‘Only the Darkness Knows Who I Am’:

Discourses on x-rays in the shadow clinic and how visualizing shadows contributes to the possibilities of aesthetic empathy in the perception of the body in x-ray

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Abstract

This thesis examines the discourses of x-ray images as they exist on-line. Throughout my research I apply both the stance of both the privileged *flâneur/euze* and the *badaud(s)* that have been identified as an ideological manifestation of the mass media since the early 20th century and established as characterisations of Euro-Western modernity (Shaya 2006). By examining specific case studies gathered from the resources of the World Wide Web, my thesis has worked to establish the existence of what I have called "The Shadow Clinic". It applies methodologies that incorporate both subjective and objective viewpoints assigned to examine and provide analysis for, identifying an 'empathic vision' that might exist in the examination of clinical visual material. I have also investigated the possibilities of bringing to these images an empathic vision that incorporates both an aesthetic and semiotic analysis of the image along with an appraisal of the images' effectiveness through narratives and responses. The basic premise is that images are powerful and demanding and the perspective of medical imaging technologies works like all other images to change our perception of ourselves as well as of our understanding of the world. Using the metaphorical, allegorical and physical entity of shadows as a visually potent, literally complex and politically charged manifestation, the methodological stance moves in between giving importance to the physical manifestation — or the quantifiable — and meta-physical — or qualitative.

Limited but unhindered by not being a radiologist, the authorial perspective is one of examination and analysis (rather than diagnostic) of images that have strongly impacted upon the visual world since the last century. Such images continue to produce concurrent social and cultural ambiguities — ambiguities that persistently exist between what is revealed and what is concealed.

Using the concept of "The Shadow Clinic", this thesis demonstrates some of the plethora of discourses emergent through the visibility of x-ray imagery on–line and in addition to the more conservative approach of using medical material through the publication of academic papers and research, the space of the World

Wide Web is the space of the marketing, pedagogy, palliation and ministration. I have studied the workings of the Shadow Clinic, through the texts on the historical and political machinations of the Clinic by Foucault and Illich, as well as social and cultural theorist who concentrate on the place of empathic vision and clinical perspectives. This thesis particularly concentrates on the engagement with the aesthetic of empathy through visualization, and focuses on how shadows do the work of accentuating proximity and remoteness, the Body and embodiment.

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Preface

I am not ill; I am not seen as well; and I know I am not normal under the techno-clinical gaze. X-ray images have revealed all of this to me.

This thesis project starts with my will to address two things — things that were uncomfortable to talk about: discourses of normality and discourses of death. I, like many others, was not born 'normal'. In 1966, approximately two years after the first open heart surgery had been accomplished successfully it was I who needed that surgery. I would like to thank the staff at St Thomas' Hospital in London for successfully carrying out that operation, and later in 1973-4, the staff at Great Ormond Street Hospital for completing the job.

In hospital again from 1985-6 it was discovered that I had non-functioning female reproductive organs. I listened to the nurses talking at length about *what they couldn't see* as they were examining images of my interior. It wasn't non-functioning reproductive organs that they were looking at, but non-existent organs. Between x-rays and ultrasounds, the images of invisible organs were not getting any clearer to them.

I wondered, then, how much medical imaging technology was guiding the clinical profession to look for things that they might recognise, rather than what was in front of them. When faced with an unfamiliar large dark area, their first inclination was to blame the technology, lack of light, failing power etc. The attending nurses had not been informed about what to look for but to take all their information from the image. Before they could pass the image on to the examining specialist, they would have to provide an appropriately instructive result. What looked to the nurses like blank spaces did not carry the appropriate clinical information, or so they thought.

Their allegiance to technology and its outputs meant that I was just an extension of their task at hand. It is amazing how easy it is to spirit oneself away out of a situation where you are seemingly not needed. It was not to be for some years that I understood that something crucial was missing. It was the relationship between

the reader of the image and the person imaged, one that we might now call an empathic relationship.

Interestingly, through this imagery, they found what they were looking for suspected ovarian cancer…it did not seem to matter that they could not find any ovaries. That was twenty years ago and the ambition in medical imaging at the time was identifying ovarian cancer.

I would like to take the opportunity now to thank Dr. Deborah Keleman, now a child behavioural psychologist at Boston University, who, when we were just fourteen years old and at school together, listened to my suspicions that I had been born with a very singular body and believed me. Many, older and 'wiser', did not.

This thesis, will explore how imaging in the medical field is not just a question of discovery and identification of disorder, but rather one of artful viewing practices that are bound to the laws of aesthetics and perception thereby furthering a process of empathic viewing. A confidence in viewing practices, I will argue, has a lot to do with the levels of empathy afforded not only in the relationship between those that look and those that are looked upon, but also crucially in the looking. This is what might be termed an 'empathic gaze'. Although it must be acknowledged that viewing practices in themselves have changed, as much as technologies have and are continuing to do so, I hope through this research to go some way to identifying some basic rules of envisioning which might contribute to the growing interest in medical imaging perceptions and their often peripheral contribution to medical relationships. The reader should be aware that the images that appear throughout this thesis might be considered disturbing. The author considered them so.

INTRODUCTION

Reflections on the Shadow Clinic

In present day visual culture the monitor has replaced the mirror as the cultural site where the imaginary identifications take place that read formative for subjective identity or its displacement.

(Renée van de Vall, 2002)

Empathy is the nature of the intoxication to which the *flâneur* abandons himself in the crowd […], like a roving soul in search of a body, he enters another person whenever he wishes.

(Baudelaire 1989, p. 50)

This thesis is about the Shadow Clinic that emerges through the varied discourses of the Clinic and the extension of the body and embodiment through activity on the Internet. Using the image of the x-ray I argue that there is a relationship built through aesthetics and an empathic viewing culture that generates a new environment, the Shadow Clinic. The discourses of the Shadow Clinic emerge from the users of the Internet who are using the resources of the traditional clinic, but also extending them. The metaphorical use of shadow here refers to an everyday linguistic usage of that which is an extension or secondary establishment of (and often seen as a disruption or traumatic break with) a primary institution, in this case, that of the clinical gaze. The shadow is also fundamentally involved in the visualizing of the x-ray image, phenomenologically and psychologically.

My thesis is divided into two main parts. It considers both the primary institution of the Clinic and the clinical gaze, and the secondary disrupted viewing practices of the Shadow Clinic. Part 1 considers the role of the visible body as the stable ground and object through which modern medical and social practices have emerged and part 2 considers the subjective practices of (in)visible bodies that become necessary for social and medical practices to extend their life on the Internet.

In Chapter 1, I provide an historical account of how Euro-western sensibilities have understood the shadow through visual practice, folklore, and psychology, as an indexical connection with the physical body but often signifying a traumatic separation. Chapter 2 introduces the establishment of practices that are employed for the viewing of x-ray imaging, or the interface between the image and the viewer when the image is seen as an object and the viewer the subject. The complexities of this divide are understood within traditional aesthetics, yet within the field of visual culture studies, as I extrapolate, the concern is to position the image as subject which therefore allows for the possibilities of inter-subjectivity and for, arguably, a more profound empathic engagement. Our behaviour with the screen is revealed. Chapter 3 unpacks the relevance of Foucault's concept of the space of heterotopia that exists as an 'othering' space. Such varied spaces exist simultaneously but are nevertheless considered as transgressive culturally, and all work to establish further, the position of the 'Other'. Chapter 4 delves further into this and discusses how, driven by desire and our urge towards abstraction, there is a tendency in the Shadow Clinic to be attracted to an immersion into the narratives of others, no matter how inappropriate or immaterial. The final chapter recognises how the Shadow Clinic also exists as something to be embraced, for those to whom it is available. Our acceptance of it, I suggest, is borne out of a desire for the dissolution of subject-hood and an increasing ease with invisibility.

A focus on subjective and objective practices helps to "constitute a point of connection between abstract structures and their mechanisms, and concrete events – between 'society' and people living their lives" (Chouliaraki & Fairclough 1999, p. 21). Throughout the thesis, I make the case that the 'point of connection' is bound to a visual aesthetic empathy that involves bodily and technological engagement. At times, I argue, this engagement leads to an immersion brought about by the perception of darkness and/or shadows. The darkness exists not only as a defining characteristic of the image, but also as an environmental materiality that assists in viewing the image.

In the main, any reference to using images from the Internet in academic research is predominantly in the context to the questions of their use as ethical research

material and their subjection to copyright legislations (White 2000, 2006; Jones 1999; Johnson 1997; Jones 1994; King 1996). Using such personal imagery as x-rays is undoubtedly an ethical problem. Yet, as the thesis discusses, the ethical difficulties are so prevalent that it is only through negotiating them individually that there is any clarity. Censorship is a sensitive issue, as is freedom of speech, and the use of images that are freely and consciously put into a public space, is still debated. Previous studies of images displayed on the Internet usually refer to the use of specific types of images such as art works (www.zonezero.com; http://scienceroll.com/2010), or stock photographs belonging to advertising companies, or images that are 'selling' something and demands that we conciously acknowledge cyberspace as an active market place (Koppell 2000). The images I have shown throughout this thesis (as well as the clearly marked artworks) are, as far as I can ascertain, genuinely posted to contribute to conversations of science and legislation. In the conclusion, I discuss the outcomes and how the complications of taking an ethical stance have contributed to my overall findings in a further extended manner.

There are a large amount of images displayed on the Internet that are of a personal nature and this thesis captures one aspect of this general trend. In doing so, it reveals a myriad of different ontologies that our imaged bodies inhabit on the World Wide Web. I concentrate predominantly on x-ray imagery, not only because it represents a privacy that has been 'violated', but also because it is a trauma that 'must' be shared. Mieke Bal argues that the "internet is not primarily visual at all. Although it gives access to virtually unlimited quantities of images […] [i]ts hypertextual organization presents primarily as a textual form" (Bal 2003 p. 10). Accepting that all images on the Internet are to be understood as data, and therefore, not images per se, is something that complicates the issue (Bal 2003; Rodowick 2001). I shall therefore approach this problem by claiming that the position of images on the Internet is as data made into images, made into information through context.

The discourses of the Clinic and the Shadow Clinic mean that inevitably issues arise regarding objective knowledge, in this case pertaining to perception and social practice. As Chouliaraki and Fairclough identify:

> [o]bjectivist knowledge breaks with the perspective of the participant in social practice in order to identify objective relations which structure practices and the practical experience of practices described by phenomenologists. However, it does so by positioning itself outside the practice thereby cutting itself off from the generative principle of a practice, which can only be grasped from within.
> (Chouliaraki & Fairclough 1999, p. 30)

It is through the discourses of empathy within the shadow of the Clinic that we see the discursive shift between objective (knowledge) relations, and the dialectical practices of the Social that attend to the 'self'. The call for more empathic behaviour in the sciences more generally is testament to a general trend towards recognition of the 'self' as a subject.

These dialectical discursive practices of the social and the self arise within the discourses of the Shadow Clinic, or the on-line clinics, through personal narrative and imagery. The conversations are centred on images that emerge from a traditional clinical 'condition for social life' through classical imagery of the body under medical surveillance. In this case, it is through x-ray imagery. As my research demonstrates, these discussions continue to reveal evidence of the imbalance of authority within medical and clinical practices and the traditional silencing of groups of people because of gender, class, race or nationality, age and of course, physical health. Foucault's essay "Technologies of the Self" outlines a series of technologies that "permit individuals to effect by their own means or with the help of others a certain number of operations on their own bodies and souls, thoughts, conduct, and way of being" (1988, p. 18). He suggests that early classical civilization reveals how the "development of administrative structures and the bureaucracy of the imperial period increased the amount of writing" (1988, p. 27), and the self, became something to write about, " a theme or object (subject) of writing activity" (1988, p. 27). Although this behaviour is undeniably present in the Shadow or on-line clinics, it is by no means the most prevalent. Rather I show that it is the writing on the 'other', rather than the self, that becomes more pervasive. It is on finding this that my analysis began to reflect on

the discourses of empathy and invisibility within clinical dialogues, and to consider the role of darkness in maintaining certain attitudes that make these conditions possible. Darkness here is to be considered both phenomenological and visual, and at times metaphorical.

Darkness

The metaphor of light has been used since ancient times in Euro-western mythologies and Judeo-Christian beliefs to represent truth and reality, and the Good. Medical and scientific envisioning, as a project of the 18th century Enlightenment, reinforced the position of darkness that then became officially relegated to the place of lack of truth, superstition and ignorance, and the Bad. Modern science was all too easily subsumed in the discourses of Light and Darkness. Aesthetically, the negotiation of darkness was closely aligned to the philosophical sublime and the vastness of the abyss. The privileging of vision in this era gave darkness this extra dimension through 19th century aesthetics as exemplified by Burke's *Enquiry* (1756) and Kant's *Critiques* (1787). Aesthetically, the two were involved in the nature of the sublime or the overwhelming nature depicted in Art. The darkness of the abyss that was used metaphorically through the visual arts to maintain the fears and beliefs already held. Society at large was already perpetuating the ideologies of Christianity, capitalism and colonization within the duality of the Dark Continent/Western European Enlightenment (Jarosz 1992). Discourses of colonialism and racism identified the Other as not being white and European and Good.

Throughout my thesis, darkness has a role in the psychology of looking and seeing as well as physiognomic perception. Part 1:2 investigates this condition of darkness as both perception and the prospect of invisibility. As the chapters unfold, the invisibility of the x-rays becomes metaphorically reflexive of the invisibility of the on-line communities that engage, not only with each other, but also phenomenologically with technologies. These technologies are not just information systems, but also medical monitoring technologies embedded in the

physical body, to be viewed and witnessed by technologies such as x-ray imagery. In this thesis the metaphor of the x-ray image complements the way that intentional 'users' of the World Wide Web tend not only towards self-exposure, but also to actively monitor their feelings for their society that through the practice of visualization seems all too willing to expose them.

The viewing of x-ray images within and outside the Internet has an ontology that is closely linked to that of many early viewing mechanisms, including the diorama (Daguerre 1822) and the Panopticon (Bentham 1791). These viewing devices worked with darkness and transparency (both physical and metaphorical) to create a specific illusion. Although the Internet undoubtedly carries with it Panoptical qualities as a "dark room into which individuals sp[y]" it has also become a space of transparency "in which the exercise of power may be supervised" (Ceram 1965, p. 140), where everybody theoretically watches everybody else. The Panopticon was designed primarily as a technology that enabled a number of distributed prison wardens to see all their prisoners from a central vantage point. The power of the panoptical device was that individuals would not know when they were being 'watched', thereby encouraging self-scrutiny. Ideally, those incarcerated would manifest their own prohibitive censorship because of the threat and/or fear of being watched. The immobilization of the incarcerated, which included the watched and the watcher, or at least the restriction of their movement, was essential to achieving the control of bodies through control of vision and vice versa (Friedberg 2002). My research enters these self controlled, exposed and revealing places on the Internet that carry with them discourses of Foucault's Clinic and extends into what I have termed The Shadow Clinic.

The *Flâneur/euse* and the *Badaud*

Discourses of invisibility are also part of my position as a researcher within the World Wide Web. I choose to consider the possibilities of my both my roles as the *flâneur/euse* as, on the one hand, anonymous and objective, and on the other, and the rubber neck or *badaud* always available to witness the drama of the 'street '(Shaya 2004).

As Wendy Hui Kyong Chun quotes from Victor Fournel in *Ce qu'on voit dans les rues de Paris* (1867) on the subject of the *flâneur* and the *badaud* or 'rubber neck'.

> The average *flâneur* is always in full possession of his individuality, while that of the rubberneck disappears, absorbed by the external world…which moves him to the point of intoxication and ecstasy. Under the influence of the spectacle, the rubberneck becomes an impersonal being. He is no longer a man – he is the public; he is the crowd
>
> (Fournel 1867; Kyong Chun 1998, p. 248)

Lev Manovich (2001), Wendy Hui Kyong Chun (2002), Anna Friedberg (2002), and Kevin Haggerty & Richard Ericson (2008) have all looked at the subject of the viewer on the Internet and the World Wide Web through the subjectivity of the *flâneur*, a figure conceived by Baudelaire in the mid 19th century as a bourgeois white male who was content to be lost in the crowd as he navigated his way through Paris, "The City of Lights". Benjamin describes how the movements of the *flâneur* worked to change the city through his subjective vision, although Mary Gluck points out that the role of the *flâneur* at this time is identified as a "fluid, aestheticized sensibility that implies the abdication of political, moral or cognitive control over the world" (Gluck 2003, p. 53). The *flâneur* therefore presented a paradox as an identified 'subject' but was also characterized as the 'reader' of the city as text (Gluck 2003, p.70). Lev Manovich argues that while for the *flâneur* the physical city was changing only in his perception, in the case of navigation through virtual spaces "the space can literally change, becoming a mirror of the user's subjectivity" (Manovich 2001, p. 269). Manovich makesa claim for the subjectivity of the *flâneur* and argues that his activity reveals how he has overcome the loss of his traditional close-knit society, as it is transformed to the "anonymous associations of modern society" (Manovich 2001, p. 269). The *flâneur* exists because he is trying to "compensate for the loss of a close relationship with his group by inserting himself into the anonymous crowd" (Manovich 2001, p. 269). Media theorist and activist Geert Lovink (1993) describes the figure of the Internet surfer as the "Data Dandy" (Manovich 2001,

p.270). "The digidandy only collects information to flaunt it, not to transfer it" (Lovink, 1993).

Shaya (2004) poses the argument that it was the *flâneur* that had the "brilliant career in…historical and literary scholarship"…and the *badaud* that were "more important to the new mass press of the late nineteenth and early twentieth century" (Shaya 2004, p. 4). I argue that working with the Internet, researching at any level enters the user/consumer into part of both these characters. The *flâneur* was seen customarily as a privileged bourgeois male Parisien, whilst the role of the *badaud* was considered more feminised, or at least more ambiguously gendered when viewed as a crowd. More often than not it was "*badauds"* who were referred to by early 19th century news reports as being present at the site of a disaster.

> The *Flâneur* observed the city with intelligence and distinction…the *badaud* gawked; she sought out a story that would touch her.
>
> (Shaya 2004, p.6)

The controversial position of the *flâneuse* as identified by Michaela di Leonardo (2006) and feminist scholars is that in spite of similar methods used in cultural studies research, it is not always the case that the *flâneuse* can take on the detached and objective gaze of the privileged male *flâneur* . The *flâneuse,* by dint of being female is historically seen as part of the feminized *badauds* (Shaya 2004) and appears socially only in a crowd setting as it is not safe for her to be alone on the streets subject to the threat posed by the male gaze.[1]

I would also argue that the female researcher who identifies as *flâneuse* is chastised by male academics for her inability to control herself, to be objective

[1] For further information on this see Judith Walkowitz's account of the *flâneuse* in the first two chapters of her *City of Dreadful Delight: Narratives of Sexual Danger in Late-Victorian London,* Chicago, Chicago University Press, 1992.

and always prone to sentiment and emotion. As *flâneur /euse,* I am not projecting my own narrative onto the deafening surge of millions of others on the Internet, but rather more, into it. Since the earliest days of published print media, the "coming together of people in the street was presented as a sign of empathy and insight and not as a sign of simplemindedness" (Shaya 2004 p.8). It was common to see the crowd depicted in the press as horrified and distressed at the scene before them, an "empathic observer" (Shaya 2004, p.18). Since the 1860s, the publication *Le Petit Journal Supplement Illustré* it was the female public who were particularly noted as being "curious", seeking out the "terrible emotions" and "dark subjects" (Shaya 2004 p. 20) and thus became increasingly depicted as part of the on-looking crowd, a position which was validated and encouraged by the mass media of the day.

> The *badaud*-in-the-press expressed a utopia of the crowd, a vision of the individual-become-collective in the face of human indignity. This *badaud* was the imaginative glue in the making of a mass audience a new public, an "imagined community" not of the nation but of right-feeling people.
>
> (Shaya 2004 p. 32)

Adopting the role of *flâneur* or *flâneuse* on the Internet reveals a range of subjectivities as will be discussed throughout this thesis. As with the traditional flâneur, his/her essential nature on the Internet is one of autonomy and supposed anonymity, a 'detached observer' (Kyong Chun 2002, p. 247). Kyong Chun wonders whether there is really the possibility of being this Internet *flâneur* "who operates and moves with search engines" and suggests that "the act of searching" is akin to "more active observation, observation that follows along the lines of American hard-boiled detective fiction, rather than the calm indifference of nineteenth century armchair detectives" (Kyong Chun 2002, p. 247). Haggerty & Ericson are also keen on identifying the work of the Internet *flâneur* as absorbing himself in,

> …strolling through the metropolis where he is engaged in a form of urban detective work. Concealed in the invisibility of the crowd, he follows his fancies

to investigate the streets and arcades, carving out meaning from the urban landscape.

(Haggerty & Ericson 2000 p. 605)

These scholars connect the activities of the *flâneur* on the Internet with a 'subjective' wandering eye on the streets of 19th century Paris, who was looking at everything, conducting a conscious or unconscious surveillance of the crowds. Kyong Chun argues that the role of anonymous detective is compromised on the Internet, through traces left with each search that the Internet flâneur/flâneuse engages in. Borrowing from Tom Gunning's (1913) attention to Victor Fournel's (1829-1894) *badaud*, whom Benjamin assesses to be the antithesis of the *flâneur*, Kyong Chun considers the role of the *badaud* as more appropriate for many Internet users. The *badaud* is how Kevin McLaughlin and Howard Eilan (in their translation of Benjamin) address the subjectivity of the 'rubbernecker'.

Rather than the subjective *flâneur*, the *badaud* is identified as the "active searcher of information" amongst the crowd of searchers possessing a 'freedom' of being part of the crowd, rather than watching the crowd, "lending itself to paranoid spectatorship" (Kyong Chun 2002, p. 248). As she points out, "if the user is watching or deliberately seeking information, is someone else not deliberately seeking our own information?" (Kyong Chun 2002, p.248).

The spectacle of the on-line Shadow Clinic certainly involves the spectator in an absorption. It is because of, or perhaps in spite of, the evidence of fakery, of image manipulation, of excessive design – often exploitative and verging on the pornographic that the badauds are the most effective protesters as well as being the keenest audience. Throughout my thesis, my position wavers to reflect not only of my participation but that of others.

The promise of the spectacular via activity on websites through networks, was "glossed over by some fantasy of frontier, some fantasy of others as data" (Kyong Chun 2002, p. 248). The nature of 'others as data' bears metaphors of engagement that are born out of an early understanding of the body through the mechanics of the Clinic. As White argues, "[i]n Foucauldian consideration of

Internet surveillance, the visibility of the individual bodies within the panoptic structure is replaced by the consolidation of the individual's records into a "data image"…These Internet methods provide a vast amount of information …. however, these methods of information retrieval do not place the body under visual surveillance even though they are associated with looking" (White 2006 p.41). To be a visual presence on the Internet however, as this thesis explains, is increasingly not our choice.

Methodology

My activity is that of scanning and gazing, or viewing and observing. I could be said to be contributing as another surveyor of this highly surveilled world. This is the case for all those who participate in online activities in the "processes of reading and viewing" (White 2006, p.8). White opposes Anne Friedberg's notion that computer " 'users' are not spectators [and] not viewers" (Friedberg 2002, p. 448). Referring to the act of spectatorship on the Internet says White, should "highlight how individuals spend time reading and viewing as well as writing and interacting" (White 2006 p.8/9). In this task I remain (in)visible. I do, however, leave a trace by which to follow my movements through the mechanisms of the World Wide Web. It is a record of addresses I have visited, windows I have looked in.

I am faced with over a thousand images that are organised through logarithms in the background and word searches in the foreground. My search commands set off the motions of the search engine and images are revealed. The initial approach to looking at the sheer quantity is, as Sandy Sela-Smith (2002) describes it, looking for 'what works'. This heuristic approach, a process of trial and error led by search commands, reveals to me the images that are "effective" and that I discuss in more detail in this thesis. This process is led, I argue, more than just by an initial visual interest, it also incorporates strategies of visual empathy that I refer to as adopting an 'empathic vision.' This empathic envisioning involves complex negotiation of viewer subjectivity and the subjectivity of the image as presented on the Internet, partly through the physiognomic properties of the images themselves and the appeal or attraction of the content.

The space of the Internet is both a social and a private psychological space, where images of an intimate nature become publicly accessible. Thousands of strangers and their contributions have become the focus of individual researchers at their own terminal. Whether through theme, institutional organisation or genre, the researcher is able to access more information than they could possibly and feasibly comprehend. Therefore, choices need to be made. My research motivations are based in psychological, as well as sociological and cultural theory, through addressing questions of why it is that certain images are on the Internet. In addition, why they are attracting attention and how they compete with each other for our consideration, finally addressing what we really understand about them as researchers, viewers, and willing contributors.

As stated earlier, I am involved in what is predominantly a form of heuristic research practice. Early writings on heuristic research by Moustakas (1990) validate the establishment of 'self as researcher,' inviting the "conscious, investigating self to surrender to the feelings in an experience, which carries the researcher to unknown aspects of self and the internal organizational systems not normally known in waking state consciousness" (Sela-Smith, 2002, p. 59). The theme or topic laid out by the scholar "portrays a critical interest and area of search" (Sela-Smith 2002, p.64), thus establishing the investigation while the evidence of the research will still be tried and tested through other processes. The research at this stage is guided by tacit knowledge of images of x-rays gained through lived experience. This knowledge engages with the emotional and the non-verbal, circulating around the notion of "I" as the subject of tacit knowledge, and appeals to the researcher's subjective looking. This research process by itself lacks in full integrity as a conclusive heuristic research, however, and "I-who-feels" as subjective researcher is aware that my knowledge of x-ray imagery and the power of shadows is built on previous extrinsic experience. This may nevertheless be deemed to be "initial engagement" (Sela-Smith, 2002) and I, as researcher, am employing an "unwavering and steady inward gaze" (Moustakas, 1990, p. 13). This subjective inward gaze is, nevertheless, sometimes deceiving,

as this thesis reveals. At this point in the thesis, the subjective vision needs to be addressed as an aesthetic empathic visual strategy.

"Seeing-in" and intersubjectivity

Understanding the process of looking at the images that emerge with what I identify as an 'empathic' gaze, a gaze that exists prior to the process of interpretation, involves what Agosta (1984) calls 'intersubjectivity'. Agosta suggests this to be understood as "our interrelated being together with one another in the interhuman world of regard for and sensitivity to the feelings of other persons" (1984, p.43). Further to this, Agosta identifies empathy as "a means or method of re-establishing or instituting contact with another individual when we have strayed into the realism that [is] experience-distant from those of the other" (Agosta 1984, p. 43). At the crux of this concept is the understanding of oneself as the subject and, as shall be discussed more fully, the ability to project one's own subjective interests on to those of the other in a meaningful way.

