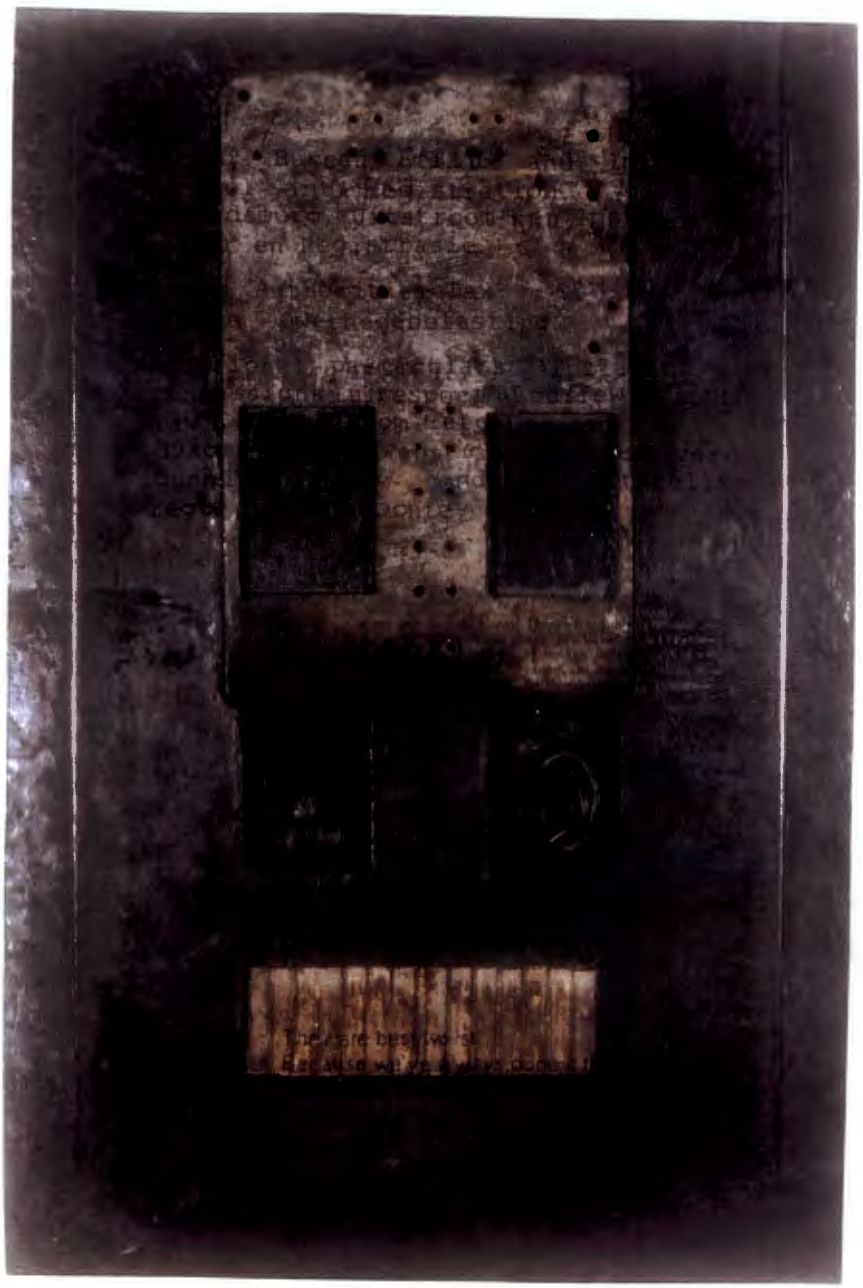


Fig. 19

Pass

1999

66cm x 44cm

Cast ear and nose.
Method: Elements cast using graphite powder and body-putty

Sections of Index from *South African Native Pass Books*. Text mentions Efflux and Influx Control, Bantu Authorities Tax, Concessions in respect of curfew, Native Law and Custom.
Origin: South African, *circa* 1950
Secondary source: (Pampallis 1991: 184)
Method: Text painted on and hand-engraved into compressed graphite

Quote from Dr. W. W. M. Eiselen, South African Secretary for Native Affairs: "The aim is to guide the Bantu community to a higher level of culture by teaching them the art of self-control, and thereby preparing them for shouldering responsibility". This quotation was part of the introduction to a policy document authored by H. F. Verwoerd.
Origin: South African, 1955
Source: (South African Department of Native Affairs 1955: 1)
Method: Text transferred onto and stamped into compressed graphite

Phrases: "They are best/ worst. Because we've always done it this way. I think they are good/ bad. I like/ dislike them", used to explain marketing concepts.
Source: (East 1997: 296)
Method: Text painted on and machine-engraved into graphite block

PRINCIPAL MATERIALS:
Compressed graphite on board, section of old electrical board, compressed graphite block, section of old battery, body-putty, metal, paint

Fig. 20

Gene

1999

66cm x 44cm

ICONOGRAPHIC INVENTORY:

Genetic map of only organism whose complete genetic code is known.
Title and source: *The complete genetic map of E. Coli* (Suzuki *et al.* 1986: 288)
Method: Map transferred onto glass

Photograph of chromosomes.
Source: (Micklos & Freyer 1990: 165)
Method: Using glazes photograph was transferred onto glass and paper backing removed

Diagram showing genes located on chromosomes.
Source: (Russel 1986: 210)
Method: Diagram cast in graphite and resin

Titles: "Classification of Modern Races, Biological basis for human Variation, Distribution of Human Difference".
Sourced: From various biology and medical textbooks
Method: Texts painted onto glass

Portrait photograph.
Method: Photograph placed behind glass and behind photograph of chromosomes

PRINCIPAL MATERIALS:
Compressed graphite on board, glass, compressed graphite block, photographs, resin showing impression of skin, ink

CONCLUSION

The histories of western intellectual traditions are marked by attempts to naturalize race, class and gender through scrutiny and analyses of the human body. It is important that these constructions of difference are not seen as the errors of previous generations, but are instead seriously considered as reflections of the potential (if not inevitability) of ideological usage of contemporary and future fields of knowledge.

Renewed concerns are, for instance, being expressed about the justification of discriminatory practices based on biology in the light of the increasing prominence of genetic engineering in the late twentieth century. Thus writers such as Rifkin (1998: 33) see the Human Genome Project, the largest program of investigation into genetics, as potentially instigating a "new eugenic era with untold consequences for present and future generations and civilization itself"[56].

In this dissertation and series of paintings it is suggested that knowledge is the product of vested interests and should thus not be regarded as autonomous or transcendent of the context in which it is used. Knowledge is not defined and used in relation to what is 'real' but is defined, evaluated and used in relation to social context (Green 1985: 4).

A concern of this study was to highlight that we inescapably are defined by, and identify ourselves through narratives of the past. The construction of difference discussed here should thus not be seen as merely of historical curiosity value, but rather as an inextricable part of our own identities.

[56] Urgent questions need to be asked about who will provide genetic services and who will control these providers. Discriminatory perceptions based on media sensationalism, commercial and political abuse and problems with economic access to gene therapy mean that old moral dilemmas are still present, albeit in a new guise.

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