Throughout this research, we must remember that 'the other' is a representation of the 'other' as a subject through imagery. My ambition within this research is not to find myself projecting into the lives of those who have chosen to reveal their x-ray images on-line, neither is it to fold the vision of x-ray technology into empathic vision, but rather to investigate what is being revealed to us about our empathic needs that may be called upon when trying to employ our own subjective vision via a complicated route of technological perceiving instruments. Through our perceptions we believe ourselves familiar with x-ray images, and through our life experience we may consider ourselves knowledgeable about the mechanisms of x-ray imagery, yet our expansion of ourselves through this imagery into the Shadow Clinic, I suggest, might just be that step which determines our 'experience distance' not only from others, but ourselves.

Although Agosta's definition is by no means the only one suitable for the concept of empathy, it is nevertheless the most useful for the complex route that exists between singular bodies being imaged through complex technologies (namely x-ray imaging) and then being disseminated on a massive scale to be viewed and 'experienced' by millions of others. At the core of my research is the involvement and engagement that I argue employs an empathetic aestheticism, once the images are displayed in their thousands with little information other than what is pictorially depicted, and the traits of the image that make it successful in competing for my attention, as well as that of many others. These include scale, familiarity, recognisability and so forth. As we become more sophisticated in the identification of medical imagery in general, we are clearer about what is an x-ray. We know that usually it depicts bone structure, including teeth. We are aware that there is clear definition in the monochromatic image. We are still compelled by the unfamiliar, the 'abnormal', as long as it has 'normal' traits. The body may look wrong, but the image must look right for empathic vision to be initiated. In Chapter 1, I outline the history of looking at x-rays and shadows that I argue has a strong trajectory leading to how our empathic vision is born.

Arthur J. Clark (2010) outlines a counselling model for empathy where "subjective empathy" is integral. He describes how four main processes emerge: identification, imagination, intuition and felt-level experiencing (Clark 2010, p. 349). It is of note here that Clark's thesis does not dwell on the empathy manifested by the client towards the counsellor, but always from the counsellor directed at the client.

In this thesis the notion of intersubjectivity involves a further relationship between image and viewer: it positions the viewer as one that is 'catered for' and manipulated by the image. Positioning myself as equal subject with the image in this intersubjective relationship means that these modalities as set out by Clark manifest in a similar pattern to project my subjectivity as well as the subjectivity of the image. So the following four categories labelled a) to d) use Clark's model,

and are not to be confused with my own categories identified in section a) immediately below.

Search mechanisms

a) Identification: In order to provide myself with parameters that will be helpful in identifying a 'type' of image, I define four fields that direct the search engine, in this case Google, to work within specific categories initiated by four command phrases. Necessarily the commands given to the search engine are text based, thus the visuals are the images displayed in the following ways: "looking at x-rays"; "clinical x-rays"; "post-clinical x-rays" and "palliative x-rays". The first search command "looking at x-rays" concentrates on the phenomenological aspects of looking and uses this initial engagement to identify the variety of depictions of physically looking at x-rays that emerge on the Internet. These images work to produce other messages about looking at images depicting areas of light and dark. The second search command "clinical x-rays" attaches itself to notions of the clinical and Foucault's "clinical gaze". It recognizes patterns in the abstracted images. These exemplify the abstracted picture of the person and the disease where the image is always received as information. The third search command, "post-clinical x-rays" extends the discourses of embodiment and technologies to consider the depiction of the 'post human' through technological intervention and/or invention. The final search command "palliative x-rays" examines the ease with which x-ray images have insinuated themselves into our lives and how they exhibit the human condition through exhibition on the Internet and discussion forums. (These discussion forums are also effective in cloaking some of the more urgent discussions needed.)

This process of organization was not as clear-cut as I expected, as the Internet images are re-presented and appropriated on a regular basis through the context of the Internet command, whilst the context of the imagery constantly shifts. There remains no one reason why a plethora of x-ray images are readily available on the Internet, as they represent areas of interest from marketing, medicine, the law, entertainment and education, among others. My images are now, however, identified.

b) Imagination. This category refers to when the x-ray picture becomes an image that is part of discourses with other similarly identified images and enters into a subjective space. Looking at x-rays as depicted on the Internet involves a number of mechanical negotiations. For every image revealed to me, the same mechanisms are appealing to my senses, the same buttons are pushed, my body has not significantly changed position any more than it has as long as I've been writing this sentence, in fact, probably less. I 'scroll' through the gallery by manipulating my index finger on my mouse and watch the signifier of my action, the arrow of my endeavours, locate itself around the screen. After the initial immersion, certain images make themselves clearer in the context of my search demands. Scanning thousands of images has thus gradually transformed into the looking at the specifics of particular images. These images are making themselves more attractive to my subjective looking than others. It may be that they lose their appeal the moment my body stiffens and moves and I lose focus. But I am making further more complex choices. They are images of bodies other than my own; they have histories other than mine and have a different job when viewed by myself in the privacy of my office or my home, to being viewed by radiologists in their place of work.

When writing about aesthetic empathy as discussed in the 19th century debates on the appreciation of the plastic arts, Van Meter Ames (1943) paraphrases Theodore Lipps (1903) by describing how "[e]mpathy explained enjoyment of form as pleasure in human qualities, though found outside the shape of man" (1943, p.490). The x-ray image is surely outside the shape of man, though it be the shape of man, invisible to man but available through mediation of technology. The concept of 'object-seeing-in' "permits an unlimited simultaneous attention to what is seen and to features of the medium" (Wollheim1980,p.212). Mikael Pettersson (2011) paraphrases Wollheim's arguments that the depth surface of any given picture obscures where we might see a thing in the picture. Indeed, "we see things in pictures, but there is no 'there' where we see those things" (Pettersson 2011, p.280). In this non-space of imagination, it is possible to enter into discourses of heterotopias as laid out by Foucault, where the place of normativity is broken down and dis-placed, where what Wendy Hui Kyong- Chun (2002) calls "othering space" is paramount.

Into this space, I also conceptualise the searches of the Internet driven by visual terminology, a semiotic text that is further discussed in the second and third chapters, as well as the idea of the researcher as flâneur, at least in the initial stages. This is not, as it may at first seem to be, at odds with the heuristic researcher who finds themselves the central subject of their own visual research practices as will be revealed in the following appraisal I give of the concept of 'intuition.' Although intuition may be initially considered as a "mystical operation... a common means for persons to ascertain understandings in everyday life" (Agosta 1984, 350; Gladwell 2005; Goodyear 1979), I found that this stage of the research, the images begin to resonate and I must repeatedly go through the same collections and exhibitions found on the Internet to see what 'sticks' for the purposes of my organisation.

c) Intuition. As I scan through the initially seemingly endless parade of images, I become aware that particular organisations of images are making themselves known to me in this repetition. I am aware of some images being darker than others and I am further attending to the depiction of shadows. After repeated viewings of the same images, it becomes clear that some images are making themselves known as against others. The traits of these images are easier to read, more familiar. They have established their significations, their boundaries of meaning. The images are also having their physiological effect on me and it is not just me that manipulates them through finding meaning. The pupils of my eyes, encouraged by a darkened viewing space, are intuitively contracting and expanding as I begin to look harder at the individual images. A recognition of images within the display attract me; discourses begin to make themselves evident. Perhaps, as Agosta states, while we commonly understand the theoretical path as one from intersubjectivity to empathy, that is to say, through the negotiation with the other, empathy emerges, it is in fact the other way round in practice. According to Agosta, "the activation of empathy leads to the establishment or enhancement of specific intersubjective connections" (Agosta 1984, p. 46). Images are displayed and differentiated by areas of light and dark,

scale and familiarity. Abstracted from their context, the images nevertheless work within prescribed discourses that have been established, discourses that I recognise and partake in and within which our subjectivities become increasingly mutual.

d) Felt-level experiencing (and what I call feeling-into or Einfühlung) discourses, as identified by Norman Fairclough, are "diverse representations of social life which are inherently positioned" (Fairclough, 2001) and therefore different discourses are manifest within different contexts. The researcher, as I have stated previously, has to enter into these discourses "within their necessary dialectical relations with person (hence minds, intentions, desires, bodies), social relations and the material world – locating them within the practical engagement of embodied and socially organized persons within the material world" (Fairclough N.; Jessop B. & Sayer A., 2001, p. 2). As Rafael De Clercq, argues in his forthcoming paper, "Empathy Theories of the Aesthetic Experience", however, the notion of an empathic response belies the given state that the subject viewer may be in. Undeniably then, I am a product of certain academic discourses. Much of empathy theory, particularly at this level, points to the physical response engendered by empathic negotiation of the self. It is Clark's (2010) contention that at this level of 'feeling into' the counsellor, "in an embodied way, receptively attunes to his or her own somatic and emotional functioning" (Clark 2010, p.350). Thus it can only be assessed by Clark's findings that the client, having no training in empathy, does not vicariously experience the likeness of being the counsellor, or as de Clerq supposes, it is impossible to know what the other is like sufficiently to manifest any empathic feeling.

My subjective body is pulled into contortions through examination of images on the Internet, but rather more simply by the physical experience of being positioned in one space for any length of time and atmospheric lighting, or lack of, that, like a magnet, draws me into a nether world of diaphanous imagery, is neither here nor there. As Agosta points out, the notion of vicarious experiences can all too easily end in an absurdity of "emotional contagion", but where Clark is seemingly appreciative of this intersubjective positioning, Agosta examines the positioning rather more in terms of an "after image" or "echo" that corresponds to the use of vicarious as directly relating to "vicar – a substitute or deputy" (Agosta

1984, p.54). The two forms of distinguishing 'empathy' as initiated through Kantian aesthetic philosophy are between empathy as a form of receptivity ("empathic receptivity") and empathy as a form of understanding ("empathic understanding"). What distinguishes empathy from contagion and allows for the "emergence…a representation of the other as the object as well as the cause of what is being felt" (Agosta 1984, p.55) is then, perhaps, empathic understanding. It is only in the discussion of the normalised body, however, that there might be such a vicarious substitution.

The normalised digital body

Part of the project of 'normalizing' the body, of quantifying it and by extension qualifying it, is to understand the human body as a territory to be mapped.[2] This is part of the clinical objective. "If", says Foucault "the science of man appeared as an extension of the science of life, it is because it was *medically,* as well as *biologically*, based […] the unique character of the science of man […] is also linked with the positive role that it implicitly occupies as norm" (Foucault 2008, p. 41; original italics). It is from this 'norm', therefore, that it is possible to identify pathologies.

X-ray imaging technology, along with the subsequent visualizing technologies such as Computer Tomography and Positive Emission Tomography, have all played a large part in the project of imaging 'the normalized pathological body', internally and externally, as a malleable, ever regenerating or immortal, insubstantial, weightless visible surface.[3] In effect, this new visualized 'virtual body' does not exist in space and time but rather it is relegated to a digital site for identification.

For the purposes of this thesis, the body on the screen, this 'virtual body', exists in Foucault's 'heterotopia'. Foucault identifies the mirror as being one of the most

[2] "[T]he book of anatomy is known as an *atlas*. If the interior of the body could be though of as space…then it could be laid out in ways which were amenable to a form of mapping … [m]oreover, to write the body as anatomical space was to mark it as a space controlled by medical logic and under medical fiat, rather than other possible systems of meaning" (Waldby 2000, p. 94).

[3] "Tomography" is the process of imaging by sections by a penetrating wave of energy, whether nuclear, sound etc.. It derives from the greek, "tomos" section and "graphein" write. Retrieved 25th January 2011 from : http://en.wikipedia.org/wiki/Tomography.

complex of the heterotopic spaces, where it is at once utopian and heterotopian. Later in the thesis, I explore these spaces in more detail. Reflexivity is crucial here, not just as visible reflection but also conceptually, where thoughts and identities are formed and transformed. When faced with his own reflection in the mirror, Foucault remarks, "I am over there, there where I am not, a sort of shadow that gives my own visibility to myself" (Foucault 1967, p.2). This thesis argues that, to some degree, the virtual clinic that deals with the virtual body (the 'normal' body that we see exemplified in the following three examples) gives rise to its own reflection in this heterotopic space. It is the "shadow clinic," where the virtual body is at once normalized and pathologized.

Over the last three decades, the emergence of the virtual body has posed as many questions as answers. In the following three examples it becomes clear that the rhetoric they share is the 'visibility' of the 'normal' body.

1. 2003 saw the 'completion ' of the **Human Genome Project** that aimed to:
   identify all the approximately 20,000-25,000 genes in human DNA

   determine the sequences of the 3 billion chemical base pairs that make up

   human DNA,

   store this information in databases,
   improve tools for data analysis,

   transfer related technologies to the private sector, and
   address the ethical, legal, and social issues (ELSI) that may arise from the project.[4]

2. In 1984, the **Visible Human Project** was launched and highly publicised as a radical aid to clinical anatomy. Catherine Waldby describes the imaging process thus:

[4] Retrieved 25th January 2011 from: http://www.ornl.gov/sci/techresources/Human_Genome/home.shtml. Although not strictly a project in making the body visible, it is included here as being a significant step to understanding the 'normal' body as a 'pathological' one, through genetic structuring. In effect, understanding genetic structure and recording it, means that it is viable for predictions of illness and disease to be identified in a body, not yet born but already visible through genetics.

> The entire body is scanned in Magnetic Resonance Imaging (MRI) and computed tomography (CT) media, making an image template for the intact body "which is then frozen after which it is systematically and finely sliced into oblivion".
>
> (Waldby 2000a p.85-86)

Each slice is photographed and recorded as data which is then reconstituted using the template formed from the images initially taken. It is an elaborate process for imaging the anatomy which has left not only the rather bizarre legacy of Joseph Jernigan (The Visible Human man) and the anonymous 59 year-old Maryland housewife (The Visible Human woman), but as Cartwright notes, all was not well with the radiation oncologists who were using the World Wide Web to air their grievances with the project, a project which had become one full of 'errors' (Cartwright 1998 p. 36-37).[5]

3. In 2001, the **IUPS Physiome Project** was launched as a ten-year project. As a enterprise largely shared between Auckland University in New Zealand and Oxford University in England, it not only geographically encompasses the entire world as its 'domain', but its aim is to provide a computational framework for understanding human physiology (Crampin et al. 2003). The projects will develop integrative models at all levels of biological organization, from genes to the whole organism via gene regulatory networks. "Genes are perhaps better viewed as prisoners of the successful physiological systems that carry them than the determinants of those systems" (Crampin et al. 2003, p. 4).

An initial journey through the official website, ten years after the project's commencement, reveals one image of the heart which resembles a rudimentary Computer Generated Image (CGI) which has been photo-shopped. As they explain, "the heart [i]s our primary example of multiscale modelling because the heart has provided the first example of a 'physiome model' of an organ" (Crampin et al. p. 2).

[5] The Visible Human Project constitutes not only individual images of the complexities of the anatomy in fine definition, but also animation and 3D. The National Library of Medicine which is where it is 'based' describes it as the "creation of complete, anatomically detailed, three-dimensional representations of the normal male and female human bodies". Retrieved 25th January 2011 from: http://www.nlm.nih.gov/research/visible/visible_human.html.

In this space where the virtual body is theoretically rendered quantifiable, there seems to be a problem. Not only do we, as interested parties or researchers, *not* receive visual or textual information about the health of our bodies that might educate and empower us, but through this rendering of human bodies as data, our bodies are systematically reduced to computational errors or financial constraints.

When I discovered a burgeoning on-line community that revolves around the x-ray image, I turned to this community, that I have come to identify as inhabiting a Shadow Clinic, as my primary resourceIn cyberspace I found there to be 'real' health and pathologies of humanity to be shared, in concert with the blatant face of the 'market' place. Choosing to source the World Wide Web for images of x-rays, therefore posed some conceptual, ethical and phenomenological difficulties, as will be revealed, that sit within visual and cultural practices and studies.

Discourses of images

The field of inquiry that has come to be known as visual culture studies argues that all images are interrelated. Because we look and are constantly exposed to such a diverse selection of images, they are bound to borrow from each other and blend.[6] It is this logic that prompted theorists Lisa Cartwright and Marita Sturken to testify to the fact that "scientific looking does not occur in isolation" (2001, p. 279). In other words, the image of science is one that is created? from many different sources, and appeals to us because of this, and not because it looks like something completely original and strange. In short, the story of images is one of evolution (Mitchell 2004). Donna Haraway goes even further:

> The 'eyes' made available in modern technological sciences shatter any idea of passive vision; these prosthetic devices show us that all eyes, including our own organic ones, are active perceptual systems, building in translations and specific *ways* of seeing, that is, ways of life.
>
> (Haraway 2002, p. 679)

[6] Gadamer contested that "the intersubjective conditions" which make up the tradition of seeing and interpretation, the philosophy of *hermeneutics*, also provide a standpoint from which interpretation precedes. In effect, we always start from a position of prejudice (Edgar and Sedwick 1999, p. 166) . "The hermeneutical perspective is so comprehensive […that…] [i]f it is the fundamental constitution of the historicity [...] to mediate itself to itself understandingly – which necessarily means to the whole of its own experience of the world, then *all* tradition belongs to it. Tradition encompasses institutions and life-forms as well as texts" (Gadamer 2000, p. 181).

The premise is that the images that play such a large part in how we engage with science and with medicine are part of a complex performance of looking that is driven by what we recognise and with which we find some cognitive ease. In the language of early German aesthetics, it was established that "empathy is the general apperceptive activity" (Lipps quoted by Worringer, [1908] 1967, p. 5). One of the assumptions that this thesis makes is that in the visual life of the clinical world, if there is any 'dis-ease' or discomfort in the act of looking, then two methods are employed to 'cure' this. Firstly, it is necessary to make the images more palatable or 'user-friendly' and secondly, it is helpful to familiarise ourselves with an even larger selection of images in order that we may, once more, feel at ease. This is important when this assumption becomes challenged by my research that argues that images on-line are repeated numerous times, in completely different contexts.

Visual culture studies scholars argue that we must be attentive to the work done by images, and consider very carefully what we want of them and what they want of us (Mitchell 2004). Key thinkers have laid the groundwork for the critical work that needs to be carried out, specifically targeted at analysing important discourse around images and their 'agency' (Mitchell 2004; Gell 1998) with further examination of the privileges of 'scopic regimes' (Metz 1975; Jay 1988). Visual culture studies enables the researcher to be able to deal with images as they exist in real life; in other words, to analyse how images are "talking about" the world (Sturken and Cartwright 2001, p. 94) and thence how we are talking about them.

The increasing emphasis in visual culture studies on the humanities coincides with a proliferation of viewing apparatuses and practices. The sheer amount of images that exist in the world indicates that societies, based on the impact of the influence of these viewing practices, are being visually 'cultured' in a myriad of specific ways. The apparent democratization of the image not just through galleries, books, news papers, magazines, television, bill boards, posters but also the Internet, subtly changes the psychologies and imaginations of all of us as viewers or spectators, by changing the focus of the image, from object to subject. It is with this in mind that I approach the Shadow Clinic, so that the emphasis is

taken away from images as illustrations of the subject and become, themselves, the Subject.

> The object of discourse" through the power of the gaze, "may equally well be a *subject*, without the figures of objectivity being in any way altered
>
> (Foucault 2008, p. xv)

Studies articulate very clearly that in the world of journalism, images when pitted against text are most fully appreciated when they have "attention-capturing capacity (Knobloch et al. 2003, p. 4). I would suggest that it is not just journalism, but marketing and general communication through visualizing that sustains this demand for images, while also giving images that power over us. After all, images, when *not* seen as subjects, work very deep within our psychological make up to enhance our powers of narrative through verbal description. Images as subject, do not need this narrative, this describing. Without thinking about it, we know what they mean.

The field of visual culture studies has, and must have, the capacity to change as it lives in the present where the sands are constantly shifting. There could therefore be no complete picture for this discipline. As W.J.T. Mitchell attests, it must "attend *both* to the specificity of the things we see, *and* to the fact that most of traditional art history was already mediated by highly imperfect representations" (Mitchell 2002, p.168). It is not the issue of imperfection that is the concern of this thesis, but rather the power images have to elicit visual empathy. It is therefore necessary not only to look at the specifics of the things we see but to also consider the history that Art has given us which must also be understood as cultural images which have taught us *how* to look.

Our 'dis-ease' with looking into darkness, for instance, may be closely connected to Edmund Burkes' phenomenological explanation for finding darkness innately a problem (Burke 1756). It may also have much to do with our concept of abstraction, in effect 'unfilled' space, or a sociological unease with the 'other' as written of above. This thesis argues from an interdisciplinary approach, incorporating art history and visual culture studies, philosophy and semiotics. It

contends that our 'dis-ease' with looking at darkness, otherwise termed 'shadows', specifically through the x-ray images of our own bodies, is not only an issue of physical perception but has more to do with our sensibilities than we might imagine. As well as a historical attenuation to the Good and the Bad, as this thesis reveals, there is a rich legacy born from a Western Northern European world view, which has a long history of imagining Death: death and the body, as life and desire.

> With a picture or specimen, we ask, Is this a good example of X? With an image, we ask, Does X go anywhere? Does it flourish, reproduce itself, thrive and circulate? Advertising executives appraise the images in ad campaigns with a simple question: Does it have legs? That is, does it seem to go somewhere, to "go on", as Wittgenstein puts it, leading into unforseen associations?
>
> (Mitchell 2002, p. 87)[7]

The first image taken of the x-rayed human body in 1895 represented something much more complex than just the picture of the human body. As x-ray imagery established itself in scientific culture, it quickly took a firm grip on the imagination of the public. It was clear that it signified the body in a completely different way than other images which emerged from the practice of anatomical drawing, for example, or the hugely evocative genre of images (and literature) reminding humanity of its mortality, "Memento Mori." Literally translated as "[in the future] remember to die," these hugely political images started as visual or textual reminders to conquering Roman generals and spoke directly to the 'hubris' or arrogance of humanity that congratulated itself on its achievements and surrounded itself with earthly riches.[8] As opposed to the figure of the skeleton that regularly appeared in these images in some form, x-ray imagery clearly depicts the skeletal form of the body as it is. It is the image of life in the present moment, the image of a material body in need of repair. Necessarily, x-ray imagery, as revelatory and explicit, demands that the subject of the image negotiate the unfamiliar territory of their visualized interiority whilst being outside the frame. In effect "the viewer is forced to occupy an impossible vantage

[7] Ludwig Wittgenstein's (1958) discussion of 'going on' , pars. 151-154.
[8] Retrieved 20th January 2011 from: http://en.wikipedia.org/wiki/Memento_mori which also emphasizes its connection to Classical Rome and Medieval Europe.

point – at once inside and outside" (Lippit 1994, p. 6). In short the subject is contained and external to the image.

The problem

X-ray imagery has been readily available through medical texts and dedicated physical exhibition spaces since the early 19th century. It has become increasingly prevalent as a diagnostic tool that often introduces the medical practitioner to the patient's 'problem' or condition. The history of x-ray technology is a complex story of how this intimate and oftentimes terrifying imagery has been viewed as sordid and spectacular, of how it has been seen as the conservative and institutional image of objective clinical practice. Although the boundaries between the private image and the public spectacle have always been somewhat blurred in the clinical arena, it is clear that this very powerful imagery has, from its inception, been viewed as a social practice and therefore has been involved in the many discourses of the day. Far from being seen as only an objective and scientific envisioning tool, the x-ray image has been consistently involved in reflexive ideological practices. Not only has it worked to maintain 'Man's place in Nature, defying death', but it has also encouraged colonial stances of white supremacy, as well as a male privileged role encouraging the objectifying and degrading of the female body.

In Part 1: 2 of this thesis, I discuss how the emergence of the x-rayed body under airport security surveillance shows how these two discourses have merged and perpetuated a social practice that is troubling for many today, through use of this singular imagery.

In Part 2, the emphasis is on the contributions made through the discretionary behaviours of various subjects, rather than the institutional behaviour discussed in the previous part?. The first problem however, is that of embodiment. Whereas in Part 1:1, the body is discussed as a physical entity in time and space with the shadow acting as an 'evidential' index of where the body is or isn't, Part 2:1

discusses the body as an embodied metaphysical being that it is no longer seen in its classical form complying to the rules of time and space, but as presented multifariously through the space of the Internet. Represented through text and imagery, the choice appears to show that there is a movement to what I call an 'inter-objectivity', where the body is dealt with as an object under scrutiny, where we are all objects in the gaze of, and as, the 'other'. The spectacle of the body as 'exposed' through x-ray imagery has been the topic of many feminist cultural theorists working in several disciplines. Undeniably, most are interested in the growth of images as formal information or organised data that signifies a lack of organization in the 'unruly' and volatile lived body (Grosz 1994). In addition, increasing interest in technological perspectives is given to the subject of x-ray imagery, as it becomes an important chapter in the bigger project of visualizing humanity in more contemporary scientific enterprises of bio-genetics, genome mapping, transplantations, organ donation, genetic modification, body modification, and so forth (Stafford 1993; Holtzmann-Kevles 1997; Waldy 1997, 2000a, 2000b; Cartwright 1998, 2005; Hayles 1999; Haraway 2004; van Djick 2005; Lizama 2008).

In theory, the playing field of the Internet is levelled, but as my research shows, this is not necessarily the case. Crucially there are many forms of engagement on the Internet, whether as consumer of information, participator in discussions, silent viewer and so forth. The list is extensive. It is clear, however, that when examining the role of on-line discussion forums surrounding x-ray imagery, it is very rare that those that are represented in the image are the initiators of the discussions. In Part 2:5, I begin to unpack how the on-line clinics are offering something akin to palliative care through discussion forums. I also examine the general trend towards how readily we appear to accept the insertion of technologies, not just into our lives, but also into our bodies. The discourses of the cyborg, or the post-human, are introduced as very real embodiments where the organic and the mechanical blend to produce other forms of life. T this is all too easy to discuss as medical success stories or a 'good' thing to do. Critically, there is a danger that we ignore the cultural shift that keeps us stuck behind our screens while being distracted from bodily sensation.

The technology of the x-ray sees the human body as no embodied human eye could ever see it and the image of the x-rayed body reduces us all to similar conditions: not just clinical but increasingly, as my thesis extrapolates, the 'condition' of alienation through the imagined 'other'. Mitchell's reflections on image species, cited earlier in this section, refers to the ability of images as a species to evolve. This, he maintains, is reflexive of their capacity to have a social life. As Mieke Bal argues, if we are to consider images as objects then "their definition, grouping, cultural status and functioning must be 'created'" (2003, p.8). "The 'social life of things' (Appadurai 1986) cannot be grasped by grasping an object in your hands" (Bal 2003, p. 8). Over the last century x-ray images, quite literally, have mutated from objects held in the hand to remote images that exist in a moderately newly formed 'screen culture' (Turkle 1997; Bal 2003). Again, this mutation is not something completely new, but nevertheless has ongoing implications for the physical body and its senses.

Spectacular reflections and critical literature

This thesis only tells part of the story. Increasingly the discourses of invisibility emerge along with exploitation of the body and belief systems. I am not alone in making editorial choices about which stories and images to present. In the Shadow Clinic, editorial choices are being made all the time by independent authorities, marketing forces, governments, and by our writing and critical selves. In discussions about transparency, we must own up to our rendering of each other as invisible. Hegemonic systems are in place enabling certain images and stories to be found more 'attractive' or evocative than others. Ironically, being able to look at x-rays of anything, and anyone, does not mean that we are visually literate when it comes to understanding what x-ray imagery is. In Part 2:4, I show how this becomes a particular issue when the images are deliberately provocative and disturbing.

In the history of spectatorship, the relationship between x-ray imagery and the cinema screen is a close one. Born in the same year, it was not long before the two technologies merged with other forms of scientific envisioning; the two

together creating spectacles of life that were previously impossible. This "epistemological conquest in science" is examined by Cartwright (Cartwright 2005, p.xi) and in her analysis, the institution of the cinema becomes the "apparatus for monitoring, regulating, and ultimately building "life" in the modernist culture of Western science" (Cartwright 2005, p. xi). As Cartwright explores the sibling relationship between film and x-ray images we are constantly reminded of the power relationships that imaging technology, and the resulting images produced by technology, hold over organizing social culture. Almost every cultural theorist writing on the discourses of x-ray imagery in the last fifteen years, including Lisa Cartwright (1995; 1998; 2001), José van Djick (2005) and Catherine Waldby (1997; 2000a, 2000b) is closely aligned to the thinking articulated here. For example, Waldby contends that x-ray images are "technologies of power" engaged in "organizing and exploiting the materiality of the body" (Waldby 1997, p. 2). This is predominantly the Foucauldian (1972; 1975; 1975a; 1975b) theoretical legacy in visual culture studies and is born out of a Freudian concept of 'scopophilia' that draws on the literal translation from the Greek, "love of looking." There is an erotic element to this looking and a desire to make a spectacle of the body. This imagined body is especially thought of through the theoretical establishments of desire and the artificial focus of 'the gaze' (Foucault 1975a; 1975b; Mulvey 1990; White 2006).

> The spectacle presents itself simultaneously as all of society […] [a]s a part of society it is specifically the sector which concentrates all gazing and all consciousness. Due to the very fact that this sector is separate, it is the common ground of the deceived gaze and of false consciousness, and the unification it achieves is nothing but an official language of generalized separation.
>
> (Debord 1967, par. 3)

The aesthetic of both x-ray photography and film is the dialectic of light and darkness and how not only in the image, but also in the viewing of these images, light and darkness work to control the focus of, and ways of, looking. The atmosphere of the cinema, particularly "the extreme contrast between the

darkness in the auditorium (which also isolates the spectators from one another) and the brilliance of the shifting patterns of light and shade on the screen helps to promote the illusion of voyeuristic separation" (Mulvey, 1990 p. 9). Similarly, early x-ray departments in hospitals were placed in the nether regions of the hospital, the "dark and damp and barely unreachable places" (Pasveer 1989, p.366). In 1913, the *Archives of the Roentgen Ray 1913* noted that x-ray departments were placed in the 'outhouse' or 'cellar'. More recently radiology reading-rooms have been described as "dark caverns lit solely by unnatural fluorescence filtered through dim transparencies" (Monroe et al., 2007 p. 805-806).

Willhelm Conrad Röntgen, credited for producing the first x-ray pictures, in his report some weeks after having discovered the imaging possibilities, denied that the rays were 'light' and insisted instead, that they were a "unrecognised kind of radiation" (Cartwright 1995, p. 112). In science, "light had become a brutal force" (Cartwright 1995, p. 113) and to illustrate this, Cartwright describes some of the contemporary stage illusions that were being performed, such as those conducted in 1862 by Henry Dirks and John Henry Pepper of the London Polytechnic Institute. The performance incorporated the apparition of a man in a coffin dissolving into his skeleton, a performance that used mirrors and lights. Cartwright's suggests that the transition from stage illusion to medical science must have caused considerable scepticism. At the end of the nineteenth century, there was a taste for the spectacle of human interior spaces like bladders, the gastrointestinal tract and the vagina, illuminated from within, "much as a light bulb illuminates a lampshade" (Cartwright 1995, p. 113).[9] Between the Lumière brothers, the proclaimed inventors of cinema, Thomas Edison, inventor of the light bulb, and Willhelm Röntgen, stage illusionists and creative surgeons, the spectacle of the body had been truly and unashamedly lit up both internally and externally.

[9] Cartwright does not clarify whether the bodies used for these illuminating insertions were alive or dead. These two conditions, of course, would make the medical procedure very different. My assumption is that the light is inserted into corpses rather than living bodies.

In contrast, this thesis examines how the ‘empathic gaze’ can exist when the visualizing of the interiority of the body is flattened and compressed, whilst the architectural requirements of the viewing area become facilitated by one and the same technology, namely the screen. The semiotics of x-ray images, as analysed in this thesis through the work of Robert M. Cantor (2000; 2002; 2003a; 2003b; 2004; 2005; 2006a; 2006b; 2009) and C. S. Peirce (1878; 1906; 1931) reveal indexical relationships between light and darkness, relationships that have evolved through our imagining as found in the research undertaken in Europe in the 1930s and 1950s into the understanding of shadows in early childhood by Jean Piaget, (1930; 1956). The challenge for the ‘empathic gaze’, when faced with x-ray imagery, is to put aside everything that is understood about the body’s physical relationship to its shadow and what that means for embodiment, and to look carefully at the image that presents the paradoxical view of light and darkness.

Peter Fuller (1983) provides a useful insight for this thesis in his commentary on Edmund Burke’s understanding of ‘darkness’ as being connected to the sublime. I hasten to add that this thesis does not delve much further into definitions of the aesthetics of the sublime, but it is useful to introduce some early documented thinking on the subject of how we ‘feel’ looking in the dark. In 1756 Burke wrote that “dark, confused, uncertain images have a greater power on the fancy to form the grander passions than those which are more clear and determinate” (Fuller 1983, p.188-189). In Chapter 2 of this thesis, dedicated to the clinical understanding of the ‘gaze’ as defined by Foucault, I consider Burke’s phenomenology and his descriptionf of the activity of seeing in darkness. He links it to a scientific positivism which is clearly influences, and is influenced by, the culture of colonization of the day. Other than Burke, the subject of darkness, as recorded in European literature on the nature of vision, was hardly considered unless affiliated to blindness (Mirzoeff 1999), or explicitly involved with revelatory technologies, which were invented to vanquish the offending darkness.

Foucault’s account of the ‘clinical gaze’ assesses the power of looking and the ability to describe in language. The discourses of shadows that emerge in this

thesis have a great deal to do with the metaphorical, allegorical and the physiognomic qualities of looking at shadows or 'gazing into darkness'. As Philip Fisher elegantly puts it: "[d]arkness slows down seeing" (Fisher 2002, p. 98).

The subject of empathy is, and has been historically, a complex one, largely because of its inability to be defined in any singular way. In the context of the clinic it is commonly negotiated as a behavioural practice to be adhered to by the clinician. The link between the rise of visual empathy or "Einfühlung," as defined by early 19th century German aesthetic philosophers choosing to question Kantian subjectivism and embrace the possibility of 'aesthetic objectivism,' on the one hand, and the rise in popularity of Freudian psychoanalytic theory, on the other, is an important one. It therefore made sense to approach the topic through Wilhelm Worringer's thesis *Abstraction and Empathy – a contribution to the psychology of style* (1967), originally published in 1908. The emergent thinking in psychological conditioning was being reflected in aesthetics, through the notion of Einfühlung, which, when literally translated from the German, means 'feeling into.' The connotations of the word imply a simultaneously haptic and optic process of envisioning and I shall be discussing the concept as such. Initially this text played a much larger part in the writing of this thesis, but as the project evolved, the discourses of the communities through images of x-rays in the 'shadow clinic' of the World Wide Web became much stronger and demanded centre stage.

As a cultural/philosophical research project, this thesis embraces an interdisciplinary analysis and joins a vibrant selection of scholarly approaches to understanding x-ray images as they emerge out of the clinic into our everyday lives. *Green Chairs, Fictional Phalluses, Infiltration, and Love on the Rocks: Medical Imaging Artifacts Blown Up*, by Lynn Koller (2008), is a rhetorical analysis of medical imaging, predominantly x-rays, identifying the historical precedents in literature and visual methods of the Surrealists and Dada artists, in order to grapple with the subject of the author's insomnia. That same year, in San Francisco, Corey Keller, co-curator of the SF MOMA, curated a hugely successful show and published an accompanying book, entitled *Brought to Light:*

Photography and the Invisible, 1840-1900. A few years earlier Keller had written an historical analysis entitled "The Naked Truth or the Shadow of Doubt? X-Rays and the Problematic of Transparency" (2004) that examined the early years of x-ray imagery and its uneasy relationship with photography, particularly as the images were disseminated in the law courts and introduced as forensic evidence. In particular she concentrated on the singular position of these images as witnesses. An equally useful resource has been Natalie Lizama's (2008) unpublished doctoral thesis entitled "Afterlife, But Not as We Know It – Medicine, Technology and the Body Resurrected" that looks at the 'post-biological' subject through popular literature and x-ray imagery.

In the role of *flâneur/flanêuse* or *badaud*, we will have left traces and contributed to the life of these websites. Occasionally I have identified my role as that of purveyor of questionable activities, but rather more often, been immersed in the dialogues and stories of others. Through the re-writing of these stories, a subjective vision has emerged. Subjective vision can be overwhelming in the Shadow Clinic when faced with the sheer volume of images and the complexities of conditions; or subjective vision might be the only effective viewing method. Encountering thousands of unstable bodies is exhausting. Therefore, starting from the 'disruptive moment' where all studies in visual culture must start, when body and image cannot be aligned, in this case, by the clinic, I as a *flâneur/flanêuse* find my vision and my choices of image selection have been affected by shadows and darkness, not only physically but metaphorically.

CHAPTER ONE

Kept in the dark

Throughout European history from early Greek and Roman civilisations to the era of German Romanticism, light and shadow have been intrinsically bound to Eurocentric visual ideologies that emerge in the nineteenth century in the form of German aesthetics. Treating the subject matter through the discipline of aesthetics meant that I had, at least, Kant's legacy to contend with. In *Critique of Pure Reason* (1787), for instance, Kant condemns the use of the word itself:[10]

> The Germans are the only people who currently make use of the word 'aesthetic' in order to signify what others call the critique of taste. This usage originated in the abortive attempt by Baumgarten [...] to bring the critical treatment of beautiful under rational principles, and so to raise its rules to the rank of science. But such endeavours are fruitless.
>
> (Kant cited in Dixon 1995, p.49)

Kant here is referring to the philosopher Alexander Baumgarten (1750) who, in the eyes of many, had managed to detach 'aesthetics' from the ancient Greek meaning of the word, as being closely aligned to the senses, thereby allowing later philosophers to associate aesthetics with 'preference' or taste rather than the more literal translation from the Greek that had previously been so closely aligned with the *sense*s, and had included taste (Dixon 1995, p. 1). "[T]he Baumgarten corruption", says Dixon, "signals […] an expulsion of the carnal body from the garden of knowledge" (Dixon 1995, p. 81). It is this separation that qualifies my inclusion of the problematic posed by the practice of aesthetics within the cultural practice of medical imaging. The establishment of the dichotomy between the body and embodiment through this break in linguistic meaning is I believe, at the core of much my research — the boundary between where the body (of

[10] Some years later, he would conform to Baumgarten's usage and employ his own science to aesthetics of personal taste.

information) ends and embodiment begins. The boundaries, as shall be seen, are not so clear.

It seemed to me that the question of 'style' as a profoundly aesthetic concern, as voiced by Willhelm Worringer in 1908, and what Peter Fuller was many years later to define as "visual ideology" (Fuller 1983, p.184), was where my research through images should start. In this thesis, I shall argue that the aesthetics of x-ray imagery comes from a lengthy lineage of these visual ideologies. Obviously, the constraints of the thesis form will not allow the possibility of going into all aspects of these visual ideologies, but I hope to give a considered overview so that in the following chapters, notions of empathy and aesthetics will be clearly negotiated as I consider current practices of x-ray exhibition on the World Wide Web. This gallery in cyberspace will also be identified within the context of a Foucauldian 'heterotopia' and the establishment of what I have termed the "Shadow Clinic," which demarcates sites of interest that are specifically concerned with x-ray images.

In the clinical language of x-ray imagery it is more often than not the reference to shadows that emerges as the body being present. My research occurs at a time when digital displays of x-rays are, in many cases, replacing the hard copy prints in many clinical practices, and where in digital displays physical shadows do not exist, there are only simulated shadows. As the thesis unfolds, it will become evident just how different modes of viewing, that change concurrently with specific imaging technology involved in radiology, disrupt the very nature of what a shadow is.

The European imagination has long embraced visual ideals about darkness and light that are bound to metaphorical and allegorical matters which have been aligned with, for example, matters of truth, knowledge, religion, love and death, as much as things perceived, visible and invisible. It seems fitting therefore, to start with an examination of some of these metaphors, allegories and fables

regarding light and shadow which exist as signposts by which we learn, not only how to look and what to look at, both physically and metaphysically. Further to that, early x-rays that took their place in early politics of power and colonization, commanded by Eurocentric viewing practices. Notionally, x-ray imaging technologies show us what we might imagine we know of our own embodied experience. However, culturally, the manifest images are imbued with substantial invisible texts, written within the x-ray image as much as without. In short, the iconic status given to x-ray images emanates from an ontology which has as much to do with the history and language of visual culture, as it does with the history and language of physics and technology.

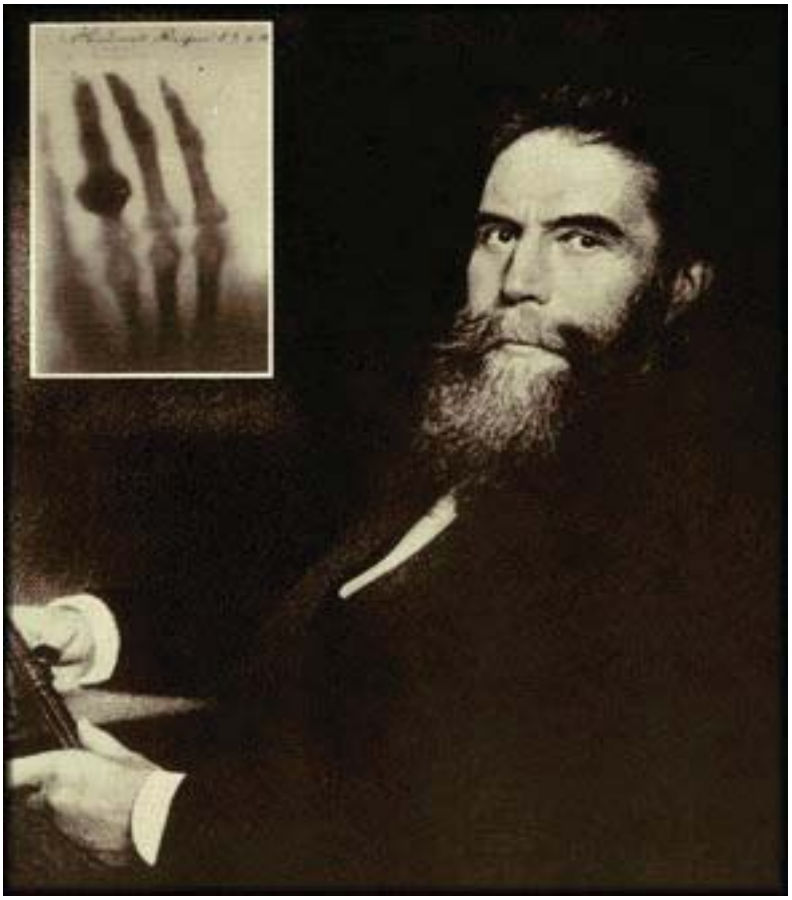

Fig 1.1 Wilhelm Röntgen (1895/6)

Inset photo: Radiograph of Berthe Röntgen's hand complete with ring (1895)

Reaching for the Light

The first x-ray image available for public scrutiny was that of Berthe Röntgen's hand, complete with wedding ring. Berthe Röntgen, the wife of the Wilhelm Conrad Röntgen, the man widely credited for creating the first x-ray image, is often quoted as saying that through this image, her own death was revealed to her.

> When [Röntgen] showed the picture to her, she could hardly believe that this bony hand was her own and shuddered at the thought that she was seeing her skeleton. To Mrs. Röntgen, as to many others later, this experience gave a vague premonition of death.[11]
>
> (Cartwright 1995, p. 115)

As it is exhibited in the thumbnail gallery of the World Wide Web, it appears predominantly in isolation (Fig. 1.1 is somewhat of a rarity on-line). Yet her hand remains one of the most re-produced x-ray images to this day through on-line traffic, when searching for any images that pertain to x-ray technologies. The image has become iconic, a symbol of the then brand new technology and its powers of insight, but also, of its power to image death and command sublimation. As a gesture of the sublimation of the body to one's 'maker' it carries with it all the signs of the finitude of the body being reduced to its essential, rational and ordered make-up. The skeletal body, devoid of any of the mess of fleshy frailty was obviously as appealing, as much as it was alarming, evidenced by the subsequent trends in x-rayed hand imagery that emerged in the early twentieth century. A woman's sublimation to her husband, no matter what the cost, was to become largely read as the text of these images with the emergence of feminist politics and theory. The hand in marriage, being literally envisioned as a hand until death do them part, appeared to spawn a large trend in married couples having one of their hands x-rayed with the other's, although

[11] Sylvanus P. Thompson, speech to the British Roenten Society, 5 November 1897, published in *Archives of Skiagraphy 2* (November 1897); quoted in Otto Glasser (Springfield Ill.: Charles C Thomas, 1933).

largely records show that it was the image of the wife's hand alone that maintained its place as desirable object.[12]

Historian Stanley Reiser tells how "New York women of fashion had X-rays taken of their hands covered in jewellery, to illustrate that beauty is of the bone and not altogether of the flesh" (Cartwright (1995, p. 115). The initial image of the hand was an indicator of the potential capabilities of the x-ray imaging technology's power, hinting at the "possibility of an abhorrent apparition of a whole X- rayed body, flayed and bloodless" (Cartwright 1995, p. 115). Cartwright positions the image of the "hand X ray froze in time a moment before the more significant threat posed in the spectacle of the whole-body X ray," as functioning potentially "at this point at which interest is arrested" or, "a limit point in popular memory that forestalls knowledge of the violence symbolized" (Cartwright 1995, p. 115, p.183). This, she aligns closely with a Freudian establishment of a 'fetish' object (Cartwright 1995, p. 183).

> In the case of the fetish, too, interest is held up at a certain point – what is possibly the last impression received before the uncanny traumatic one is preserved as fetish.
>
> (Freud 1963, p.217)

X-ray images of hands are, today, one of the most imaged parts of the body that appear on the World Wide Web. Through my research, it became evident that any day, at any time, there will be more x-rayed hands displayed than any other part of the body. The 'uncanny traumatic' image of the hand separated from the body which works in psychological terms to fetishize the hand in x-ray imagery, can be also be significant as symbolic of the visual and the tactile. It is after all, the hand that guides the encounter with other people, through a shaking of hands, or a wave of acknowledgement, as well a binding of hands through marriage.

[12] It should be noted that Berthe Röntgen was one of the few in the early days who was not recorded as suffering with the effects of excess exposure to x-rays, although it here death is recorded as being from some mystery illness.

Moreover, in a practical way, hands make clearer and more pronounced x-ray images due to the complexity of their bone structure and the relative lack of density of skin.

Thus the public appearance of the infamous x-ray image of Berthe Röntgen's hand instigated an immediate penchant for European women to give x-ray images of their hands to their loved ones as keepsakes or as more "intimate photographs" (van Dijck 2005, p.89). The image of the hand, of course replete with ornament, opened up discourses of ownership of the body through such cultural phenomena as marriage, but the actual early images told even more complex stories. This point becomes particularly evident in Figs 1.2 and 1.3.

We can clearly see that within a year, the aesthetics of the image was becoming more sophisticated through not only the familiarity with x-ray technologies, but also the practice of photography. In Fig 1.3, the exquisite paleness of the hand belonging to the Tsarina Alexandra of Russia appears to predict her future; the White Russian just about to be brought down by the Revolution. The fragility of her hand vividly shown through the x-ray image appears to confirm the fragility of her status in life. Compared to Berthe Röntgen's hand depicted in Fig 1.2, which had emerged three years earlier as a photograph, the sensitive aspect of the Tsarina Alexandra's hand carries with it a powerful message. The aristocratic skeleton, skinless and ethereal appears very different to the working class skeletal hand of the radiographer's wife, who having been subjected to long bouts of radiation, produced an image dark, rough and sturdy with the shadow of her skin in evidence; the shadow of her body. The first roentgenogram, as they were initially called, exposed Berthe Röntgen's hand to one hour of radiation. A year later, exposure time was down to ten minutes (Tubiana 1997, p. 1508). By the time, the Tsarina was imaged exposure time was down to a minimum along with visual evidence of her body, the shadow of her flesh having all but disappeared.

Fig 1.2 The hand of Berthe Röntgen (1896)

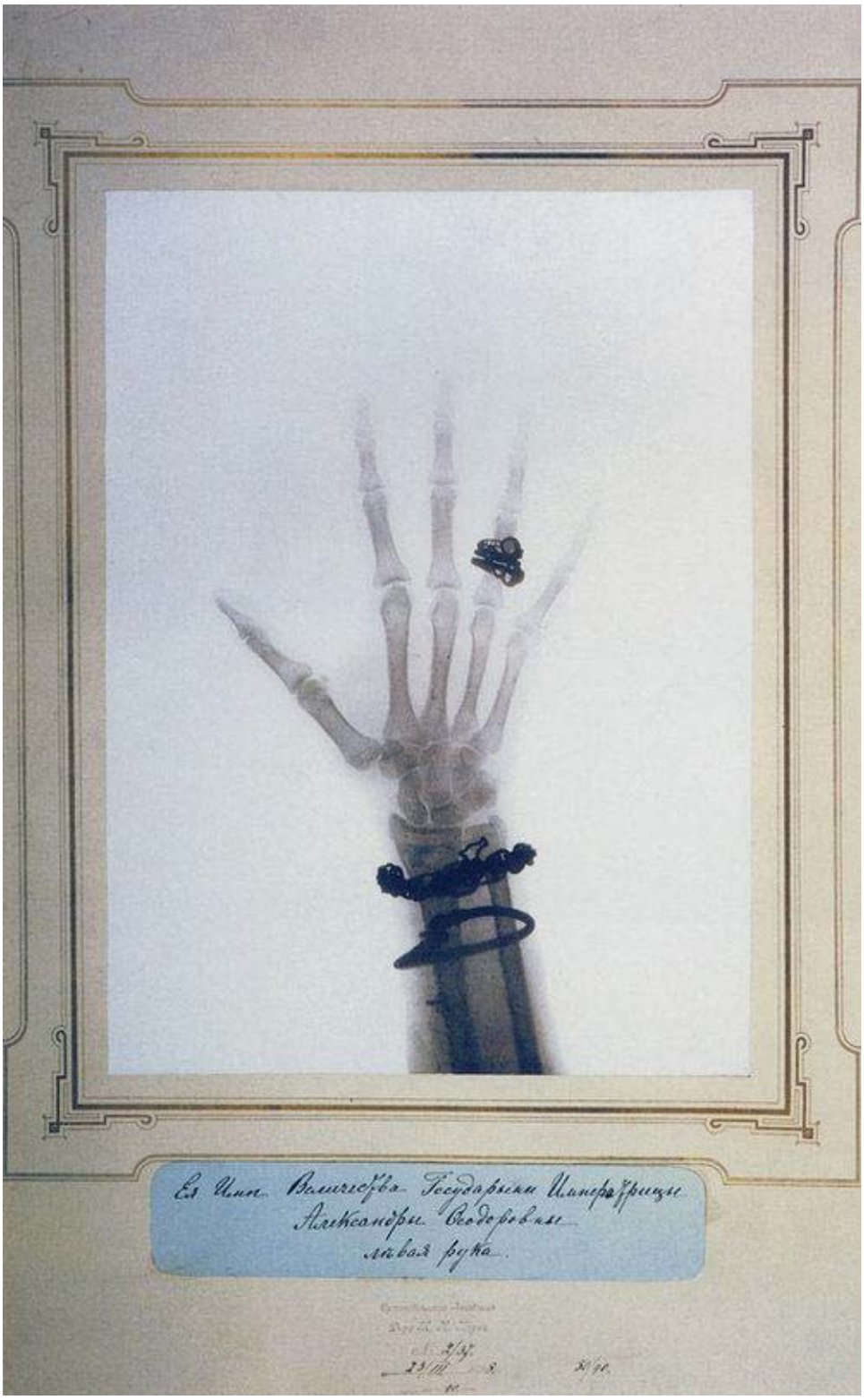

Fig 1.3 The hand of Tsarina Alexandra, Empress of Russia (1898)

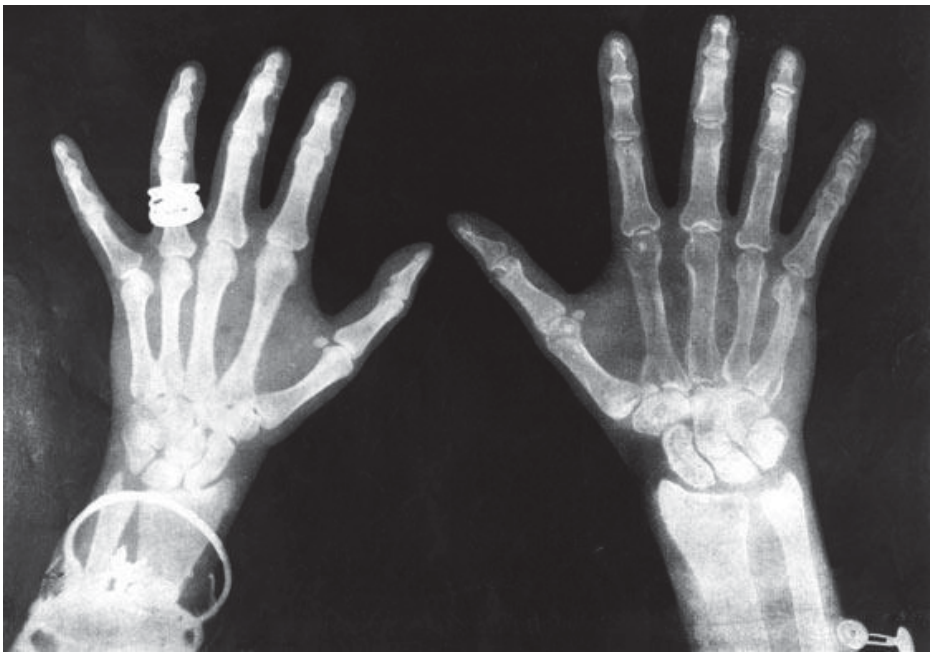

Fig 1.4 The hands of King George V and Queen Mary (1898)

Fig 1.3 and Fig 1.4 were allegedly taken in the same year and yet how significantly different they are, as images for public consumption. The ethereal nature of Fig 1.3 is completely different to Fig 1.4. The future King and Queen of England are bestowed a solidity in their visible hands through the visible flesh that encases the skeleton. All of this is not bestowed on the Tsarina as her fleshless skeleton melts into the white. The embodiment of the King and Queen is highlighted by the darkness of the background. They appear as if from nowhere, whilst the Tsarina disappears into a thick dense backdrop.

The European history, in fact world history, of the depiction of the hand through imagery as symbolic for encounter and presence, can be traced to early cave paintings as indexical mark making. By 'indexical,' I mean it here, in the broadest sense, as a mark of indication that somebody was/is present. Hand stencils, as they are often referred to, appear on cave and rock walls all over the world and can be dated back at least 30,000 years. Archaeologist Dean Snow quoted in *National Geographic News* 28th October 2010, believes that the sign of the hand, "cannot be anything other than one of the most fundamental means of expression," whilst it is also suggested that they were left to mark a territory and identify a hierarchy of importance. "The higher up a hand stencil on the rock and the more of the wrist and arm appeared, the more important the person."[13] Whether or not fortuitous, this quality is also evident in the examples of Figs. 1.2; 1.3; and 1.4.

Another significant depiction of hands appears in Michaelangelo's C*reation of Adam* (c. 1511) which graces the ceiling of the Sistine chapel. Here creation itself is shown as an extension through hand contact, through the index fingers. The significant touch is the encounter between man and his maker. In Michaelango's painting however, they do not touch. They are depicted frozen in time and space, just missing each other.

[13] Retrieved 4th February 2011 from: http://www.creativespirits.info/aboriginalculture/arts/aboriginal-rock-art.html.

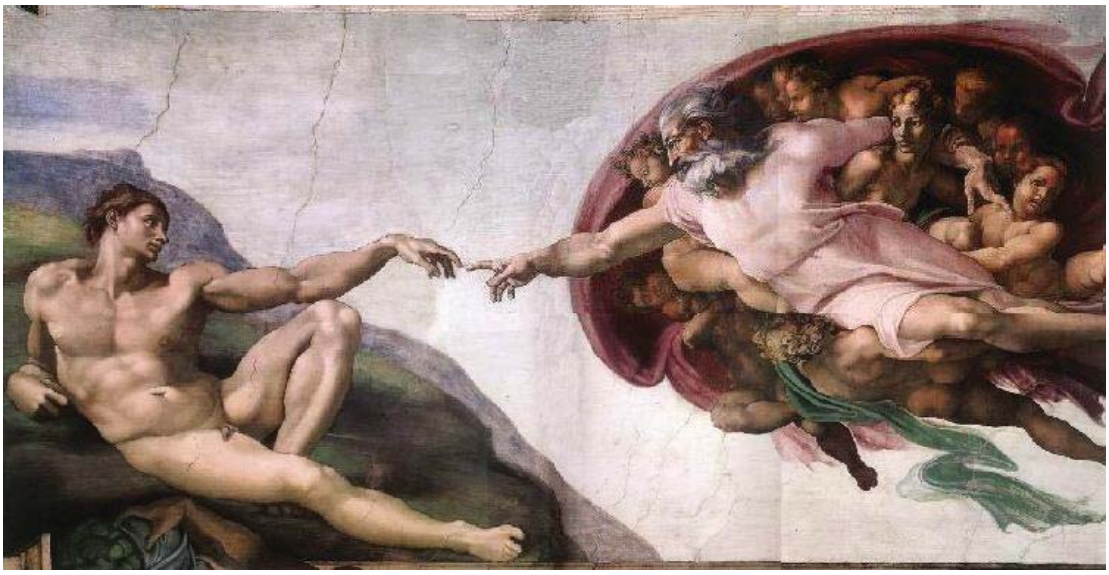

Fig 1.5 Michaelangelo's *Creation of Adam* (c.1511)

Aside from reading any homoerotic text of desire into the image, we might also read the extravagant lack of contact, as the eternal gap between God and Man, the irretrievable distance that would leave mankind susceptible in his being placed in the world.

> The traumatic event, the missed encounter, what […] produces not excitement but loss, or rather excitement as loss, as a self-mutilation, as something fallen from the body.
>
> (Krauss 1994, p. 71)

Rosalind Krauss takes a Lacanian view that stems from the initial understanding that this trauma will permanently reflect the gap between being present and being represented "as the always-already occupied meaning" (Krauss 1994, p.72). Krauss is particularly considering the role of family historicism in being representative of the subject…" the phenomenological experience of something's being both outside himself and [concurrently] *his,* that turns [these] evidentiary signposts that appear to him the indices of his own history, his own identity, the touchstones of his most intimate connections to the real" (Krauss, 1994, p.71).

The family that has 'made' you is also that which is not you. The ambition, for instance, of the Genome Project in the imaging the body, concerns itself exactly with this connection between the family (back)ground and the self as indicated against this background.

The certainty of death equally lies in this paradoxical space of being both something that 'belongs' to the person, as it is a matter of fact that everyone will evidently die, and yet remaining the most elusive of the touchstones of reality. The physical encounter between death and life that the x-ray image comes to envision is arguably only to be experienced in reality by a single person at a moment in time, and exists as an event that can never be replicated or retold. The image of the x-ray therefore comes close to representing this event and as Frau Röntgen experienced all too keenly, foreshadows that certainty.

In Michaelangelo's depiction of God and Adam they reach out to each other with their hands, but it is only their eyes that meet, thus they only touch each other through the look or the gaze. This rendition takes on the significance of the traumatic moment of creation, and like all creation myths it identifies separation as being the driving force.[14] In the clinical context, this separation is evidenced through the word for surgery itself, which stems from the Greek and latterly the Latin, 'chirurgiae', literally translated as 'hand work.'[15] The hand of the surgeon having the power to dismember or attach parts of the body, offers a clearly pragmatic reading of the significance of the hand but as shall be discussed through this thesis, the level of 'invasiveness' capable by the hand is closely aligned that of the eye. The boundaries are complicated between the function of the body and the experience of embodiment.

In Classical Greek mythology one of the many tales of missed encounters, and perhaps the most pertinent for this thesis, is the story of Orpheus who in the Roman telling, is the son of Apollo, god of the Sun. It is Orpheus who is typically associated with healing, music and truth and his tale is one of tragedy.

[14] Retrieved 30th January 2011 from: ttp://www.jeffhouse.addr.com/ mythology / creationmyths.htm.
[15] Retrieved 30th January 2011 from: http://en.wikipedia.org/wiki/Surgery.

On the day of his wedding, Orpheus' new bride Eurydice receives a fatal snakebite. Upon her death, she is taken down to the Underworld, to Hades. Various versions of the tale from this point tell how Orpheus wooed the king and queen of the Underworld, Hades and Persephone, with his lyre, a gift from Apollo. He was subsequently granted access to the Underworld in order to retrieve his wife, with certain conditions. Not only unwilling to die in order to be by her side, Orpheus also, in effect, was cheating death itself by preparing to bring her back to the upper world, to the light, to life. He struck a deal with Hades that Eurydice would be able to return with him as long as he would always walk in front of her, and under no condition was to look back until they had emerged again in the upper world.

The journey was made, Eurydice dutifully following Orpheus back to the world above. However just before stepping into the upper realms and into the light of day, Orpheus turned to look upon his love, whereupon Eurydice immediately disappeared back into the shadows.

"Orpheus", she cried, "what madness has destroyed my wretched self and you? See, the cruel Fates recall me, and sleep hides my swimming eyes, / Farewell, now: I am taken wrapped around by vast night, stretching out to you, alas, *hands no longer yours*." (my italics)

(Virgil: *Georgics Book IV Bee-Keeping* (Apiculture) [16]

Whether it was a moment of forgetfulness on the part of Orpheus, or mistrust on his part that she was still there, is debatable. Philosopher and literary theorist Maurice Blanchot offers another reading of the myth incorporating the dialectics of desire.

[16] Retrieved 21st September 2010 from http://www.poetryintranslation.com /PITBR/LATIN/VirgilGeorgicsIV.htm#_Toc534524384. Translated by A.S.Kline © 2002

Fig. 1.6 *Orpheus and Eurydice*, Christian Kratzenstein-Stub

(1783-1816)

Eurydice is, for him (Orpheus), the extreme which art can attain, she is under a name which hides her and under a veil which covers her, the profoundly obscure point towards which art, desire, death, night seem to tend […] But Orpheus [...] does not want Eurydice in her diurnal truth and in her everyday charm, [he] wants her in her nocturnal obscurity, which want to see her not when she is visible but when she is invisible and not as the intimacy of the a familiar life but as foreignness which excludes all intimacy, not to make her live but to have living in her the plenitude of her death.

(M. Blanchot, 1981)[17]

[17] Retrieved 21st September 2010 from http://www.ledonline.it/leitmotiv
Leitmotiv – 5 / 2005-2006. E. Escoubas, *Iconology and Ontology of the Image*, pp. 125-126.

It was, says Blanchot, necessary for Orpheus to see Eurydice as departed from his world, as incomplete, as partial. His act of gazing back at her ultimately controlled her fate and reduced her body to that which must be hidden, must be kept in the shadows.[18] Classical mythology therefore negotiated darkness and shadow as being the envisioned metaphorical space of death and dying but also as a space that was as natural as the 'illuminated' place of the living; a pantheistic place where 'man' and nature were one. The emphasis completely changed as this allegorical dark space of death historically made way for the more metaphorical and religious negotiation of spiritual wellbeing and knowledge.

The Strength of the Shadow in Metaphor

It was at the time of the Enlightenment in eighteenth century Europe that the 'science' of darkness and light were related to the function of the eye. 'Being enlightened' was highly preferable to 'being kept in the dark', for example, but by the nineteenth and twentieth century, European thinking was entrenched in psychological practices that embraced classical mythology as a route to the inner workings of the mind, and the dark side of the human soul.

The growing practice of psychology in 19th century Europe, enthusiastically incorporated Classical mythology depicting human traits, foibles and desires along with European fables and allegories about shadows and 'man's' connection to the world had taken on a strong political undertones and had become heavily imbued with commentary on how a man without a shadow is 'untrustworthy'. In short, the man without a shadow did not display his relationship with the world (Stoichita 1997).

[18] Later readings can be implanted onto the subject of this story, such as the Lacanian desire for the partial object, or the Freudian negotiation of the *unheimlich*, but for the moment, I will leave it at the moment of her disappearance, brought on by his gaze.

One of the earlier and most famous examples of an allegory placing man with his shadow is that of Peter Schlemihl (von Chamisso, 1814).

Fig 1.7 *Peter Schlemihl* : a work by Rebecca Owen © 2008

Adelbert von Chamisso's story tells of a boy from a poor background, who in order to make some money quickly, negotiates a sale of his shadow for gold to a 'man in gray.' With his newfound riches he moves into wealthier circles however, is not trusted socially, for the simple reason, that he does not possess a shadow and is quickly excluded. He returns to the man who bought his shadow who proposes a second deal. Schlemihl can keep the gold and have his shadow back but must give the man his soul when he dies. Schlemihl does not make this deal and throws the purse of gold into an abyss, never to regain his shadow. However, further on in the tale, we are told he travels the world in isolation, rekindling his love of botany and nature, thus regaining his peace and tranquillity and saves his soul (von Chamisso 1814; Stoichita 1997).

This allegorical tale, aside from its similarities with the Faustian dilemma, positions the boy's shadow as something substantial that can be detached from the body. The indexical relationship is confused in this reification. The object of his

shadow, symbolic of his background, is something that he can 'buy' his way out of, but can also sell. The abstraction that had been hitherto understood to be the subjective shadow has been relegated to the concreteness of object, which in turn is then commodified. Schlemihl is still present without his shadow (albeit shunned by wealthy society). What was *his* shadow is now owned by another, presumably in a recognizable form and intact.[19]

The subject of the physical shadow was broached in early childhood development studies undertaken in the early twentieth century by Swiss developmental psychologist Jean Piaget. He analysed the insights that young children had into the physical world and causal behaviour, among many objects and asked them about their understanding of shadows. The published results showed some extraordinary comprehensions that these children, between the ages of five and ten, had about their attachments to their own shadows. There have been numerous contradictory theories regarding Piaget's methods in his analysis of early childhood development. For the sake of this thesis I would like to include some of Piaget's published results, as exemplary responses to the problematic of shadow attachment.

Researcher: "Why is there a shadow there?" (making a shadow with the hand)

Gall (5): "Because there is a hand."

Researcher: "And why is this shadow black?"

Gall (5): "Because….because we have bones."

(Jean Piaget 1930, p.181-182)

Already it is possible to see, just from this short exchange, the child considers the shadow so attached that it directly extends from our bodies. This study in

[19] It is recorded that Marx and von Chamisso knew of each other's work and were of the same thinking. This particular tale, could also be read as a tale of fantasy around commodity fetishism, but for the purposes of this thesis, I shall just concentrate on the indexical qualities that this fable has to say about shadows relationship with the body.

shadows emanated from earlier studies he had done regarding children's explanations for the origin of night, therefore it is necessary to allow for some of his questions to be rather directed. As the questions continue and the subject of night gets introduced, it becomes evident that Gall is directly linking the shadows as not just indicators of night, but actually being emitted this time, from the night sky.

Example 1:

Researcher: "What makes this shadow?"
Gall: "The sky"
Researcher: "How?"
Gall: "Because it is night"

(Piaget 1930, p.182)

Another child of the same age group is Stei.

Example 2: [We show Stei (5) his shadow on the ground]

Researcher: "There is a shadow there?"
Stei: "Yes the chair does it"
Researcher: "Why does the chair make a shadow?"
Stei: "Because it's black underneath. It's dark"
Researcher: "Why?"
Stei: "Why, because it is dark under the chair, because it's a chair and there is the edge and that keeps the shadow under the chair."

(Piaget 1930, p. 184)

Piaget's findings record a predisposition, in the early stages of these European children's development, to understanding the phenomenon of shadows as a "collaboration or participation of two sources, the one internal (the shadow emanates from the object), the other external" (Piaget 1930, p. 181). So in the first example it is the body and then the night sky that makes the shadow. In the second example, the chair is acknowledged as not only being responsible for production of the shadow, but also for 'keeping' it within its edges. The edges assist in convincing the child that the shadow is 'substantial', which makes the child 'reify phenomena' (Piaget 1930 p. 184; Sully 2000 [1895]). As we can see, the story of Schlemihl has significant parallels with these research outcomes.

In Schlemihl's story the shadow becomes an object of barter and trade, so the 'reified phenomenon' identified by these children becomes clear as something other, something substantial. Another point of interest in Piaget's studies, as noted by Stoichita (1997) is that the children rarely recognise their own shadows as 'extensions' or projections of themselves. Stoichita's question is whether there is a 'shadow stage' in correspondence with Lacanian findings some years later, acknowledging what becomes famously accepted as 'the mirror stage' wherein the infant appears to identify themselves, as 'other'. In theory, this would mean that the infant would be aware of its movements to such a degree that it would recognize the distorted mimetic movement of its shadow, along with the shadow's indeterminate borders, as being an indicator of its own place in space. Piaget does not involve infants in this particular study, largely because his interest is in the child being able to vocalise their understanding of cause and effect in the physical world, however, given the responses that he does get, it seems highly probable that a child would be horrified if they considered themselves capable of 'producing' such a substantial dark thing. Let us not forget, at the age of five, Piaget's subjects do not relate the shadows to light sources, and therefore as themselves mediated, but rather to dark substances which necessarily must emanate from other sources, or, at least, this is what the published findings seem to reveal. Therefore the reflective element appears unlikely, however the negotiation with something 'other,' which is affected by the body but always in the dark, is compelling.

We see the same solidity given to the shadow in the writing of Rudolph Arnhiem, who says that the shadow exists as "an outgrowth of the objects"[...]"not [as] an absence of light but as a positive substance in its own right" (Arnheim 1984, p. 317). He categorizes the shadow as identified by two types: the 'cast' and the 'attached'; the cast shadow, dis(ex)tending and dis(ex)torting the boundaries of the 'reflected body' blocking the light source, whilst the attached, remaining as 'true' to the body as a shadow can. Having at least two distinct modes of existence, the shadow is therefore endowed with its own properties within which through time and space are negotiated.

Through these examples we can see that the space of darkness and the space of shadow are traditionally already imbued with abstract aesthetic concerns that demand that the body is defined in space and that embodiment is ideally experienced in a visible enlightened world. The discourse of shadows and light in the early days of x-ray technology, however, show the connection between the body and this new 'invisible light' appeared not only mysterious and alluring, but also dangerous and deceptive, largely because there was no way to see the affects of these x rays on the body, other than in the completed image. As the hazards of radiation were becoming increasingly documented, it was realized that "an effective way to achieve an increase in detector sensitivity was to convert X rays into light" which "led to the discovery of intensifying screens." The world of physics took two decades to invest into this new mediation technology. Tubiana suggests that this time lag in involving the use of 'intensifying screens' was due to physicians not realizing the importance (Tubiana 1997, p. 1508), but the mystique of 'invisible light' was hard to ignore. It appeared from nowhere and seemed to cut straight through the body to produce a residual image, foreshadowing death whilst ultimately proving embodied life.

In 1896, H. J. W. Dam, a journalist working for *McClure'sMagazine*, met with Willhelm Conrad Röntgen for an interview. He documented the encounter, not just with Röntgen the man but with the new technology. In his documentation, it becomes clear that the fascination for Dam is not centred on the image but rather the experience of being x-rayed. This account is one of few that survived which describe the embodied experience of being x-rayed, along with the incumbent suspension of disbelief necessary for the process; a process that required of a body to be literally and ideologically, kept in the dark.

"Now then," he (Röntgen) said smiling and with some impatience […] you've come to see the invisible rays."

"Is the invisible visible?"

"Not to the eye, but its results are. Come in here."

(Carey 1995, p.183)

Inside the laboratory Dam allows Röntgen to take an x-ray of his hand in order to satisfy his own curiosity about this new technological innovation. As he recounts:

[…] then I laid the book and paper down, and put my eyes against the rays. All was blackness, and I neither saw nor felt anything.

(Carey 1995, p. 183)

Röntgen had always acknowledged that the x-rays themselves were invisible, yet much of the rhetoric around the special rays nevertheless associated them with light. In the initial stages all that was visible was a fluorescent glow. Citing a speech given at the British Röntgen Society in 1897, Cartwright emphasizes how in those days, the x-rays leant themselves conveniently to the metaphors of blinding "natural light" and "penetrating vision" or the "apocryphal moment" (Cartwright 1995, p. 111).

Especially to the educated middle classes, this language would have conjured up metaphorical notions of darkness that carried with them the connotations from traditional classical perceptions that had gained increasing weight during the Enlightenment and the Renaissance. The allusions to the Underworld "from whose bourn no traveller returns,"[20] or the more Baroque and Victorian allusion to female sexuality accenting the place of creation, or the 'dark side' of human nature, had literally, in the parlance of this new X ray, become the space of the invisible which was to become visible. The following is a description of Röntgen's 'apocryphal revelation':

What he saw with his own eyes, a faint flickering greenish illumination upon a bit of cardboard, painted over with a fluorescent chemical preparation. Upon the

[20] Or more accurately 'death' as described by Shakespeare's Hamlet in his famous soliloquoy.

> faintly luminous surface, a dark line of shadow. All this is in a carefully darkened room, from which every known kind of ray had been scrupulously excluded…Yet in the darkness, expressly arranged so as to allow the eye to watch for luminous phenomena, nothing visible until the hitherto unrecognized rays […] fell upon the luminescent screen, thus revealing their existence and making the darkness visible.[21]
>
> (Cartwright 1995, p.111)

The Miltonian narrative of Hell, "a dungeon horrible, on all sides round/As one great furnace flamed, yet from those flames/No light, but rather darkness visible/Served only to discover sights of woe…" (*Paradise Lost* [1567], I.59) was used to voice an incredulous response to this new 'magic' light. Milton was however writing these words whilst reflecting on going blind whereas up till that point, there had not been any recorded cases of people losing their eyesight through x-ray technology. The possibility of excess of vision delivered by this new technology was obviously working to alarm the audience made up of the British Roentgen Society who were ambivalent about where this new vision would lead. The truth about the damage caused by x-rays, mostly to the skin and the vital organs that early x-ray pioneers had suffered, was generally withheld from the public, a public that had fallen in love with radiology. For the first time, the interiority of the human body was visible revealing 'all' its intimacies.

Within the context of information and knowledge, western philosophy and metaphysics had privileged the role of light as being that of the essential source of truth and evidence. In the age of industry and with the relatively new illumination of electricity, this dark vision of the mechanics of the human anatomy offered that 'uncanny' space where neither the soul nor the mind was revealed, and the possibility of authority over the body was held by those who would learn to read the shadowy pictures that were emerging. As darkness materialized through this new imagery, and achieved object status, the subject of light carried with it the subjectivities of 'man' and altogether more aggressive tendencies.

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[21] Sylvanus P. Thompson, speech to the British Roentgen Society, 5 November 1897, published in *Archives of Skiagraphy 2* (November 1897), quoted in Otto Glasser, "The discovery of the Roentgen Rays", in *The Science of Radiology*, ed. Otto Glasser (Springfield, Ill: Charles C. Thomas, 1933).

According to Hans Blumenberg (1993), "[i]n their expressive power and subtle capacity to change, metaphors of light are incomparable." This might be deemed as especially true within the history of metaphysics where the uses of the light are characterized "in order to give an appropriate reference to its ultimate subject matter", subject matter that "can no longer be grasped in material terms" (Blumenberg 1993, p.31). This depiction of light in imagery produced in painting or drawing had a very different relationship to the physical reality of light that was needed in the process of photography. Where light could be representative, imaginative and fantastical in the arts, photography presented some modicum of reality in the image and needed a complex temporal spatial relationship, where light inscribed itself onto the photographic surface. The relationship that photography has to light where the object is traced onto the photographic surface is one of an indexical nature, unlike painting and drawing that relies, in the broadest sense, on representation. The photograph presents a grouping of objects, off which light bounces or reflects, only to trace the objects onto the photographic surface. However, in radiography the opposite occurs.

> Whenever an X-ray encounters a photo-sensitized plate or film, it leaves a minute black dot. When an X-ray picture is taken of a subject, millions and millions of X-rays are aimed at it. Some of the rays will make it all the way through in a straight line […] but most do not have such a direct path.
>
> Some X-rays are stopped entirely when they encounter a substance that absorbs them. A white spot on the plate records their failure... [t]his white image is, in effect, the shadow of the object that absorbed the X-rays.
>
> (Holtzmann-Kevles 1997, p.21)

Therefore the image presented through x-ray technology is portraying the work of light in completely the opposite way to that which we understand as being the work of light in the physical world. The darkest parts of the image are where light has got through, but is fixed in the image as a purely dark area. Thus the paradoxical nature of the x-ray image reveals that the human body under x-ray vision manifests solely as a 'shadow' and not as in photography, light rebounding off the body to be visualized through the camera's lens. Quite literally in the x-

ray, darkness is being revealed whilst light is being absorbed. The place of the body in x-ray imaging technology's perception has undeniably been physically relegated to the space of shadows.

Nevertheless, the power of light as being deemed the source of revelation or guidance and knowledge, as seen earlier, still maintains its illusory capacity. Such is the pervasiveness of this hegemonic construct of sight as being only available with light that it is easy to see how light is then immediately constructed through the language of knowledge, religion and medicine. Secular and religious light supersedes any darkness; darkness is banished by light and takes its place as being antimonious:

> […] light is the absolute power of Being […] Light is intrusive…it creates the overwhelming, conspicuous clarity with which the true 'comes forth'… Light remains what it is while letting the infinite participate in it; it is consumption without loss. Light produces space, distance, orientation, calm contemplation; it is the gift that makes no demands, the illumination capable of conquering without force.
>
> (Blumenberg 1993, p.31) [22]

Blumenberg's intention is not to draw a fully conclusive list of the historical metaphorical allusions to the 'power' of light, but rather to point towards an understanding of how this basic metaphor has enabled profound transformations of the world and understanding of the self. Looking through this historical lens, Blumenberg identifies the possible emergence of the enmity or antipathy of darkness to light, as belonging in the 'dualistic conception of the world" (Blumenberg 1993, p.32). He credits Plato's allegory of the Cave with being the first to act as a demonstration of the dualistic implications as revealing the "*naturalness* of the connection between Being and truth", but is careful to distinguish that Plato's allegory is dependent upon the artificiality of the situation (Blumenberg 1993, p. 32). "The drama of truth", says Blumenberg paraphrasing Heidegger, "is not a cosmic *agon*, [or debate between the central characters of the drama] between light and darkness but rather only a process of man's withdrawing himself or handing himself over – a matter, thus, of *paideia [or education]* " (Blumenberg 1993, p. 32). This was not just an education into a craft

[22] The several words for darkness in the German language included *Finsternis* 'which has connotations of utter and foreboding darkness' (Blumenberg 1993, p. 31). In Blumenberg's essay, this is the term most applied.

or how to carry out mechanical operations but rather an education into a way of being, of living fully in the world with ethics and self- knowledge. Interestingly, as Blumenberg points out, the Classical world with its pantheon of gods and immortals did not have a god that represented light. It is not till much later with the emergence of Ancient Roman civilisation that Apollo gets co-opted into being bringer of light and/or the sun. It is Apollo who Roman mythology credits as being the father of Orpheus, as well as the provider of the musical instrument, but in the earlier Greek mythology, Orpheus' father is documented as being the Thracian king Oeagrus and his mother, the Muse Caliope. In the Greek myth, is also said that rather than Orpheus receives the harp from Hermes, the messenger of the gods, who invented the harp, and Orpheus as master musician, who perfected it. Thus we can see that Roman sensibility introduced the concept of light being a 'weapon' against darkness. Light becomes more 'present' than darkness, in terms of being privileged as the victor against the dark.

Stoichita (1997) uses Pliny to argue that, about the methodical origin of Art there can be no disagreement; it is categorically stated by Pliny that, "all agree it began with tracing an outline around a man's shadow" (Stoichita 1997, p.11). The event that inspired this first depiction associated with imaging the body was the departure of a loved one. Before prehistoric markings on cave walls were attributed to early human life, the birth of painting was credited to a young shepherdess who, not wanting her lover to go to war, recreated him through tracing the outline of his shadow on the wall of her room.

As a Plinyian myth, it gained in popularity during the Enlightenment and became a point of theory that drawing and painting emanated from the purity of love (Stoichita 1997, p. 153; Mitchell 2004, p. 64). However, in the same way that Blanchot re-reads the myth of Orpheus as less one of romance, but rather one of desire unfulfilled, cultural theorist W.J.T. Mitchell writes about the myth of the Corinthian maid, stating that it is a myth born of desire. The young shepherdess's will to draw her lover's shadow, is in fact the will to see him die, the will to see him absent. There is 'no getting around the dialectics of life and death, desire and aggression, in the fundamental ontology of the image" (Mitchell 2004, p. 68).

The Clinical Body Shadow and the Screen

> Conventionally, a simulacrum is a copy of a copy in Plato's ontology. A copy is inferior to the ideal form of which it is a copy, while the simulacrum is still further from the form, and is therefore inferior to the straight copy […] In the wake of Nietzsche […] the general consensus is that the simulacrum is not simply a copy of the copy: it somehow avoids contact with the ideal form.
>
> (Cochrane 1999, p. 359)

Imaging the body immediately lies within the area of aestheticisation of the body arising from the 'body image'. Studies in the field of cognitive sciences acknowledge that the body image resides in a "set of intentional states – perceptions, mental representations, beliefs, and attitudes – in which the intentional object of such states is one's own body" (Gallagher and Cole 1995, p.132). Shaun Gallagher and Jonathan Cole cite research that identifies three "modalities of this reflective intentionality" (eg. Cash and Brown 1987, Gardner and Moncrieff, 1988; Powers et al., 1987). However, they specify that the two modalities of the *conceptual* understanding of the body (through received knowledge) and the *emotional* attitude to one's own body, may not be involved in a conscious awareness, but are "maintained through a set of beliefs or attitudes and in that sense, form *part* of an intentional system" (Gallagher and Cole 1995, p. 132 – my italics). In other words, a conceptual and or emotional attitude towards one's own body image comes from a learned experience of embodiment, through external perceptual forces.

Similarly Mike Featherstone, writing about body image and 'affect' in consumer culture, argues that "[b]ody image may be conceived in terms of a more visual sense of the image others have of oneself, based upon a person's appearance: the 'look' one has for others" (Featherstone 2010, p. 194). Although Featherstone's argument goes further in depth to notions of the body schema that my thesis does not, what is useful here is his reference to what Michael Taussig (1991), borrowing directly from Walter Benjamin, calls the 'tactile-eye.' This convergence between eye and hand, or more systematically, sight and touch is discussed further in depth later in my thesis, but the qualities of touching through the eye have historical resonances that should not be overlooked.

As I have already mentioned, shadow paintings or drawings have offered various ways of envisioning the body all the way from the earliest hand stencils, through to x-ray imagery. However, before departing completely from the metaphorical and symbolic functions of depictions of the hand and shadow, I will directly refer to what has latterly, through aesthetics and the science of visualizing, concentrated on as being the act, or affect of depicting the body image.

Fig 1.8 *The Corinthian Maid* (1782-1784) by Joseph Wright of Derby

…in order to approach the 'likeness', the representation of the shadow must take on the symbolic form of the profile. This was in fact the only message that the myth of the origins of art was understood to convey, because it maintained that only in the profile of the outlined shadow could mimesis *and* index (likeness and physical connection) co-exist.

(Stoichita 1997, p.113)

Likeness and physical connection through the outline was to become a popular trend of portraiture during the later years of the 18th century when a fashion emerged that would again refer to Pliny's classical story but would add another twist. Europeans, especially the French, had developed a taste for 'cut-outs', or as are more familiarly termed, *silhouettes*. It was a form of cheap portraiture and took its name from the French Finance Minister of the day, Étienne de Silhouette, who was reputed to be the model of parsimony.[23] The pictorial language of the silhouette had already been identified in the augural conference paper given in 1801 by Swiss artist Heinrich Füssli at the Royal Academy of Art, in London.

> If ever legend deserved our belief, the amorous tale of the Corinthian maid, who traced the shade of her departing lover by the secret lamp, appeals to our *sympathy*, (my italics) to grant it; and leads us at the same time to some observations on the first mechanical essays of Painting […] The first essays of the art were *skiagrams* , simple outlines of a shade, similar to those which have been introduced to vulgar use by the students and parasites of Physiognomy, under the name Silhouettes.[24]
>
> (Stoichita 1997, p. 155)

Thus the skiagram or silhouette had become intrinsically linked to human behavioural science through the body image. The most authoritative text on the subject was Johann Caspar Lavater's *Essays on Physiognomy* (1792) that Füssli, a compatriot and schoolmate, had helped illustrate even though he seemed to have had a violent antipathy towards the 'science' (Stoichita 1997, p.156). Lavater began with the premise that a person's face 'bore the marks of his soul' (Stoichita 1997, p.157). This had emanated from traditional thinking although Lavater's conviction was that in fact it was the profile that had more information contained within it, regarding the "truth of its object" (Stoichita 1997, p.157).

Lavater was documented as saying:

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[23] Wikipedia credits the etymology of the name Silhouette with the Basque version Zuloeta, as his father originally came from the Basque country. The word Zuloeta witht the suffix '*eta'* meaning "abundance of" and the prefix '*zilho*' or '*zulo'* meaning "hole". It is possible here, but no citation is provided that the name Silhouette thus means 'cave of bats.' Retrieved from Wikipedia 28th Sept.2010 from: http://en.wikipedia.org/wiki/Silhouette.

[24] J H Füssli, from *The Life and Writings of Henry Fuseli*, Esq, ed. John Knowles, 11, pp.25-26.

> [W]hen the light is at the proper distance, and falls properly on the countenance to take the profile accurately, the truest representation can be given of man […] Shades collect the distracted attention, confine it to an outline, and thus render the observation more simple, easy, and precise. The observation, consequently the comparison. Physiognomy has no greater, more incontrovertible certainty of the truth of its object than that imparted by shade.[25]
>
> (Stoichita 1997, p. 157)

For Lavater and his followers, the drawing of the silhouette provided the simplest and surest way for a physiognomic study of the essence of the person through the person's "traits" rather than through facial "expressions" (Stoichita 1997, .159).[26] Lavater, nevertheless, had received a moral and religious backlash from a scornful public who were disapproving of his 'science.' Lavater is recorded as having to expressly defend himself by saying that through these drawings he was not colluding with the "black arts" (Stoichita 1997, p.162).[27] It seemed that the solidity of the black profile was more disturbing to the gentle folk of the day than he might have thought. As he experimented with his silhouettes, they became line drawings with white paper background and for a short time, were purely grey (Stoichita 1997).

The link between the sciences and shadows was now firmly established in these 'objective' drawings. Rather than the face being the site of the human condition, the face itself being too susceptible to subjective forces, the more objectified body was to be found in the outline, or shadow in the form of silhouette.

Popular physiognomic assumptions, says Mike Featherstone, maintain that the "body, especially the face, is a reflection of the self: that a person's inner

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[25] J. C. Lavater (1792) *Essays in Physiognomy*, London p. 187-189.
[26] Stoichita's excellent account of Lavater's hermeneutics for this shadow science, is fascinating but too convoluted to make more of in this context.
[27] There is a direct link here between colour of skin and kind of representation that is extremely provocative, but for the purposes of this paper cannot be followed through.

character or personality will shine through the outer appearance" (2010 p. 195). This was not the aim of the science of physiognomy which later emerged as phrenology in the nineteenth century (Twine 2002). If we are left in any doubt as to the importance of this science, "[p]hysiognomy still underlies many everyday assumptions about class, gender and 'race', and now gets technologized as it provides the underlying ethos for practices such as cosmetic surgery" (Twine 2002, p.68).

Physiognomy as a science was the first to endeavour to 'normalize' and categorize through scopic practice. This is vital for understanding the complexities of the scopic practices that the examination of shadows holds for the clinical project of x-ray imagery, but at this stage it is the 'visual turn' of scopic interest in shadows that is considered here as a cognitive process in body imaging. The human body had come to signify something other than presence and represented knowledge.

Since its infancy, radiography had been commonly understood to be the art of shadow reading. One of the earliest names for these new enigmatic images that were to become known as x-ray images was *skiagraph* or *skiagram*, literally translated from the Greek word for shadow.

Early skiagraphs were an effective way of imaging the softer organs of the body (See Fig. 1.10) and in 1896 Sidney Rowland published a photographic representation of the 'Skiagraph of a Child' in the *Archives of Skiagraphy*.

> This double plate illustrates very successfully the skeleton of a full grown child, aged three months," he writes, "[t]he intestines, heart and liver cast definite shadows, and can be easily distinguished. The skiagram is the first step in the direction of obtaining photographic records of the condition of the soft parts.
>
> (Rowland cited by Pasveer 1989, p. 369)

Fig. 1.9 *A sure and convenient machine for drawing silhouettes*

by Thomas Holloway (1792)

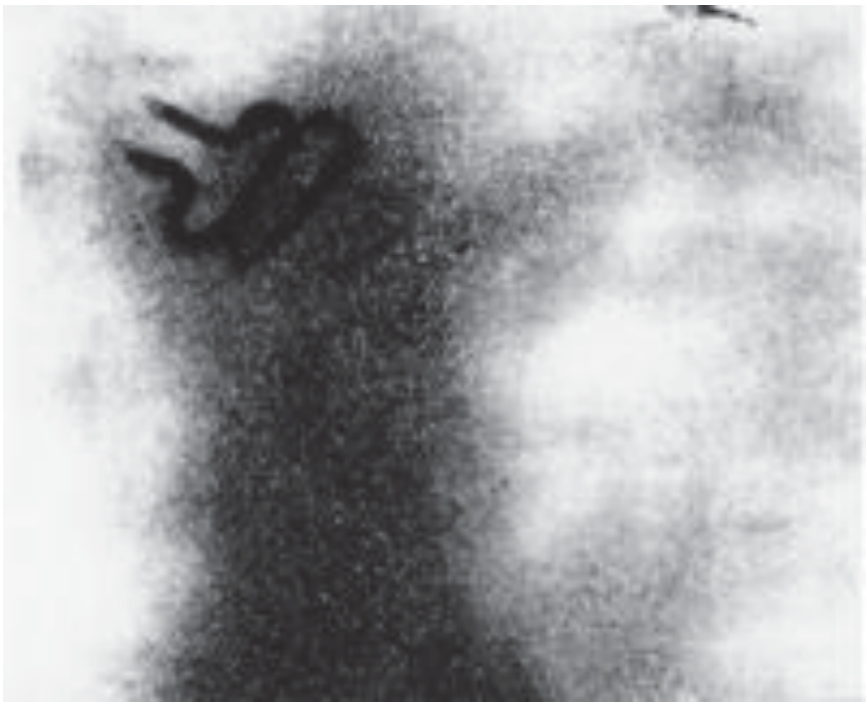

Fig 1.10 Image of the esophagus of a 3 year old boy who had swallowed a belt buckle taken by the Dr. Charles Mayo in 1897

Given the obvious appeal of these images and the dramatic effect they had on identifying foreign hard metal objects that had infiltrated the body, i.e. bullets, buckles, pins, coins, it was only a matter of time before these images would be put to other uses. On the peripheral of these hard objects, appearing as grey shadowy areas, were the previously charted and mapped organs of the human body, which had previously only been visible through the anatomy of a physical corpse.

As part of the process of learning how to read these images it became necessary to have a quantity available, so that the images could be compared with each other for signs of similarity and ultimately, produce a gauge of 'normality.' As was evidenced earlier by Lavater, this comparative element had to be identified through a method of looking, which became understood as 'observation'. Thus, *The British Medical Journal* (1903) began publishing articles that carried in them

the message that good health was equated with normality and was clearly defined through observation and imagery:

> […] cardiac lines were seen more or less pronounced by all skiagraphs of the healthy chests, and must therefore be considered normal.
>
> (Pasveer 1989, p.375). [28]

Considering the body this way meant that there were, obviously, particular elements of the image that had to be identified and grouped, at the expense of other factors that may well have affected the total 'health' of the body. Parts of the body therefore had to be visually dismembered or amputated. As skiagraphs came to exhibit sufficient traits of visual 'normality,' thereby indicating the health of the public at large, this led to a growing demand that larger proportions of society would undergo the process of being envisioned in such a way.

As Pasveer reports, this new clinical process of compilation and comparison of data was something that Romantic nineteenth century idealists were uncomfortable with, as the 'picture of health' became less about individual bodies but rather about pervasive social and medical 'conditions'. The following observation also shows how public discomfort was being experienced through seeing itself increasingly subjected to visual dismemberment through this imagery.

> The comparison of the shadow-images with each other was an activity that violated [the] uniqueness and wholeness of diseases and patients. Patients were reproducible, quantifiable, and the disease had to be 'isolated' from its bearer.
>
> (Pasveer 1989, p.375)

[28] *British Medical Journal 1903*. Discussion on the use of Roentgen rays in the diagnosis of pulmonary tuberculosis .II, 3 August 1903, pp. 313-325.

Both the practices of physiognomy and phrenology had shared the belief that the surface of the body, especially the face and the head, bore the outward signs of the inner character. Now science and medicine was focussed on the disease as the primary subject of the image by graphically imaging the body beneath the surface.

Running parallel to this new scientific and medical practice incorporating x-ray images, it was becoming clear that shadows within the image had to be identified as either visual ‘artefacts’ of the body or affects of the imaging technology, or ‘products’ of the disease. The shadow and all its nuances had to be read as either ‘indexical’ of the technology or of the patient’s body in a state of ‘wellness’ or of the disease (Pasveer 1989, p.375).

The shadow had therefore come full circle from being the simulacrum of embodiment, the trace of body and the symbol of desire, to exhibiting its own specific traits visible through this new x-ray technology and as is examined in the following chapter, began to require its own semiology. In addition, the technologies needed for x-ray images to work required a systematic method that allowed the body’s interior to remain similarly orientated to be effective for these early visual practices. Thus as we have already seen, for instance in Fig. 1.9, this was achieved through the introduction of screens and frames — in short the body and its natural dynamism had to be controlled. The positioning of the shadow was the visual lynch pin that connected physiognomy and this new x-ray imaging phenomena and this new form of knowledge. Whereas, the shadow as being indicative of pathology had been endowed a life of its own, the body and its position in space, had to be restricted.

The practice of reading x-ray images was always going to be challenge and it was incumbent upon early readers of x-ray images to be aware of where shadows were ‘attached’ and to what, as they materialised through technological mediation. Not only the body but also the imaging technology itself had to be systemized to a level of stability and a measurement of control. As well as understanding and

stabilizing the mechanics of the body and technology in order to achieve the required affect, it was also crucial that radiographers learned what conditions lent themselves best to the looking at these new images and it is on this which the next chapter focuses.

From the very first human forays into picturing the human form, there has been a referencing to the 'natural' form of shadows and the body, through a distinct experiential form of embodiment and involving shadows. In this chapter, I have shown some of the ways that European history envisaged shadows and how shadows have played a major role not only in the praxis of depicting the body but also in understanding how we consider the medicalised body and ultimately how the body exists in the world of light and dark.

Not only do the aesthetics of light and darkness offer us a visual dimension and depth to co-ordinate through the optical senses but through metaphor and allegorical tales we are conditioned to comprehend certain values about ourselves as depicted through the dichotomies of light and dark that is hard to leave behind. These cultural values mean that when it comes to looking at x-ray images, not only are we faced with viewing our own skeletal forms but also with negotiating the *atmosphere* of the image through its emphasis on shadows.

On the Internet where x-ray images in their many forms are available to download, these supposedly scientific images send confusing messages about what we can expect to see and what we observe, thereby subverting ideas about the 'normality' of the body through the culture of medical imaging. This will be discussed in some greater detail in the subsequent chapters, but as artefacts of the Internet, x-ray images (Fig. 1.2; 1.3; 1.4) already show that with different techniques of production, quite a different message can be communicated.

The practice of looking at x-ray images has historically made demands upon our optical capabilities as well as our technical and in the following chapter, I shall

discuss further this visual depth and dimension as I concentrate on more contemporary forms of visual display. The early period of x-ray imaging perception also proved to be an exercise in learning what to see and how to look. The empathic negotiation of the image of the body abstracted will be further explored as the exhibiting of x-rays becomes increasingly popular and images more familiar. The indexical nature of the shadow and its attachment, or lack of, with the body begins to make sense of how, in later viewing practices, we become further used to exploiting the screen as a device with which to withdraw from our own position in the world. The interface between viewer and image is the point of connection between the life and the 'lived life'. The social nature of the interface is intrinsically bound with the aesthetic characteristics of its surface and mechanics. It demands very specific interaction between the bodily and the technological engagement. In the following chapter, this is explored more fully.

CHAPTER TWO

Dark Adaptation at the Interface

Taking things at interface value means that [computer] programs are treated as social actors we can do business with, provided that they work.

(Turkle 1997, p. 104)

The search command "looking at x-rays" resulted in 187 x-ray images out of a 1000. Most of the other images concern 'technicians' or 'doctors' *looking* at x-ray images and the x-ray image is not central to the picture.

Studies in visual culture identify that all images are interrelated and enable discourses that in their variation are dependent on context. As Sturken and Cartwright point out, even "scientific looking does not occur in isolation" (Sturken and Cartwright 2001, p. 279). The act of looking is not innocent and, they argue, has an impact on that which is 'looked upon'.

The 'eyes' made available in modern technological sciences shatter any idea of passive vision; these prosthetic devices show us that all eyes, including our own organic ones, are active perceptual systems, building in translations and specific *ways* of seeing, that is, ways of life.

(Haraway 1998, p.697)

Bauer and Olsén argue that it is the concept of "[n]on-invasive medicine", which has been promoted as the altruistic enterprise of x-ray imaging to "disrupt the body as little as possible" and it is this motivation which has led to the "sophisticated vision systems, multiplex images of the body interior [which are then] projected on computer screens and video monitors" (Bauer and Olsén 2009, p. 118). Studies in visual culture, however, reveal visualization per se, cannot be deemed to be either 'non-disruptive' or 'non-invasive'. Theorists such as José van Dijck and Ian Hacking point out that this misconceived assumption, allows for

reasoning such as “we can always take a look and if we don’t see anything, nothing happens” or “bodies remain untainted if we only touch them with our gaze” (van Dijck 2005, p. 8). Hacking goes even further in acknowledging, “seeing is intervening” (Hacking 1995, p. 192).

It therefore becomes established that it is the activity of looking or seeing that directly generates, or maintains, ways of life. Western European visual and literary culture, having strongly influenced the ways that x-ray images have come to be viewed and discussed in the scientific theatres, also enabled the easy transgression of these images — for them to be co-opted from the alleged scientific and objective scenario by the popular media of the day, thereby transforming and extending the meanings of x-ray images through its own cultural implications. These new cultural understandings came through inherited wisdoms of envisioning the body illuminated and shaded, and were facilitated by the surge of enthusiasm for new imaging technologies. In the late nineteenth and early twentieth centuries lithographs and prints became a popular form for displaying the body under x-ray examination, although obviously not with a scientific agenda. The advertising industry was also enamoured of this new imaging technology and the x-ray ‘brand’ was born. Edwin S. Gerson provides one explanation for the marketing phenomenon that expresses the feeling of the general public about these new “dazzling and fascinating” rays (Gerson 2004, p. 546).

> [G]iven a brand-new technology that could see through living human flesh and even promised to be the first effective nonsurgical response to cancer, the notion that x-rays might give golf balls an extra life or bring quicker relief to a headache was not all that far-fetched. The public was simply astonished with x-rays, and advertisers played off this spellbound attention by adding the name to almost any type of product.
>
> (Gerson 2004, p. 546)

From the array of products that Gerson documents in his article we get a clear idea the enormous impact that x-rays were having as the most desired ‘thing’. Just a few examples of products that were branded with the X-Ray logo included golf balls, stove polish, ointment, oil, batteries, furniture polish, soap, razor blades, sheet music, coffee grinders and light shades. The public perception of x-

rays was being engineered by a market that knew that the “powerful unseen truth and strength” of x-rays could only work for them (Gerson 2004, p. 247).

Nevertheless, genuine x-ray images were also subject to popular consumption and not only re-established, or extended, existing cultural readings of how shadows and light play primary roles in aestheticising the body, defining class, wealth, status and gender roles, but they also highlighted conceptual understanding of life and death, truth, morality and desire. A vital part of this conceptual understanding depended on where these profoundly traumatic images were available to be viewed and how they were socially managed. Within a year of their invention these images had turned into products, and “products into socially constructed images” (Stafford 1999, p.217). As gifts or evidence, x-rays showed the human body in ‘consumable chunks’, and as ‘consumable chunks’ they were ‘collected’, organized and laid bare by “professionals forging exacting taxonomies” (Stafford 1999, p. 218). These graphically dismembered visions of the human body reflected not only the apparent efficacy of an interdisciplinary scientific world that was anatomical, biological, chemical and physical. They also revealed, through imagery, the mechanics of the body made manifest, an interiority externalized through projection. This was the epitome of modern viewing, a “scientific attempt to render the body and the perceived object in terms that conform to the instrument and its modes of representation” (Cartwright 1995, p. 90). The time had arrived for the ‘disenchantment’ of the world, a time allegedly for breaking down the ‘myths’ of a pantheistic world where ‘man’ was at one with nature, in the name of ‘progress’ and civilization.

Whereas in the United States x-rays had become the symbol for all things powerful and painless quickly appropriated by advertising and trade, the rhetoric that accompanied the discovery of the body under x-ray technology’s perception in Europe not only alluded to progress in science and the clinical world, but also to the language of colonisation and conquest. In her analysis of the earlier role that surgery played in the project of “nation building occurring through British colonial expansion” Julie Doyle argues that surgery was the central discourse of colonization and imperialism. “British surgery therefore sought to legitimize it practices by deploying the discourse of imperialism to gain support from the

British government" (Doyle 2008, p.22). With the power of the x-ray the rhetoric of the penetrating vision into darkness, worked to legitimize further exploration of the body and, more importantly, the bodies of others.

Moira Gatens employs the term "imaginary bodies" to discuss the "construction of various forms of subjectivity" through "images, symbols, metaphors and representations" that is extended to the "imaginaries of a specific culture" (Gatens 1996, p.vii). These specific cultures, she argues, work to determine 'in part' the value, status and appropriate treatment of these now imagined "social bodies" (Gatens 1996, p.vii).

This is carried to another level in Charles Martin's account of how early x-ray technologies were being employed in the United States at the turn of the 20th century. It was already common knowledge that radiation on white skin had been shown to eradicate blemishes or "unwanted or unhealthy" dark patches and by December 1903, the *New York Herald* announced "Negroes Made White by X-rays" (Martin 2002, p. 150). The newspaper article reported the findings of Dr. H.K. Pancoast, of the University of Pennsylvania, who "has discovered that it is possible, by means of X-ray, to so bleach the skin of a negro that to all intents and purposes the subject becomes a white person" (Martin 2002, p. 150).[29]

The aesthetics of light and dark, along with any metaphorical meanings that had established their place in the collective imaginaries of the European and Eurocentric vision, meant that the perception delivered by these new x-ray technologies produced symbolic representations of the project of colonisation, through the medicalised body. Empirical vision of the body dismembered had already been initiated through the practice of surgery (Doyle 2008) and here was the potential for the black body to be 'cured' of the 'disease' of blackness. "To have the skin of a white man or woman," said the article in the *New York American*, "is a thing infinitely desired" (Martin 2002, p. 150). This new technology was a 'gift' for "hopeful racial scientists" but it was recognised that a complete body transformation would over-expose the body to radiation. Dr.

[29] Various versions of this article were printed and re-printed by the *New York American* 28/12/03 and the *Boston Globe* 28,12/03.

Dieffenbeck, a Philadelphian physician, excited by these new possibilities recommended therefore that the patient could "have his face and hands changed in colour with perfect safety" (Martin 2002, 150). This was just one of the ways that x-ray technologies became embroiled in the eugenics and the medicalised body, a topic too extensive for the limits of this thesis, but shows clearly the way that darkness and light had taken a firm hold on the imagination of the white man and maintained a racial prejudice which already had a firm grip.

The clinical body and the language of disease is still rife with these convoluted allusions that become their own narratives. In an ever growing globalized culture through the World Wide Web, these allusions get more blurred by the metaphoric uses of identical languages in, for example, the notion of computer *viruses*. The clinical body of information has generated an 'information' technology that is susceptible to the pathologies of the human body.

Don Slater describes modernity's project as one of 'disenchantment' or 'de-mythification'. He defines disenchantment, in this case, as the 'reduction of the knowable world' through visual technologies, to 'discrete, observable, measurable *facts*' (Slater 1995, p.220-221). He provides a useful summary of how modernity embraced photography for scientific purposes and how photography affected the position of subject and object.

> Scientific methods of observation, experimentation, evidence and verification/falsification all operationalise [sic] the primary notion that ideas (subjectivity) must be anchored in materiality (the object as clearly perceived in itself) […] Most crucially, the criterion of visibility places meanings and values on the side of subjectivity: unlike such things as colour, weight and mass, the meaning of an object is not an observable property and therefore not a proper object of positivist thought.
>
> (Slater 1995, p.221)

For want of a better word, 'post-modernity' has embraced 'materiality' as extending beyond the object as 'clearly perceived in itself'. It considers the object as itself extensive in meaning within specific domains which include illumination and darkness, as well as 'colour, weight and mass' (Bal 2003). The discourses emanating from the body as information do not interest the body as material:

"discourses and material practices are fundamentally different" (Tilley 2002, p. 23). The embodied experience of looking at x-rays is not to be confused with the 'meaning' of them or how they lend themselves to language through metaphors of progress.

As Slater highlights, in the discourse of science, observable 'facts' were being taken as empirical evidence and rated above 'meaning.' In other words, there emerged a "reduction of the world to facts on the basis of the hypervaluation of vision" (Slater 1995, 221). Meaning was only to be extracted from the visual evidence, rather than by questioning the feasibility of the study. This meant that specific conditions of viewing were for a long time not taken seriously, in favour of the more ideological 'scientific' united vision. The scientific lecture and the professional still present an ideological vision of empirical evidence that distinguishes the image by relegating it to information, rather than 'magic' or 'spectacle.'

At the same time, the discipline of Aesthetics in the eighteenth and nineteenth centuries had taught that the subject or viewer was the pivotal point of contact for Art appreciation and therefore there could be said to be no observable 'facts' within the plastic arts. Nevertheless, Art History over the centuries had devised and recognized codes of reading images that incorporated symbols, icons and metaphors that, depending on one's religion, nationality and education, could be understood. Between these seemingly irreconcilable viewpoints of a scientific analogous empirical vision and a methodically constructed picture, the European psyche needed a convergence for the manifestation of the body under x-ray technology's perception to have meaning; for observable facts to exist in every single body. As has already been discussed, this emerged as a project in 'normalising' a united vision, of identifying the 'normal' body by organising a cultural infrastructure that engendered not only trust in vision, but power in the 'right' vision.

The story of visualising in the Clinic is part of the long and complicated discourse of the imaging of sciences. Foucault's hugely influential *Birth of the Clinic* (Foucault 1975a; 1975b) went a long way to expanding on this, as does the later

work of theorists Lisa Cartwright (1995), José van Dijck (2005), Donna Haraway (1998), Catherine Waldby (2000), Barbara Marie Stafford (1993) and Bruno Latour (1990). This literature provides anecdotal and documented examples of historical and contemporary viewing practices directed at x-ray images and other medical technological perceptions, as well as the spectacle available on cinematic film of the body after scientific investigation, when it is re-animated. Together, they show the profound emergence of an ideology of the clinic in which envisioning plays a central role in the 'life'of the human body.

Early records show that, in the clinic of the nineteenth and early twentieth centuries, the experience of being imaged by x-ray technology was not as alienating an experience as it is today. The clinician maintained a proximity with the technology and thus with the patient, that enabled a visual empathy that tragically cost many clinicians their lives. As the reality of the dangers of over–exposure to radioactivity became undeniable, the practice of radiology changed dramatically. The patient and the clinician grew increasingly distant, their professional relationship increasingly mediated by the image.

Figure 2.1 appears just once in the gallery of thumbnail images on the Internet conjured up by my specific command "looking at x-rays". It is part of an exhibition held in the museum of photography and film based at George Eastman House in New York. George Eastman was the inventor of Kodak film, which very quickly became the film commonly used for printing x-ray images. Although the dates of the displayed x-ray images themselves are unclear, I have surmised from the little information available on the web page, that Hoffman's photograph dates back to 1968. The date actually given for the photograph on the web site of the Eastman Gallery is 1868, which predates the invention of x-ray photography. It was not until 1889 that George Eastman invented the flexible transparent film, a version of which we are now familiar with, which is often the medium through which an x-ray image is available to us as hard copy.[30] I mention this to re-iterate

[30] Issued by the Health Sciences Dept at the Eastman Kodak Company, *Screen Film Processing Systems for Medical Radiography: A Historical Review* (1989) by Arthur G. Haus and John E. Cullinan provides a comprehensive history of x-ray photography and the move from glass plates to film, along with the experiments and results of using various emulsions. Published in *RadioGraphics Volume 9, Number 6, Monograph*, November 1989

the gap that begins to emerge between fact and visual representation in such technologies as the World Wide Web.

Figure 2.1 displays multiple levels of engagement between the full x-rayed body in the viewing box, the imaged viewers, and the reflected photographer. In addition, we are made aware of the fact that *Life Magazine*, at one stage, bought the image from Hoffman and it has now be replicated on-line by the archivists of

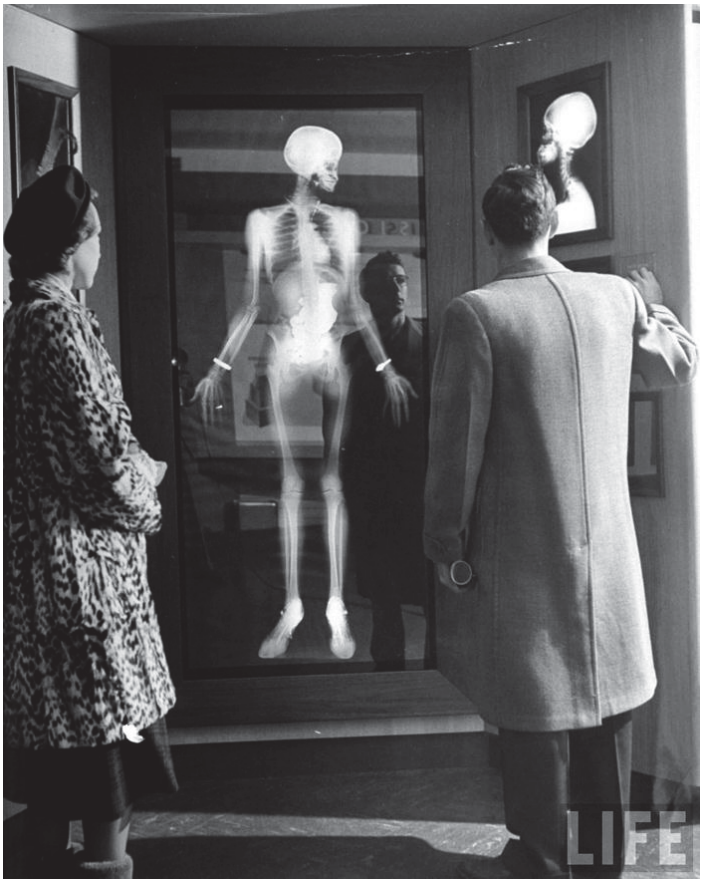

Fig. 2.1 *Men [sic] looking at an x-ray of a skeleton* by Bernard Hoffman

George Eastman House, where I found the image and am now re-appropriating it for my thesis. No doubt, there are strict copyright laws regarding any further publication of this image.

Retrieved 3/10/10 from: http://radiographics.rsna.org/content/9/6/1203.full.pdf.

Our first subject of the image, situated solidly in the centre of the shot, is the illuminated skeletal form that seems to greet the viewer with open arms. The male and female exhibition goers, their backs to us, stand firmly in their apparently designated places. Yet, noticeably, their proximity to the full-length x-ray image would not enable a full-length vision of the x-rayed body without the onlooker physically either moving their eyes or their body. Whether by accident or by design, and I suspect the latter, the on/off switch that activates the illumination of the image, is set just at the right distance for the viewer to have to bodily negotiate the full image. In the background, we can see the shadowy figure of Hoffman crouching behind his tripod, with just a dot of light denoting his camera flash. The adventurous switch monitor, it may come as no surprise, is the male viewer. His hand is pictured as seemingly attached to the light switch. Hoffman catches him in the act that brings the entirety of the image to its fruition. In short, it is Hoffman and the switch monitor's action that bring about the viewing event enabling the experience of revelation. The relationship between the skeletal form and the female on-looker appears not to be one of subject and object, but rather object and object — both objectified by the male presences in the room, neither of them seemingly in control of the event that they have become explicitly part of. Some years later, photographer Helmut Newton took a remarkably similar image of himself seen in a mirror reflection photographing a naked model, with his wife looking on.

Just in case we are under any misconceptions about whether the skeletal form, devoid of flesh, is male or female, we are given sufficient signifiers to clearly demarcate 'femaleness', not just through jewellery but also we notice that 'she' has donned a pair of high-heeled shoes. As an antithesis of the archetypal scene of fantasy involving the shadowy woman changing behind the screen so often seen in the cinema, this inversion offers something much more troublesome. Her illuminated skeletal form stripped of skin and clothes, confrontationally emerges as a 'mirror' image for the female viewer, through the dark screen and into her visual field. Rather than keeping the reassuring veil of mystery and seduction between those who gaze and the gazed upon, this latter day Eurydice appears just on the 'wrong' side of the threshold, boldly emerging into our illuminated lives. This image is also particularly noticeable because unlike most of the other images

that fall under the unifying search command of "looking at x-rays", it is not staged in a quasi-clinical setting, nor abstracted from any visual context, and yet it holds a vital visual key to what follows in the analysis of the practices of viewing x-rays and dealing with various interfaces.

The Body Spectacular

As mentioned earlier, Slater defines disenchantment as the 'reduction of the knowable world' through visual technologies, to 'discrete, observable, measurable *facts*' (Slater 1995, p. 221). Photography, as it abstracted from the material world, was the 'modern vision'. It was used for all sorts of public lectures on the sciences, as the antidote to superstition and magic and, most importantly, as the provider of proof. However, "in the very process of making public the disenchanted facts of the world, they can be re-enchanted through *visual spectacle*" (Slater 1995, p.223).

> The production of spectacle is not extraneous to science, but integral to its own logic. The demonstrator most rigorously reduces the world to appearances — seeing is believing — and demonstrates the laws of this world through cultural forms which involve a reascription of meaning to it.
>
> (Slater 1995, p. 226)

Production of the spectacle was assigned not only the revelations necessary for the authoritarian powers of the sciences to work for public interest and more importantly funding, but also produced a sense of wonder among the general public, which needed the expert or authority to manipulate and explain. This necessary sense of wonder and interest, both financially and intellectually, also encouraged a desire to believe in the power of technology and the perspicacity of scientific processes.

In 1967, writing about the phenomenon of the spectacle, Guy Debord described it as "not a collection of images, but a social relation among people, mediated by images" (Debord 1967, sec. 4). Foucauldian thinking typically finds a clear distinction between the idea of the social spectacle that is focused on the activity of individuals or small groups, and surveillance that enables a visual 'mapping' of the masses. Surveillance and the spectacle can then be seen in clear distinction. In

the prior the few are engaged in watching the masses, in the spectacle, the situation is reversed (Foucault 1975/1995). In the past, the clinic had treated the dissection of the corpse as a spectacle of anatomy that had engaged all the senses and was delivered unto the social body via the necessary death of an individual body. It might therefore be said that the spectacle was a mode of presenting knowledge.

With the marked increase of the uses of the photograph as evidence in the clinic, the discourses of authority through evidence and knowledge turned towards a system of surveillance where only the few were engaged in 'mapping' the social body. Clinicians and the medical body were privy to the bodies of the many through the photographic image.

In addition, the new study of the living anatomy through photography, was increasingly demanding, not only of new technologies with clinical perceptions, a survey of a society and its diseases, but also as society as 'image'. The fact that medically examining the body was becoming increasingly something restricted to the activity of the eyes meant that when the living body under x-ray examination took its place in the clinic, viewing practices among the clinical staff had to become more sophisticated as the images became more various. Reading the images, as well as reading the disease became paramount.

Viewing x-rays became a complicated process of learning to see complex surfaces interwoven in two dimensions, on one illuminated surface of the screen in the dark. It is in this viewing praxis, I suggest, that something of the visual aesthetic of empathy re-emerged; the visual empathy that became widely appreciated in the world of art and aesthetics towards the end of the nineteenth and early twentieth centuries and that embraced the notion of the embodied experience of the viewer. Although vision was privileged, the conditions of looking demanded a reassessment of space and time.

"Darkness slows down seeing" (Fisher 2002, p. 98).

Fig 2.2 Doctor looking at X-rays (1998-2000)

Philip Fisher concentrates on the environmental specificities of darkness as a syntactical viewing tool in 'reading' art objects. By examining the poet John Keats' singular experience with a Greek urn, in his poem *Ode on a Grecian Urn* (1820), Fisher discusses how the architecture and exhibiting praxis of many European museums and art galleries use lighting not only to build up the drama and the singular aspect of each of the objects, but also to conduct a way of 'reading' pictures and objects as information. In his essay, he makes reference to the 'conspiracy of light' delivered by the white gallery walls and the overhead lighting, wherein we are all bound to read pictures at surface level (Fisher 2002, p.98). The internally lit screen of the Internet can be said to provide an equivalent viewing space, where all images are presented equally, in terms of lighting at least.[31]

[31] Stafford (1999) also makes some fascinating points about the superfluity of images/objects exhibited as a "method for collecting and shaping information", with particular reference to 18th century "popular science demonstrators, polyhistorians [who] hunted after unpredictable connections and jumped across scholarly borders then erected [to enable] their presentation of information as miscellaneous spectacle as opposed to the nineteenth century's higher criticism with is anatomization of dead sources into lifeless bits of antiquarianism" (Stafford 1999, p.220-221).

Paraphrasing Meyer Shapiro's 1957 discussion on abstract art, we might also recognise that the possibility of viewing a thousand images on an Internet gallery wall (albeit twenty at a time) the comfort of your own home/office, can only exist because it is born of a culture "where visual images [are] ubiquitous while being more and more skilfully deployed as communication" (Fisher 2002, p. 97). Meyer's point is useful here because of his understanding of the transformation of images into 'slogans', driven by the excesses of advertising, both commercial and political. This is, after all, commonly understood as the modus operandi of the Internet. "The best slogans are catching, memorable, fresh, simple, and appealing," and work to dissuade the viewer from aesthetic empathy or 'engulfment,' the excess ensuring that the viewer only affords a glance (Fisher 2002, p. 96-97).

However, in the relative gloom of a gallery or x-ray reading room, where discrete objects are subjected to significant light, methods of looking change. Examining individual x-rays necessarily requires a different focus from the observation of an individual's collection of x-rays, wherein the trajectory of the imaged 'disease' is traced. Thus the clinical gaze differs from clinical observation but, like a cinematic film, each image is separated by dark borders and, like a cinema, each viewer is separated through darkness from the distraction of other viewers. Darkness in architectural spaces designed for viewing artefacts is therefore that same darkness that will 'act like a [visual] syntax' and provide a reflexive gap connecting moments in space and time in which to imagine the illuminated objects exhibited before us. Darkness affords us a moment of reconciliation, whilst that which is brightly lit is visible from a surface perspective and from quite a distance demands less of our attention. That which is darker, says Fisher, readily confers a space of depth and complication in visual engagement. In effect darkness demands the affordance of time (Fisher 2002). With affective manipulation, darkness allows an alternative embodied viewing and makes us look differently.

Incorporating this method of controlled or embodied looking and/or phenomenological framing into the language of aesthetic 'engulfment' might be

used in this context as a form of visual 'empathy' or einfühlung. Although it suggests a more dramatic engagement than one of 'feeling into' which is the traditional understanding of einfühlung, as Fisher explains it, "engulfment defines a wide spectrum of aesthetic energies". It is in this explanation that I hear clear echoes of the defining moments of Worringer's understanding of empathy (Fisher 2002, p.87).

> What I empathise into is quite generally life. And life is energy, inner working, striving and accomplishing. In a word, life is activity.
>
> (Worringer [1967] 1908, p. 5)[32]

It appears to have more similarity with Haraway's analysis of perceptive powers as being life-giving powers. By employing an active vision or a 'way of looking', the viewer is projecting a way of being onto the 'object'. For most of us it is commonly acknowledged that when the image of the world meets our eyes it is initially 'upside down', leaving the brain to organize it for us as 'right way up.' As McLuhan explains:

> Physically, we learn to turn our visual world right side up by translating the retinal impression from visual into tactile and kinetic terms. *Right side up is apparently something we feel but cannot see directly.*
>
> (McLuhan 2002, p. 207, my italics)

One might contest McLuhan's assessment that we 'learn' to turn our world the 'right' way, rather it is tempting to say that it is a matter of semantics which way up is 'right' or not. Ideas of the natural state of image inversion were already in place, but it was Descartes (1637) who saw this inversion as the necessary transaction between the retina and brain. Crucially, for Descartes, this meant that the image on the retina was not what was perceived. Descartes' system of perception was a system in which "sensory information perceived is nothing more

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[32] This passage, taken from the Introduction to Worringer's thesis, appears to clarify largely how Worringer understands Theodore Lipp's aesthetics of empathy. "Modern aesthetics, which has taken the decisive step from aesthetic objectivism to aesthetic subjectivism, i.e. which no longer takes the aesthetic as the starting point of its investigations, but proceeds from the behaviour of the contemplating subject, culminates in a doctrine that may be characterised by the broad general name of the theory of empathy. This theory has been clearly and comprehensively formulated in the writings of Theodore Lipps" (Worringer [1908] 1967, p. 3). Worringer went on to footnote that he does not deliver a full critique of Lipps theory of aesthetic empathy in his thesis but guides the reader to Paul Stern's *Einfühlung und Assoziation in der modernen Ästhetik,* Munich, 1897.

than a series of representations for the mind to categorize" (Mirzoeff 1999, p. 43). Therefore, perception had been historically known to be an "experience [that] confirms that all objects transmit their similitudes to the eye" (Mirzoeff 1998, p.39).

A Vision of Empathy

Empathy, or the desire for empathy as defined by Worringer, is intricately and necessarily involved with this visual act and the subsequent visual event.[33] The importance of the job of visualising makes clear the position that is taken by many in Visual Culture Studies who understand that the act of looking cannot be deemed as passive. Looking is undeniably active as it builds in "translations and specific ways of seeing, that is, ways of life" (Haraway, 1998, p. 697). The subtext of understanding the act of seeing, as being a penetrative act, is unavoidable. This highly masculinised engagement seems to be intrinsically bound to this version of scientific looking. This is arguably because of the dialectic of subject and object that becomes the central tenet of clinical engagement.

> Following Theodor Lipps, Worringer's thesis on modern aesthetics and what he calls the 'urge to empathy' begins with aesthetic subjectivism. That it is to say, it 'proceeds from the behaviour of the contemplating subject' but cannot culminate as a 'comprehensive aesthetic system' without acknowledgement of the contemplating subject's 'urge to abstraction'.
>
> (Worringer [1908] 1967, p.4)

> […] the urge to abstraction finds its beauty in the life-denying inorganic, in the crystalline or, in general terms, in all abstract law and necessity.
>
> (Worringer [1908] 1967, p.4-5)

> […] the urge to abstraction stands at the beginning of every art and in the case of certain peoples at a high level of culture remains the dominant tendency, whereas with the Greeks and other Occidental peoples, for example, it slowly recedes, making way for the urge to empathy.
>
> (Worringer [1908] 1967, p.15)

[33] I am adding to him here, as he does not specifically refer to anything called a 'visual event' however this is a reference to the rhizomatic visual language of Deleuze and Guattari, which is inescapable in the discussion of Internet searches although this thesis does not concentrate further on it.

Aside from the grandiose claims Worringer makes about certain ‘peoples’ and their ‘dominant tendencies,’ which are very much of their time, the decision to refer back to his text allows me the possibility of seriously considering the seemingly necessary binary polar positions given to abstraction and empathy that he employs. The following quotation throws things into a different light. It might need to be re-iterated here, that Worringer wrote his thesis, or ‘treatise’, to be directed *only* to the subject of plastic arts. He states this very strongly, however, as will become evident, the definition of plastic arts and the images I retrieved in searching for x-rays confused the visual logic of received definitions within the context of contemporary art practice, as increasingly digitally imaged x-rays on the World Wide Web are either being fully designed or manipulated.

> Whereas the precondition for the urge to empathy is a happy pantheistic relationship of confidence between man and the phenomena of the external world, the urge to abstraction is the outcome of a great inner unrest inspired in man by the phenomena of the outside world […] We might describe this state as an immense spiritual dread of space […] In popular terms, this physical dread of open places may be explained as a residue from a normal phase of man’s development, at which he was not yet able to trust entirely to visual impression as a means of becoming familiar with a space extended before him, but was still dependant upon the assurances of his sense of touch.
>
> (Worringer [1908] 1967, p. 15-16)

X-ray images once comfortably incorporated into the image lexicon as ‘abstract images’ or ‘abstractions,’ are in a strange position of being involved in an ‘empathic relationship’ in and out of the clinical scenario. After being initially abstracted from the embodied subject, they are increasingly abstracted through over exposure and dissemination on the World Wide Web. Through this dissemination, they thus become less significant as evidence and more ‘objective,’ in the sense that they pertain solely to one subject or provide empirical evidence, and emerge or immerse themselves in contexts that require various modes of contemplation. And so they come to exist as both images inducing empathic engagement, and artefacts that work to abstract us from the central concern, as well as from our own senses. Their aesthetic qualities have become embroiled in a confluence of ‘slogans’, ‘consumable chunks’ of the body.

Fig. 2.2 can be read as a nostalgic or romantic vision of the clinical practitioner reaching out of the shadows to an illuminated imaged anatomy to sublimate disease through a healing touch, or alternatively as a medical professional indulging in the 'primitive' urge to abstract rather than empathise. Unable to feel confident with examination by just 'feeling into' the body's interior by looking, the physician finding herself exteriorised, becomes aware of the necessity to mimic the movement of surgery, to reach into the body, to connect with the object of the anatomy or rather the image artefact that implies its own subjectivity. The space between the image and the body, therefore, seems to be a space that is still fundamentally mistrusted. The proximity of image and viewer needs to be reinforced manually.

Further searching through the archives of the Internet, through the search command "looking at x-rays", reveals plenty of anecdotal pictorial evidence of how physicians, radiologists and radiographers examine x-ray images. The search reveals that nearly all the images depict a practitioner touching, or more specifically, holding on to the abstract image. What then can we understand about the functional way of looking at x-rays? Would the resources of the Internet have us believe that examining an x-ray was reliant upon manual touch? It is clear that vision and touch are not yet mutually exclusive and what is exhibited most regularly through the thumbnail gallery images of "looking at x-rays" is the jubilant gesture of the medical professional, seemingly in the act of discovery, depicted holding the imaged interior of the anatomy up to the radiant light in a gesture of revelation. This, however, is deceptive, as we shall see.

The reality of examining x-rays, both on and off the screen, offers a very different scenario. It is also important to note that many of the images displayed on the World Wide Web are staged and are therefore photographed under extreme studio lighting. This, of course, adds another euphoric glow to the image. The importance of the depiction of light as being the source and product of comprehension is aesthetically still strong then.

In 1757, British philosopher and statesman Edmund Burke claimed that darkness was one of the sources of the sublime. In his view the sublime was a source of

"aesthetic displeasure" (Burke 1757, sec. xv), combining admiration and fear, and even terror. Burke's rationale for this analysis outlines the physical and/or mental effects of darkness on the anatomical eye. Covering in some short space the topics of blindness, the coloured skin of the object of vision, and the physiognomic conflict between the eye's iris, expanding whilst stimulated by light, and the eye's pupil, as it gets enlarged in darkness searching for light, Burke's assessment was that "bodily organs suffer first, and the mind through these organs" (Burke 1757 sec. xv). He placed great importance on the physiognomic responses and that is what is of interest here. This physiognomic battle, as Burke depicted it, not only graphically re-presented a corporeal battle, but rationalized 'the effects of black' or darkness into a 'terrible space' (Burke 1757, sec. xv).

> Though the effects of black be painful originally, we must not think they always continue so. Custom reconciles us to everything. After we have been used to the sight of black objects, the terror abates, and the smoothness and glossiness, or some agreeable accident, of bodies so coloured, softens in some measure the horror and sternness of their original nature [...] Black will always have something melancholy in it, because the sensory will always find the change to it from other colours too violent; or if it occupy the whole compass of the sight, it will then be darkness; and what was said of darkness will be applicable here […]
>
> (Burke, 1757 secs.xiv-xvii)

Burke's phenomenology had a great impact on Kantian aesthetics and general understanding of the sublime in Art. The sublime, already translated as 'elevated and lofty' in rhetoric, thus took on a visual rendering which relegated the sublime much closer to home, for it was in the physical eye that the battle of light and darkness was initiated.

> As soon as man became a biped, and as such solely dependent upon his eyes, a slight feeling of insecurity was inevitably left behind.
>
> (Worringer [1908] 1967, p. 16)

According to Worringer, the negotiation of external space, that is to say, space outside the parameters of the body, depended on a natural inclination of the

human to place himself within the external world. This facilitated an appeasement of the somatic psychic through the mediation of sight. Experiencing this embodied world or 'self activation', the 'primitive' urge to abstraction was inspired by the "immense fear of space," and naturally "slowly recedes, making way for the urge to empathy" (Worringer [1908] 1967, p. 15-16).

As aesthetics was debating visual engagement with the external world through the body in space and the shadows it cast, the clinical world had a completely different set of priorities with images of the interior world that projected attached shadows of a very different nature. One of the earliest forays into examining the effects of perception and its influence on reading x-ray images correctly was carried out in 1901 by the French physician Antoine Béclère. He advised strongly, "that it was indispensable that the power of penetration of the Röntgen rays should be exactly adapted to the luminous sensibility of the observer" (Pasveer 1989, p.365). Pasveer tells us that, in effect, Béclère was suggesting that the radiographer should "accustom his eyes to the dark before interpreting the fluorescent screen" (Pasveer 1989, p.365). Béclère has been credited as one of the few that carried out important early research into the "sensitivity of the retina to the light of a fluorscopic screen" but it was to be another fifty years before Béclère's isolated study would be noticed again.

> Béclère […] observed that it took 20 minutes to achieve maximal visual sensitivity, that sensitivity depended on the colour of the light, and that dark adaptation was "absent in the fovea." He correctly related his observations to the then-newly developing knowledge of the physiology of retinal rods and cones and concluded correctly that complete dark adaptation was essential to being able to see details during fluoroscopy.
>
> (Kundel 2006, p. 403)

In 1941, W. E. Chamberlain of Temple University, Philadelphia, gave a lecture on "Fluoroscopes and Fluoroscopy" at an annual meeting of the Radiological Society of North America. This lecture "rekindled interest in dark adaptation, visual acuity, and the limitation on image quality imposed by the quantum nature of radiation" (Kundel 2006, p.403). A large part of the difficulty for images

generated through fluoroscopes and fluoroscopy, was that “the image appears immediately on a screen [and] was especially useful for examining an internal organ in action” (Holtzmann Kevles 1989, p.111). Fluoroscopy produced images that were not static and therefore were unclear.

Chamberlain explained to the experts gathered that the fluoroscopic image was weak, not because of the technology but because of the human eye (Holtzmann Kevles 1989, p.112). It was deemed that about thirty percent of the x-rays were actually picked up by the fluorescent screen and what was needed was an improvement on the luminescence of the screen, without increasing the levels of radiation (Holtzmann Kevles 1989, p.112). At the end of the nineteenth century, English photographer Archibald Campbell Swinton had introduced ‘image intensifiers’ to the practice even though they had been discussed as intrinsic apparatus in clarifying the image back at the beginning of the decade. Using calcium tungstate to coat his screen, he was able to achieve a clearer image whilst also enabling a shorter exposure time.

After World War II, with the introduction of more controlled electrical mechanics, another ‘image intensifier’ was manufactured which provided even more clarity, and which also could be preserved onto cinematic film (Holtzmann Kevles 1989, p.112). The ability to read these pictures, at least at the beginning, was still confined to those who were familiar with which specific manner of processing and printing was being employed.

Harold L. Kundel is just one of an interested community of medical doctors, radiologists, technicians and engineers who are currently actively researching perception and its role with medical imaging technologies for MIPS, or the Medical Imaging Perception Society. Founded in 1997 in the United States, the MIPS “aims to promote research and education in medical image perception and to provide a forum for discussing perceptual, cognitive and psychophysical issues by radiologists and scientists” (Manning; Gale; Krupinski 2005, p. 685).

Radiologists have, correctly, regarded image analysis as their primary field of research. They have naively assumed that what they perceive in images is a

faithful representation of the images' information content and have not been very concerned with the process of perception itself, until it fails. Failures show up as observer error and uncertainty, both of which affect judgments about image quality attempts to objectively evaluate imaging technology, and especially everyday image interpretation (Kundel 2006, p.402).

Research so far carried out on the 'perceptual component of image interpretation' is largely focused on "psychophysics" which is described as having the "ultimate goal" of developing "mathematical models that allow the prediction of the system output from any arbitrary input" (Kundel 2006, p. 402). However, it seems that rather than build up these models to cover further arbitrary inputs, as W. J. Tuddenham in the 1940s, 1950s and 1960s, points out, one major source of error occurs when "an observer was satisfied with the meaning of an image, [and] active search was stopped […] observers do not report unexpected findings on images when they have found something suggested by the original search task" (Kundel 2006, p.406).

Early x-ray images "showed too much, and therefore too little" (Pasveer 1989, p. 367). Along with this, the confusion in language within the discussion of x-ray 'shadows' is often susceptible to the difficulties of 'precise meaning' when using the terminology of radiography. This also leads to difficulties of interpretation (Simon, 1971).

> Confronted with an abnormal shadow, the observer's first obligation is to give a factual report on what he sees or thinks he sees in regard to its size, shape, position, and other characteristics, and also its effect on surrounding or nearby normal shadows. A statement of this kind is necessary in the patient's interest, since it is a record of what is seen at the time, should the radiographs be mislaid, and an indication of the basis from which diagnostic conclusions were drawn. A certain amount of 'observer error' is inevitable at this stage.
>
> (Simon 1971, p. 1)

The establishment of a safe and effective viewing practice was, in the early days, of paramount importance. Initially viewed on glass plates, by the 1920s satisfactory x-ray images were appearing on Eastman Kodak's 'flammable cellulose nitrate' product, but by the end of the decade, Kodak had remedied this flammable problem and the film was produced relatively cheaply. Research on

the conditions of viewing radiographs or x-ray images has been increasingly conducted, as viewing practices become more centred on personal computers and newer technologies. An example of this research appeared in 2003, with reports alerting the medical profession to the dangers of using the 'nearest available light source' as a means of viewing an x-ray. The studies showed that light sources play a major role in how these transparent images are read. The studies revealed that, contrary to the belief that a viewing box was the only effective apparatus for examining x-rays, another effective source was "daylight from a north facing hospital window" (Blackshaw et al. 2003, p.100).

> […] the quality of daylight from a northerly direction in the northern hemisphere of the world, and conversely from a southerly direction in the southern hemisphere has long been favoured by artists and photographers alike, for its even intensity and absence of shadow.
>
> (Blackshaw et al. 2003, p. 100)

McCarthy and Brennan's study showed that it is usually the radiologist, charged with interpreting the image, who initially views the artefact in relative darkness with only the specific source of light emanating from the viewing box. However, for the clinician and in the hands of the radiographer, windows in the wards are left unshielded and the ambient lighting remains on (McCarthy & Brennan 2003). In other words, when the 'patient' is present, dark atmospheres are not encouraged, but for successful reading of the image it is ambient light that is not encouraged. The theatrics of using a light box in the ward are nothing more than a prop to reveal the image to the patient. The intense viewing done by the radiographer and the consultant would already have been carried out a darkened space with close examination of the image through the lightened viewing box.

From McCarthy and Brennan's research, which seems to suggest that the 'neutral space of the viewing box' need not necessarily be the appropriate place of viewing, there is a sense made of images of x-rays not being read through computer screens as alternative light boxes. The lit environment establishes the proximal distance between the patient and their imaged body with little

encouragement for the patient being ‘engulfed’ or ‘feeling into’ their imaged interiority. The patient quite literally puts their body in the hands of the clinical profession, their body now identified through their body image. The body has been ‘tamed’ by the machinery, and framed into a space of discipline. As the use of x-ray imagery has become more socially familiar, the uses of the technology have become increasingly more troubling from an ethical point of view. As the technology of the clinic infiltrates everyday life, we see evidence of the private body becoming ever more scrutinised by a public body. The following three images, although intrinsically revealing the same treatment of the body through x-ray images, shows how the private body has been reclaimed through publication and public interest. Although there is little evidence of censoring the ethically troubling comments engendered through this display, the common trends of the conversation treat the image as a subject of conversation, of discussion. The body in the image is fully objectified by those who are discussing the issues arising through x-ray searching at airports. It is the technology that takes precedence in their stories as well as their own bodies – their bodies that in the Shadow Clinic are rendered, invisible.

Private Bodies/Public Anxieties

The following image also appears through the same search command “looking at x-rays” and has, in the last few years, taken on iconic status. It exists in sharp contrast to the quasi-clinical images available, most of which are stock images owned by advertising firms whose remit is to project the reliable and concerned face of the medical industry. In a similar manner to the historical discourses of surgery in the eighteenth and nineteenth centuries, the image renders the anatomy the central focus of nation building, colonial expansion and gender definition; as a desired effect, this image appears as visual evidence that national borders are being protected by x-ray imaging technology. Markedly, however, conceptual and real borders are revealed to be grossly transgressed through the uses of this image as it foreshadows an engagement with x-ray imaging technology that extends beyond social control or national security, through the spectacularisation of embodied threat, to private anxiety.

This image appeared three times in my search "looking at x-rays," initially with the caption "x-ray horror." The caption belies what horrors the text that accompanies this image has to hold. My initial assumption was that it would be a diatribe on the horrors of airport surveillance and the ensuing restriction of human rights that has been quite regularly the accompanying rhetoric. Instead the accompanying text reads:

Fig. 2.3 "x-ray horror"

"X-ray cameras - NOT A GOOD IDEA

You THINK they'll be a good idea, when looking at the girl on the checkout, but in reality it's pretty hard to wank over pasty while* [sic] bald chicks"

*(I suspect, the 'while' is supposed to be 'white'.)

The second time the image appears it carries with it a different caption. This time it is more considered and is simply entitled "back scatter." The accompanying text is an impassioned plea for the rights of disabled women travellers in the form of a personal blog. A section of the blog entry reads as follows:

People with marginalised bodies already have major issues with air travel – with the uncertainty of the security process, with the practicalities of dealing with aids and needs while travelling, with the spoon-sapping of travel, with no option but unfamiliar foods that may affect the body unpredictably, with the difficulty of maintaining personal privacy in prolonged periods in close quarters with others, with unpredictable delays that affect health, with security threats when bodies don't 'match' identification documents.

Soon there may be one more element in the mix: the sure knowledge that one's personal business will be laid bare in front of security-theatre goons who will almost certainly be poorly trained in disability awareness and gender tolerance.

I give it 24 hours before clandestine mobile phone images of travellers with marginalised bodies show up on the Internet. Is this worth it?

By the third time it appears on the Internet, both the image and its interpretation have changed dramatically and carry a whole new message that barely relates to the image at all, although the text seems to carry the same concerns about the possibility of compromised visual information.

Having a strange airport employee looking at your "naked" image on a full-body x-ray scanner might be disturbing enough. But what if hackers got access to your "virtual strip search" and distributed it to an even wider audience? […]

(*Sydney Morning Herald* "X-ray security: can airport system be hacked?" by Arjun Ramachandran, January 7, 2010)

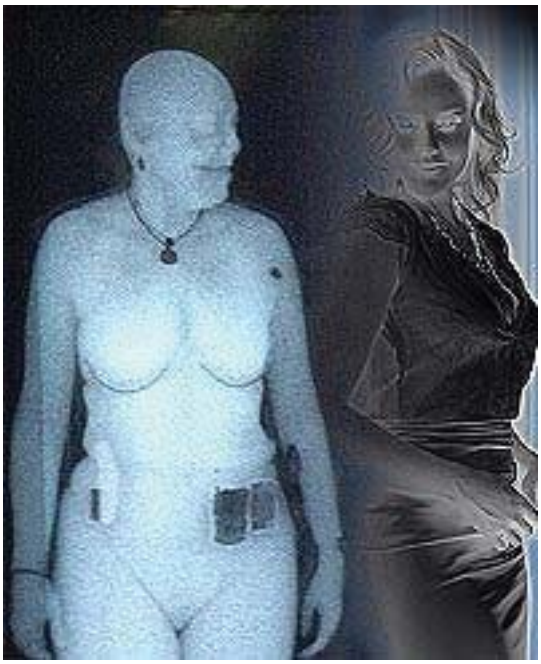

Fig. 2.4 "scanning, how private can it be?"

A 2010 news report aired on the United States' network television channel CBS reported on how nervous the public were about allowing their 'naked' bodies to being imaged by their government. Yet a CBS news poll conducted during the week had established that 81 percent of Americans conceded that airports should use full-body x-ray machines.[34] What is revealed through on-line discussions is that through the World Wide Web individuals have an anxiety about these images being saved by rogue employees at the airport, or hacked into by criminal parties, who then display them on the Internet. The CBS presenter assures the viewer that the images are not saved whilst at the same time coyly manufacturing some excuse why he will not put himself through the technology. His mixed messages only serve to feed the public hysteria. After all, it is clear that his news broadcast might be a 'live feed' then, but news media necessarily is saved as documentation.

The feeling of vulnerability of those subjected to x-ray examination at airports is clearly a strong factor that we can gather from numerous postings. However, in Fig. 2.4 the intensity of the image of the x-rayed subject is heightened into a clear

[34] Retrieved 8th February 2011 from: http://www.cbsnews.com/video/watch/?id=7059890n.

gender based discourse on body image and femininity. Accompanying the, by now, familiar image of the x-rayed security guard as she bares her hidden paraphernalia to the world at large, is the 'negative' print of the luscious bombshell, fully clothed and appearing to emerge through the back door. It seems we are being asked to compare some level of eroticism as well as consider who is the more dangerous. Once revealed under the revelatory powers of x-rays to be carrying her weapons, our x-rayed guard, symbolising a dangerous passenger, is no longer a threat as she is encased in her 'black box' incorporated in the image. However, the negative impression of femininity emerging from the lighted room, symbolising the 'hacker' from the outside world, poses another threat, leaving a metaphorical confrontation between the worlds of information dependent upon, presumably, male control. On the World Wide Web, the discourses of airport security, all too quickly, emerge as visual discourses of a shadowy world populated by threatening women.

Lisa Cartwright offers a comprehensive record of how the cinema becomes a particularly identified "institution and apparatus for monitoring [and] regulating" the body (Cartwright 1995, xi). It is, she says, "a mode geared towards temporal and spatial decomposition and reconfiguration of bodies as dynamic fields of action in need of regulation and control" (Cartwright 1995, xi). Since Michel Foucault (1972; 1975; 1995), the topics of regulation, control and surveillance have been regularly discussed in the study of visual culture, through health systems, sexuality, punitive establishments and education — in short, socially active bodies controlled by 'looking'. Foucault's establishment through analysis of the 'clinical gaze', employed in the clinical situation introduced other options for discussing particular ways of looking at the human body, for instance, the 'male gaze' or how women are 'looked at' in the world of cinema, where "cinematic codes create a gaze, a world, and an object, thereby producing an illusion cut to the measure of desire" (Mulvey 1999, p. 843).

As Cartwright explores the sibling relationship between film and x-ray images we are constantly reminded of the power relationships that technology and the images produced by technology are implicated in and how they subsequently organise social culture through visuality: from historically taboo subjects such as deformity

and pornography, to close scrutiny of biological anomalies, everything is photographed or filmed, screened and watched. Film screenings had surreptitiously become another diagnostic tool for science, as Cartwright documents. More recently, we can see that the World Wide Web has become the forum for projection and screening but as becomes clearer it is also a peculiar forum for individual, as opposed to institutional, manipulation and a deregulation of images of the body. Through a multitude of web sites on the Internet, it becomes increasingly visible that x-ray images are becoming easier to construct or design, and the image of the x-rayed body, easier to create.

The perception and interpretation of x-ray imagery has been intrinsically problematic since its innovation and yet as art historian Barbara Marie Stafford argues, in a world "besieged by images" which work so profoundly on the public psyche, it is "bewildering" that those proficient in the analysis of images have no "political importance" (Stafford 1994, p.10). Her concern is that the interpretation of clinical or medical images and how they are 'making' practices, are overlooked in favour of imaging technologies and their all too often deceptive perceptual strategies, such as 'smoothing, noise removal, segmentation-correlation matching and time variation imagery' (Stafford, 1994, p.14). In short, her concern is that the visual clutter of 'information' and/or visual 'short cuts' appears to bombard a screen in modern medical imaging.

In the following examples, I have used an image taken directly from a personal web site. It is an image that exists as part of an autobiographical diary that has recorded and reflected upon reading the Bible every day for eighty days in total. Although appearing under the same umbrella command of "looking at x-rays," it subverts the marketable image of the clinician examining x-rays, to indicate that people are looking and seeing all manner of visual significance within the image.

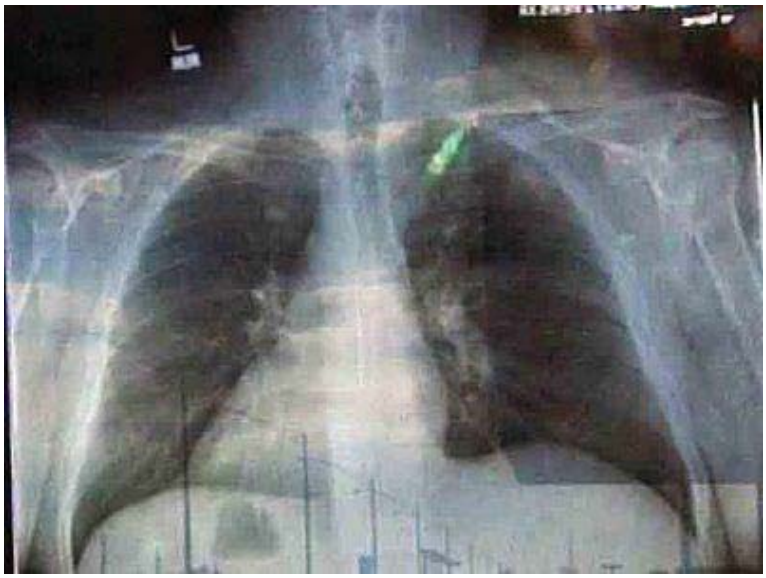

Fig. 2.5 [original] “Some people see Jesus in this x-ray. Seems we’re looking for him everywhere.”

I have taken the original image and then enhanced a couple of rudimentary visual approaches available through a Mac computer, and have aimed to ‘clean’ up the places where I consider the apparitions to be most clear. Of course, it was absolutely necessary to know what it was I was looking for.

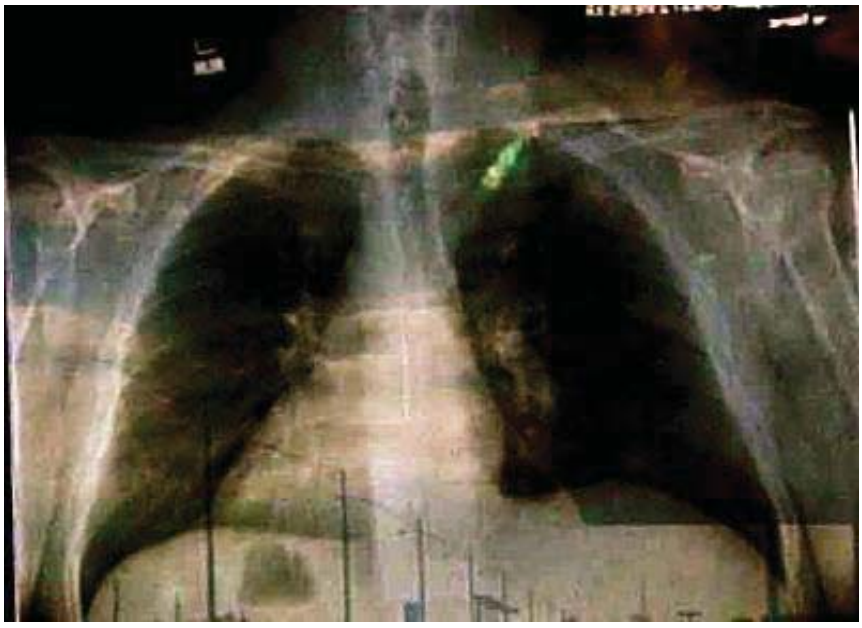

Fig. 2.6 The same picture after my manipulation with contrast boosted x 3

On closer examination of this image and some digital manipulation to enhance certain areas through increasing the dark and light contrast, I consider that what might be recognised as typical image representation, or iconic image, of Jesus actually appears twice. It is evident once in crucifixion form, through the symmetrical manifestation of spine and shoulders, and again, just to the right of the heart, in the left lung cavity, in form of just the fully bearded face. As I was looking at this image, trying to identify where I might see Jesus, I was more interested in how there appears to be a line of street lights which emerge from half way down the left hand side of the picture and disappear towards the right at the bottom.

Fig 2.7 The same picture with contrast boosted x5

It is clear that the mood of the image and the focal direction are quickly changed with just a suggestion of what might be present in the image and enhanced visual depth through contrast and variegation. It is most important to understand here s that neither I, nor the writer of the blog page, are looking from the medical or clinical perspective. In other words, we are not looking for the purposes of diagnosis, but in my case, for the purposes of analysis post experimentation. Undeniably, there is a parlour game aspect here to the ‘looking’, where Gestalt

psychologists have taken up the gauntlet and have seriously recognised and articulated the complexity of perceptual organization. In effect, what I have tried to demonstrate is the very simplicity of the process of transformation of an image using digital interfaces, once it is determined what it is that is being looked for. I have achieved, with the most easily available built-in tools, a crucial perceptive category for x-ray reading, the signal to noise ratio.

Betty Holtzmann Kevles describes the process that the rays go through once the 'shadow' of the objects that have absorbed the x-rays is retained.

> Rays that are diminished in their intensity by absorption are said to be *attenuated*. Still other rays ricochet off tissue and bounce off in random directions, to hit the film somewhere off their original straight path. These make gray blurs on the film and decrease the contrast of the attenuated rays. The proportion of attenuated rays to random rays is what is known as signal to noise ratio. The *signal* is the ray from a real image: the *noise* is the amount of random rays striking the point where the signal is recorded.
>
> (Holtzmann Kevles 1997, p. 21-22)

In other words, "an object is visible in an image because it has a different brightness than its surroundings. That is, the contrast of the object (i.e. the signal) must overcome the image noise" (Smith 1997-2007). By transforming the same image through easily available filters, I have considerably changed the focus of what material is to read through what I have rendered unavailable. In the final chapter of this thesis I return to this point, in the context of 'white noise' used for stabilizing an x-ray image.

Semiotics and Roentgen Signs

It is important, when comprehending x-ray imagery, or rather when acknowledging perceptual order, to understand which segments are connected and as we have seen, the nature of the attached shadows. Robert M. Cantor M. D., conversant with radiology and semiotics, uses these two facets to analyse the semiotics of x-rays, or what he calls "Roentgen signs" (Cantor 2000). He identifies important issues about looking at x-rays that straddle the aesthetic as well as the pragmatic. Once we become used to looking at particular types of images, we might be said to acquire a 'visual habit', or "an expectation that is

acquired through training or experience. Fulfilment of such an expectation is experienced as an emotion of comfort" (Cantor 2003, p. 28).

If we consider this in terms of Worringer and aesthetic empathy, we can see the possibilities of an'empathic gaze' but only, it seems, if we are familiar enough with the image genre.

> Its psychic presupposition…is the process of empathy, for which the object nearest to hand is always the cognate organic, i.e. formal processes occur […] which correspond to the natural organic tendencies in man, and permit him, in aesthetic perception to flow uninhibitedly with his inner feeling of vitality, with his inner need for activity, into the felicitous current of this formal happening.
>
> (Worringer 1967; p. 33)

Thus as the visual habit allows "aesthetic perception to flow uninhibitedly," the activity of looking, through the process of recognition and apperception, renders possible the 'empathic gaze.' Taussig cites Walter Benjamin who asserts that everyday perception cannot be "solved by optical, contemplative, means, but only gradually, by habit, under the guidance of tactile appropriation" (Taussig 1991, p. 149).

To deal will the full complexities of Cantor's semiotics, which are heavily influenced by those of C.S Peirce, would need more space and time than is available within my project, but through an analysis of how x-ray images exhibit shadows and how they become interpreted, I shall continue to briefly explore the "indexical" qualities of the shadow among its other attributes. This will necessarily involve negotiation of, not only the '*indexical*', but also the '*representatem*', the '*ground*' and the '*object*'.

> […] by being really and in its individual existence connected with the individual object, [t]hen I call the sign an *Index*.
>
> (Peirce cited in Bal & Bryson 1991, 251)

The sign of the *index,* or in the plural *indices,* is possibly the simplest to understand conceptually of all of Peirce's signs. For Gillian Rose, the indexical sign is defined by being the 'inherent relationship between the signifier and the

signified' (Rose 2001, p.78). As Rose points out, having this 'inherent relationship' means that it is therefore based in cultural and historic specifics. As Peirce explains, 'an index is a sign which would […] lose the character which makes it a sign if its object were removed' (Peirce 1991, p. 239). Thus we can see that the 'index' is therefore firstly "really there" and simultaneously reliant on the *object* in order that it keeps its significance. The physical shadow, as we have seen, falls into this category, as darkness signifies absence of light. In radiology, the darkest areas are denotative of air, or where the rays have not been blocked between the x-ray source and the photographic plate. It is therefore the lighter areas that are explicitly shadows. Mieke Bal and Norman Bryson offer this clear interpretation of the Peircean sign:

> A sign, or *representamen* is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, creates in the mind of that person an equivalent sign or perhaps a more developed sign. That sign which it creates I call the *interpretant* of the first sign. The sign stands for something, its *object*. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the *ground* of the representatem.
>
> (Peirce cited by Bal and Bryson 1991, p. 188)

Cantor's later work showed radiographic signs to be the 'interpretants of Peircean signs', in effect x-rays were signs of something else, whether it be disease or fracture or medical intervention, or examination, or bodily order etc.

> [A] Roentgen object is an anatomic event in the human body that is referred to by a Roentgen representatmen (image). Hence, the Roentgen **ground** of a Roentgen sign is the human body […], the **image ground** of a Roentgen sign may be a film or a video monitor. It has been shown that a Roentgen interpretant is a conventional radiographic sign. Until recently, Roentgen interpretation has been solely a function of the human mind. However, with the advent of computer-aided diagnosis, the **interpretant ground** of a Roentgen sign may be either the human mind or an artificial neural net.
>
> (Cantor 2002, p.29)

So between the two semiotic approaches of Peirce and Cantor it is possible to understand that the human body, in the course of an examination under x-ray, becomes a 'sort of idea' if we are to understand it as a Peircean, as existing in an 'interpretant ground.' When discussing the "semiotics of difference in Roentgen signs" Cantor defines the object ground of a sign as being an "anatomic structure or the mind of the interpreter" and the object of a Roentgen sign as an "anatomic event in the body of the patient", thus the object cannot exist without the object ground (Cantor 2006, p. 298). Phenomenologically, this re-iterates the paradox of whether that which is not seen can be said to exist visually.

He also talks of the representamen ground of Roentgen signs, "which may be a physical image or the mind of an interpreter" (Cantor 2006, p. 298). As we have already seen, this is not necessarily an organic human mind. "An interpretant ground of a Roentgen sign may be the mind of an interpreter or an artificial neural net" (Cantor 2006, p. 298-299). It is clear that none of the Peircean signs can exist independently and are thus interdependent.

The most comprehensive recognition of an indexical sign is the finger pointing (Rosensohn 1974; Bal and Bryson 1991; Krauss 1977). It indicates towards nothing, but directs the gaze away from itself. Peirce's examples of indexical signs lie in an "existential relation or factual connection" (Rosensohn 1974). His most famous example is a weathercock representing the wind whilst it turns with and is affected by the wind. Later examples become a little less clear — a rap at the door that indicates the visit of a stranger or the sundial indicating the time of day (Peirce 1868; Rosensohn 1974). For both these examples, I return to Rose's use of 'inherent' to clarify the limitations or paradigms of the index. A rap at the door is only an indication of a stranger if it is not a branch of a tree, and the sundial is geographically bound, as well as culturally bound, in the notion of time. The index sign is therefore bound, in these cases, to exist only with an interpretant or image of what it *might* be. Rather than a trace or reflection, the indexical sign takes shape as a probability.

In relation to a prosaic understanding of the x-ray image, the areas of darkness denote multiple situations. In the background area around the figure presented,

there clearly lies a dark space. Involved in the make-up of the figure, there are varying degrees of darkness that separate and combine what is commonly understood as the focus or foreground of the image, namely the bright appearance of the skeletal figure. These dark fissures can be read as visual syntactical devices that define areas of interest, areas that lie in between the gaps. As a radiographer, it is essential to understand the anatomy and visualising technology to such a degree as to be able to distinguish clearly the dark line that denotes fracture or alternatively a crease in material, or hair on the lens, in short, visual arte-factual evidence lays open various possibilities in reading.

Taking x-ray images out of the clinic changes the dynamic of how the image exists in the world in no uncertain terms. The context of visual material not only produces other ways of looking, but completely new meanings. The lived experience of looking offers the opportunity of discovering an‘urge to empathy,’ as described by Willhelm Worringer, and as crucially, it underpins my experience of searching and finding on the Internet. Yet the activity of looking, or rather the portrayal of the activity of looking, still seems to carry with it certain parameters; it still perpetuates the subject/object divide by codes of difference; whether gendered, racial or through health. In the early Hoffman photograph where the male viewer is reflected in the spectacle, along with activating the screen, the process of being a viewer was never going to be, for him a passive experience. Airport x-ray screening takes advantage of the authority manifested in visual images to conduct its objective but gets subverted through Internet traffic that reveals subjective anxieties. The relationship between touch and vision vital to clinical looking has emerged in this chapter as a vivid indicator of the defining lines between subject and object, and indexical relationships. By manipulation of the keyboard on my computer, the same image takes on different meanings. No longer is the shadow the sign of an object, or the representatem of absence of light, but rather, in this digital format, it signifies mechanical manipulation and aesthetic preference as well as physiognomic engagement.

Perhaps, bearing in mind how easy it is to manipulate the image, the conversation between semiotics and Röntgen images is a vital one if x-ray images are to remain a clinical tool. In the next chapter, I examine more fully the emergence of the

Shadow Clinic through Foucault's concept of 'heterotopia'. These 'othering spaces,' indicative of secondary transgressive spaces, are also incorporated into both my conception of life on the Internet and a 'shadow' existence. The space that shadows offer is interesting because not only do they indicate the presence of the object/subject, but they also suggest that the intrinsic presence is already not there. This is the bodily existence situated in the Shadow Clinic.

CHAPTER THREE

Spatial Shadows on the Internet

No light could now dissolve them in ideal truths; but the gaze directed upon them would, in turn awaken them and make them stand out against a background of objectivity.

(Foucault 1989, p.xv)

Searching under the command "clinical x-rays" revealed 323 x-ray images out of a 1000. Almost half the images were x-rays of sundry body parts, but there were still a large number of portraits of staff that 'worked' in clinics and of clinical technologies for sale.

In 1967, when Foucault wrote on "other spaces" or "heterotopias," he suggested that the nineteenth century was an epoch that had been centred around time and the 'second principle of thermal dynamics',[35] whereas the twentieth century was one of an interweaving of time and space; an epoch of "simultaneity" (Foucault 1984, p.1). His discourse on spaces fundamentally evolved from a negotiation of the European historical attachment to places. In the Middle Ages there existed a "hierarchic ensemble of places" (Foucault 1984, p.1). Her defines the concept of 'places' as allocated space in reference to each other: the sacred and profane, the urban and the rural, "protected places and open, exposed places" and the "places where things have been put because they had been violently displaced […] this intersection of places that constituted what could very roughly be called medieval space: the space of emplacement" (Foucault 1984, p. 1).

[35] "The second law of thermodynamics states that in general the total entropy of any system will not decrease other than by increasing the entropy of some other system […]In mechanics, the second law […]places limits on a system's ability to do useful work […]Entropy is the only quantity in the physical sciences that seems to imply a particular direction of progress, sometimes called an arrow of time […] from this perspective, entropy measurement is thought of as a kind of clock". Retrieved 11/02/11 from: http://en.wikipedia.org/wiki/Entropy.

These ‘spaces of emplacement,’ were disrupted by the findings of Galileo in the late 16th and 17th centuries. The discovery that the earth was not the centre of the universe was enough to disrupt negotiation of place and space, but the knowledge of the earth being in constant motion also opened up further fears and possibilities. As Foucault discerns, the greatest fear emanating from Galileo’s discovery was in accepting his “constitution of an infinite” (Foucault 1967, p.1). Thus “a thing’s place was no longer anything but a point in its movement, just as the stability of a thing was only its movement indefinitely slowed down. In other words […] extension was substituted for localization” (Foucault 1984, p.1). This is more clearly visible as a concept through consideration of shadows.

The extension of the physical body into information bytes in the Shadow Clinic means that our traditional notion of visibility as the underpinning of knowledge is profoundly disrupted. The Classical view of extension in the seventeenth century, as defined by Foucault, is still clearly visible today in the form of such projects as the Human Genome Project but also the project of the Clinic, extending the place of the human body both backwards and forwards in time, and compressing the body for visual access whilst always attributing the human with the quality of ‘object’. Classical knowledge of the natural world, more specifically, natural history from the seventeenth century onwards, did not emanate from men looking “harder and more closely” but relied on “[o]bservation […] a perceptible knowledge furnished with a series of systematically negative conditions” prompting a negation of the senses and ‘hearsay’ (Foucault 1994, p. 132-133). Sight was thus venerated as “being the sense by which we perceive extent and establish proof, and in consequence, the means to an analysis, *partes extra partes* acceptable to everyone” (Foucault 1994, p. 133 original italics). If the natural historian wished to improve their means of analysis by looking through a prosthetic lens, it was at the expense of their other senses.

> [O]ptical instruments were used above all as a means of resolving problems of generation. In other words, as a means of discovering how the forms, arrangements, and characteristic proportions of individual adults, and of their species, could be handed on down the centuries while preserving their strictly defined identity.
>
> (Foucault 1994, p. 133)

Citing Linnéaus' *Philosophie Botanique* (1788), Foucault asserts that the 'object' of natural history which does not include "[a]ll obscure similitude's […] introduced only to the shame of art, […] is the extension of which all natural beings are constituted – an extension that may be affected by four variables […] the form of the elements, the quantity of those elements, the manner in which they are distributed in space in relation to each other, and the relative magnitude of each element" (Foucault 1994, p. 134).

> Today the site has been substituted for extension […] The site is defined by relations of proximity between points or elements […] that may be randomly distributed, or may be arranged according to single or to multiple classifications.
>
> (Foucault 1984, p.1)

The site appears in contemporary technical work as a problem (Foucault 1967, p. 1). The use of web sites on the Internet did not exist at the time that Foucault was evaluating these new 'other' spaces, but Ivan Illich (1981) Heather Menzies (1987), Patrick Laviolette (2009) writing about 'shadow work,' 'tele-work' or 'tele-clinics', address this conflation of spaces. In particular Illich and Menzies consider the manifestation of different work practices through engineering the infrastructures of the market place and through production of free labour via private technologies and the privatization of work. All of which, Menzies specifically identifies critically as linked to digital economies (Menzies 1997). As shall become evident in the discussion that follows on heterotopic spaces and how I conceive of the Shadow Clinic existing in this heterotopia, Foucault had foreshadowed many of these twenty-first century concerns.

It is possible to hypothesize a number of reasons for this conflation of spaces: the cost of land acquisition, insurance, contagion and all the difficulties that would arise with having a large amount of people in one place, including the possibility of disruptive gatherings, the "problem of siting or placement arises from mankind in terms of demography" (Foucault 1984, p.1).

Sites on the World Wide Web as they exist via the Internet are not predominantly understood as places, but as a series of relations that are accessed by the right technology, hardware, sufficient power sources and language. Internally, it is determined by a system of classification that neither defines its place, nor appears to work with hierarchies:

> The Internet is not in one place more than it is in another […] At any one time, it has a definable size […] The Internet does not have an edge to push past, no wall or ocean to contain it. Its size and shape change constantly, and additions and subtractions do not inherently make something new or different.
>
> (Jones 1999, p. xxiii)

It varies in size and shape with the addition and subtraction of programmes and information, but cannot be said to be physically further from that which contains it, that is, the computer terminal or central data storage. It therefore pertains more to the shadow attached, or localised, rather than the shadow cast or extending.

However, the Internet also transgresses boundaries of subject and object with a blurring of indexical traces; in short, as a consumer of the technology, and a presence on-line via the World Wide Web, it is unclear whether traceable material exists because of embodied participation, or vice versa. As Steve Jones rather benignly expresses it, the Internet has "modified work habits, education, social relations generally […] our hopes and dreams" (Jones 1999, p.2). In another twist, the illusion of anonymity encourages, for many, a hyper performative on-line presence. This presence may be visible for more time than we wish, or may

disappear prematurely, interrupted, for instance, by a cut in power or implementation of litigation.

> [The Internet] is in some ways the technological embodiment of a particularly American social project rooted in what James Carey aptly describes as "the union of science and state" (p.3)
>
> (Jones 1999, p. 2)

It is of interest to note here that the United States do not have a National Health programme as such, although there are health medical screening projects which are entered into voluntarily, that is until you try to cross borders. The union of science and state, as has been clearly identified earlier through Foucault, is the European model of the clinic and by extension, national health systems.

Conducting research through the resources of the Internet is necessarily going to mean that much of the material will no longer be easily retrievable, because it is not a system built for 'stability', but for "social change" (Jones 1999, p.2).

> […] The frame has, however, shifted slightly, as capitalism has come to preoccupy science and the state. Instead of a culture of science, science (and likely even culture too) has been disguised in the sphere of the popular press (and popular imagination) by the market, a guise […] in which audiences and markets are summarily conflated.
>
> (Jones 1999, p.2-3)

As consumers therefore, the Internet and, by extension, the World Wide Web cannot exist without us. Yet there is a problem if we are to understand ourselves as being democratic bodies with individual choices, and as productive contributors to the space of the Internet. The Internet is a space of "social arrangements [that are] mere means to be manipulated in satisfying individual desire" (Jones 1999 p. 3). It seems that having an on-line presence, although maintaining a certain amount of mystique in terms of the space we occupy on-

line, still carries with it the assurance of a very controlled space where revelation and obfuscation are probable strategies in the project of desire building.

As we have seen in the case of x-ray imaging technologies in use at airports, there is a growing concern with how the space of the Internet is being used, not by market forces or government bodies, but by individuals. This neurosis of 'supposedly exposing oneself' seems to be purely maintained by the very peculiar de-sanctified space identified as Web sites. As mentioned in the last chapter, the concern was that scurrilous individuals would post picture on their personal sites of the body under border control. Web sites in all shapes and sizes are available through our pedestrian technologies: we carry them in our pockets, in our homes and in our offices, on our phones. The omnipotent presence of the Internet as a conglomeration of personal and institutional web sites is making us anxious. As a condition that seems to have arisen predominantly in the last decade, 'computer anxiety, as it is often termed, is documented as having three different facets: fear of intimacy, physiological stress and automation.[36]

It seems that we may have understood the 'theoretical desanctification' of space as we grow more accustomed to working from home, or existing on the computer as private selves and public selves at the same time simply by inhabiting different 'windows' on the screen. But there are still the divisions we hold on to between embodied "private space and public space [and] between the space of leisure and work [which are] still nurtured by the hidden presence of the sacred" (Foucault 1984, p.2). We live, therefore, "in a set of relations that delineates sites, which are irreducible to one another and absolutely not superimposable on one another" (Foucault 1984, p.2).

Foucault deems sites that exist between the set of relations in our external spaces, that is, external to our experiential lives, as utopian spaces. Born out of the

[36] Retrieved 10th February 2011 from: http://psychology.wikia.com/wiki/Computer_anxiety.

relationship between real places or "hav[ing] a general relation of direct or inverted analogy with real space of society […] they present society itself in a perfected form, or else society turned upside down […] these utopias are fundamentally unreal spaces" (Foucault 1984, p.2). It needs to be carefully distinguished that Foucault is considering utopia through a lens of a cultural topography (topography being traditionally a study of *place*)[37] and it is equally possible to argue that all spaces are 'unreal' and 'utopian' only existing through a mythology of delineation of place through carefully edited archaeology of histories. Discourses of reality become quickly embedded in the discussion of virtual and cyber space that is so often the description of space on the Internet, and although it is necessary to refer to it, the discourses of reality do not emerge as integral to my thesis.

> The space in which we live, which draws us out of ourselves, in which the erosion of our lives our time and our history occurs […] is also, in itself, a heterogeneous space. In other words, we do not live in a void, inside of which we could place individuals and things.
>
> (Foucault 1984, p.2)

In the Shadow Clinic the illusion of instantaneous and constant availability exists, in the words of Turkle, as "a dizzyingly free zone" available only to those who have "access to the Internet and enough money or connections to buy or borrow a computer and a modem" (Turkle 1995, p.246-247). That was in 1995. Fifteen years later, access to the Internet is free in your school, tertiary college, public library or community centre, albeit for limited chunks of time and potentially under institutional scrutiny. For instance, it would be quickly known through monitoring, or, more probably, one would be unable to enter into unsavoury sites whilst in these places. However, for a small fee in the independent Internet café, there may be more freedoms, and of course, just this year, McDonalds fast food chain restaurant, is offering free Internet connection in its outlets.[38]

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[37] Retrieved 11th February 2011 from: http://en.wikipedia.org/wiki/Topography.

[38] Menzies (1997) refers to 'McJobs' "because the system controls just about every aspect of the work to be done, and the worker functions more or less as an extension of the system" (1997, p.107). I propose that McDonalds is not really trying to encourage customers to loiter in their eateries over a cup of coffee using their free Internet facilities, and therefore their offer of free Internet access carries with it another agenda that has yet to be revealed.

Heterotopias and Othering Spaces

Examining the phenomenon of x-ray images displayed on the Internet in the Shadow Clinic acts to reflect some of the aspects of the anatomy of the Internet, disseminated into discrete bits or consumable chunks. The indexical 'shadow' of the skeleton through the x-ray image denotes embodiment, as do postings on web sites that are indicative of physical presence as well as technological activity. The superimposition of spaces and places occurs in what increasingly takes shape as a hetero(topo)graphic arena with a great deal of utopian characteristics. The mapping of the digital body through x-ray imagery and dissemination in cyberspace does not just represent the mechanics of the body but the technology of a system of taxonomies exhibiting various cultural ideologies that predominantly reside in this mediated space of the spectacularised and publicly available body of information. There are spaces that Foucault identifies as both utopian and heterotopian. Specifically he identifies the mirror as such a space; a virtual space that is not really there and the space of image reflection that provides a utopian stability in its capacity to be not really there as the embodied space or the space in which we live.

Describing the workings of the mirror, he writes: "I am over there, there where I am not, a sort of shadow that gives my own visibility to myself, that enables me to see myself there where I am absent" (Foucault 1984, p. 2). As a space of heterotopia, it functions as a "place that I can occupy at the moment when I look at myself in the glass at once absolutely real, connected with all space that surrounds it, and absolutely unreal, since in order to be perceived it has to pass through this virtual point which is over there" (Foucault 1984, p. 2-3).

The heterotopic space is a shadow space or reflective space where the reconstitution of the body through the body projected takes place, and where the reconstitution depends on both the perception and apperception, that is to say, where we are able to recognise what we understand to be our own bodies made visible. We have, after all, already acquired the visual habit enabling the ability to

recognize the outline, the borders of where our bodies exist in the parameters of the mirror and that which surrounds us. Foucault's heterotopologies provide us with further understanding of the exhibition space that exists via the Internet and how it is feasible for what appears to be a singular place, that of the computer monitor screen, to reveal several spaces that contain a multitude of sites.

As already stated, current technologies mean that places where we cannot access the Internet are few and far between. It is a space that we can always carry with us and it is a space that we can 'own'. If we choose to and have the means, we can constantly be 'on-line' re-defining our perspectives, updating and consuming information, buying and selling, interacting and reflecting. The place of non-place is constantly with us, and more importantly is activated by us, as much as increasingly we are activated by it.[39] This heterotopia, this place of shadow, this indexical site of relationship, is still the space that relies on the existence of the absence of the body. This space where the eye and the body meet becomes the space where it is not just one set of eyes that meets the body, but the numerous eyes of other *flâneurs*, or browsers, on the World Wide Web, including the mechanics of technological perceptions that are included as Web browsers. It is this redistribution of space by which even the discourses of the clinical gaze are not adequate as they are surpassed by discourses of desire, consumption and industry.

> The figures of pain are not conjured away by means of a body of neutralized knowledge; they have been redistributed in the space in which bodies and eyes meet. What has changed is the silent configuration in which language finds support: the relation of situation and attitude to what is speaking and what is spoken about.
>
> (Foucault 1984, p.xi)

[39] Non-place is here to be understood as the immediate contrast to the understanding of place as negotiated through history, and identity. Further reading about 'non-place' may include Marc Augé (1995) trans. John Howe *Non-places: Introduction to an anthropology of supermodernity*, London & New York, Verso. I am also considering it in the ways of places that renders other spaces unreal, where simulated places take precedence over physical space. Turkle (1995) cites Wim Wender's film *Until the End of the World* (1991) describing how as the characters in the story become more embroiled and addicted in the images of their desires through personal screens, they begin to "wander about with blankets over their heads the better to see the monitors from which they cannot be parted" (Turkle1995, p.268).

Images, taken from the clinic and disseminated through web sites, must then insinuate that these sites in all their pluralities become conceptual extensions of the workings of the latter day, on-line, clinic.

Foucault sets out six basic principles that describe the different options of heterotopic spaces: 1) Heterotopias of crisis as places that are "privileged or sacred or forbidden for individuals who, in relation to their societies are in a state of crisis or 'deviance'; 2) Heterotopias of cemeteries or the places of death; 3) Heterotopias of contradictory sites; 4) Heterotopias, or rather heterochronies, where spaces are temporary or manifested through compacted forms of time; 5) Heterotopias of inclusion and exclusion; 6) Heterotopias of compensation which may or may not be considered illusory.

Heterotopias of crisis are designated places of transformation for those living "in a state of crisis" (Foucault 1984, p. 3). Foucault draws on the examples of military service for young men and "the honeymoon trip for girls" (Foucault 1984, p.3). Aside from the divisive taxonomies that Foucault employs here in terms of gender participation, what he is pointing to is the elusive space but prescribed place, wherein "deviant behaviour in relation to the required [social] mean or norm are placed" (Foucault 1984, p.3). The crucial word that is noticeably absent in Foucault's analysis is "compulsory," thus we are therefore left with the ambiguity of agency. Societal norms of the time are enough at this stage, however, to indicate that the gender distinction is a crucial element of Foucault's argument regarding societal norms and the notion of deviance. Compulsory military service for women in Israel, for example, lasted up to 1990, and was identified as "auxiliary military duty."[40]

In the heterotopias of the Shadow Clinic, we do not find a multitude of x-ray images which function as indicators of normal anatomy but individual artefacts

[40] Retrieved 10th February 2011 from: http://wiki.answers.com/Q/ Name_the_country_where_military_service_is_compulsory_for women.

along with crisis narratives. In the clinic, as we have also seen, are those I shall refer to as the ‘worried well’ as well as those questioning their rights to health treatment and care. However, as already stated, there also exists a glut of images portraying idealized clinical behaviour centred on the strategies of examination of x-rays — idealized indicators of how to look at the body, as an array of shadows.

Amongst the images that emerged from the search command “clinical x-rays” that I conducted back in November 2010 were Figures 3.1, 3.2, and 3.3. By January 2011 these sites were no longer retrievable through the Internet. The images however, are also found in medical texts published in hard copy by Rockwell & Green. They are credited as being official United States government material and under strict copyright legislation. Nevertheless, they were once easily accessible to read on-line. There were other examples of clinical pictures in which the ‘patient’ appeared to be undergoing some stress, yet these other images did not appear when searching on line for “clinical x-rays”, but were retrieved in the more general category of “x-rays”. The Internet under my search command has specifically categorised the following pictures as “clinical x-rays”.

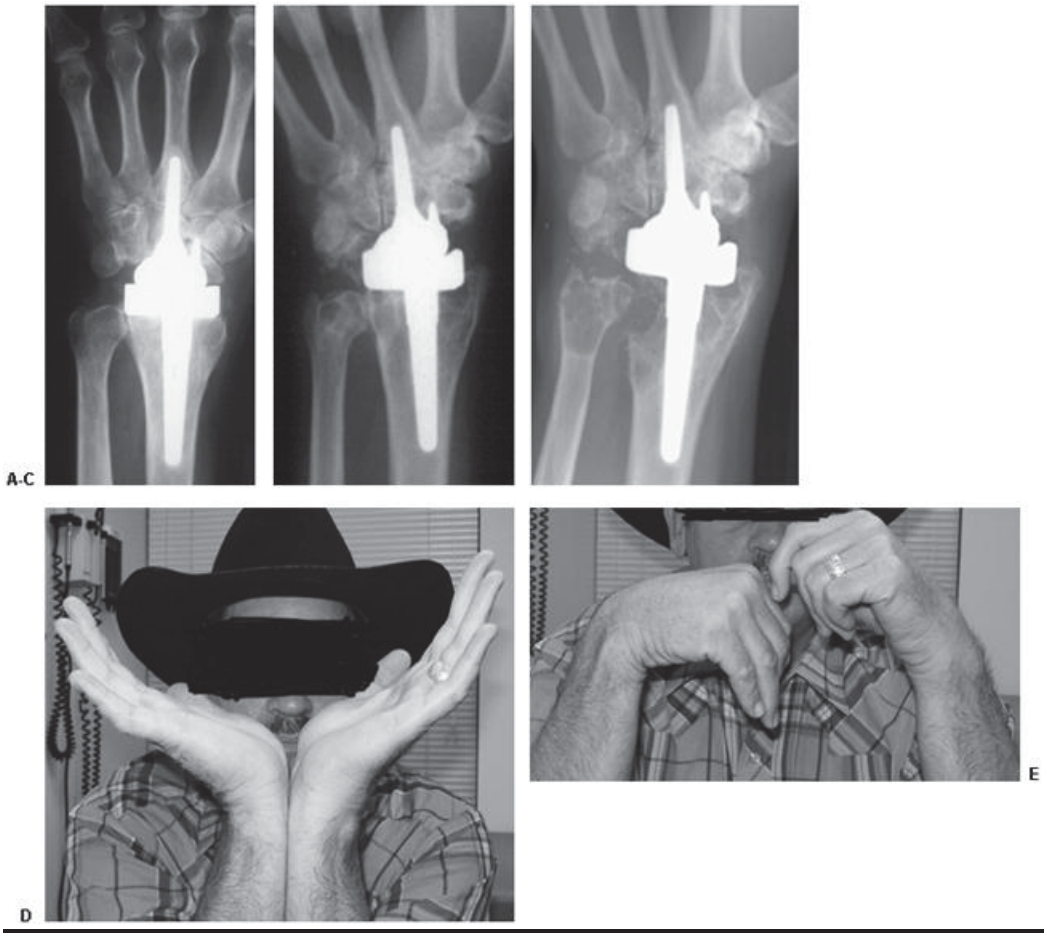

Fig. 3.1

"A: One year postoperative x-ray of a laborer with total wrist arthroplasty.

B: Ten-year follow up. Osteolysis is evident.

C: Fifteen-year follow-up with progressive osteolysis.

D and E: Patient has minimal pain, satisfactory retention of stability, and range of motions. The occasional episode of clinical synovitis is responsive to slinting and rest. The patient refuses reoperation at the present time."

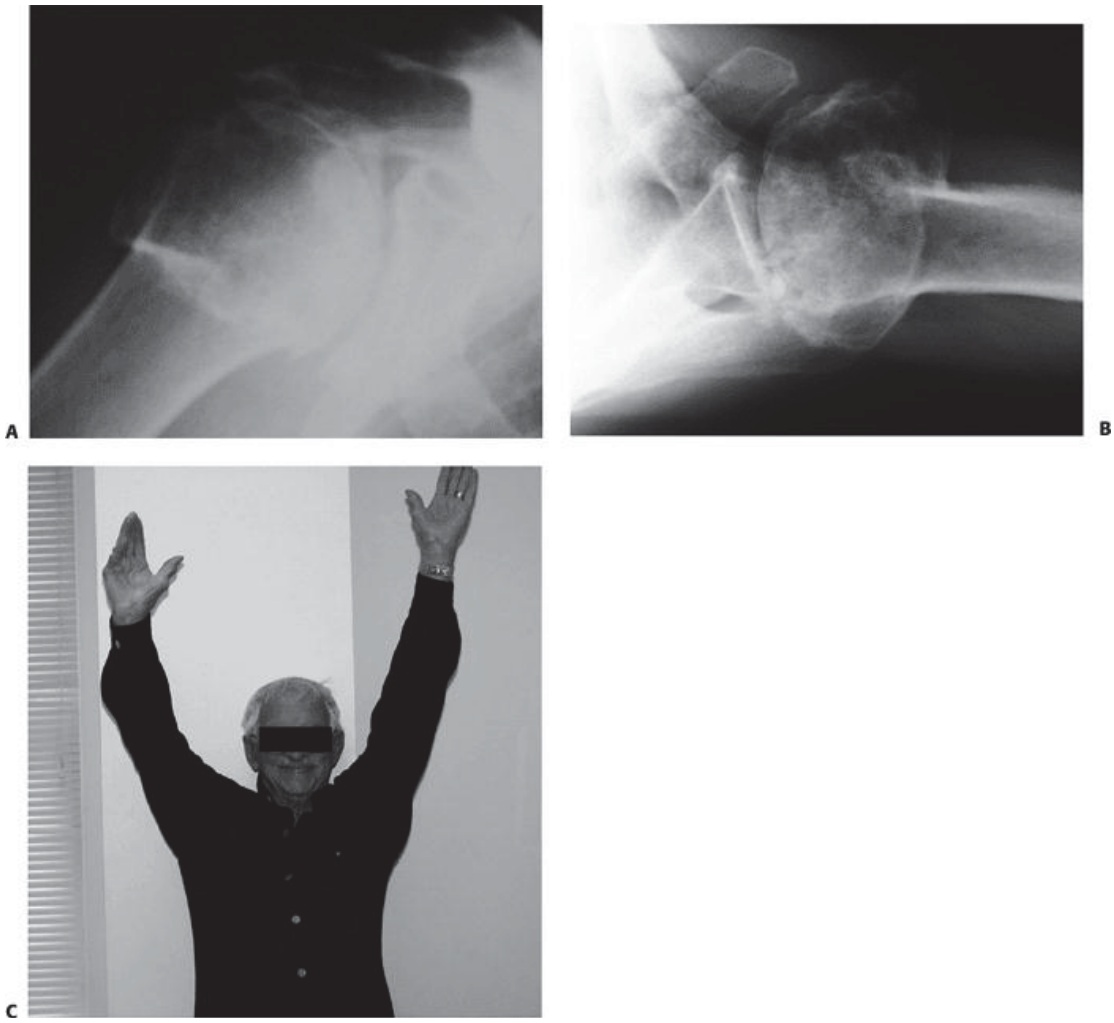

Fig. 3.2

"A: AP x-ray of a malunited proximal humerus fracture.

B: Axillary x-ray of a malunited proximal humerus fracture.

C: The patient had good clinical function and no pain despite the chronic malunited fracture."

It is difficult to consider how we might refer to the men imaged here. They are primarily associated with x-rays and photographs displaying surgical intervention.

Without names, their identification hidden, these visuals bring the reality of clinical ethics to the fore. With dark bands covering most of the face protecting their identities in a display of ethical protocol, the patients all appear as 'deviant' partly because their presence on line was temporal, but also because their photographs present them maintaining postures of 'prisoners' and their situation appears to be one of crisis. Figure 3.1 shows the 'patient' appearing to be waiting to be handcuffed. In Figure 3.2 another 'patient' holds his arms up in the appearance of surrender. Figure 3.3 displays yet another standing bare-chested against a wall, with a placard attached to his chest, as if awaiting a firing squad. The black and white photographs show no context or environmental signs that might indicate the situation of a hospital or medical space. The 'model patients' are not dressed in hospital garments nor portrayed with a medical assistants or clinicians. Furthermore, there is no pictorial evidence of the technologies that produced the x-ray images associated with the patients. The only information we can glean about why there is a connection between the alleged patients and the x-ray images is through spatial cohesion and text. In other words, the images are assembled in the same area of the page with text and we read them as connected, whether we understand what the images present or the language of anatomy.

We see nothing of the scars of the operations, nor the rhetoric of imaging medical triumph usually presented as the 'before' and 'after' shots. The ensemble of image and text has built its own reality. We do get some concessions to time within the textual descriptions of medical procedure, and can infer that now the real success of classical medical science is complete; once prisoners of their bodies in crisis, they are now released.

This method of display is of course familiar to us in so many forms. Although the space of the pages might allude to the more academic tradition, the pages themselves were still readily available to the impartial disinterested browser, or the *flâneur* on the Internet. If the life of the web page is dependent on how many 'hits' the site gets from browsers on the Net, or how much it costs financially to

keep the information in the main window, it would pay to work through the imagery for their capturing qualities.

The three sites discussed in this chapter through the three images have not all come from the same book. They did not even occupy the same virtual gallery wall. They were separated by at least ten or twenty other thumbnail images, if not more. However, there are undeniable visual links that indicate the same publishers, not least of which is as ‘recovered patients’ they all have super imposed black bars across their eyes significantly objectifying their bodies.

Anyone who has recently had to pay a visit to the police, specifically in the United Kingdom or the United States, to identify a criminal, will be faced with a selection of headshots complete with black bars over their eyes. This, I was told, was in order to protect the victim from being traumatized by the sight of their assailant looking at them. As if by just looking out of the image or into the camera, the criminal, or in this case patient, may wreak havoc with the gaze, by returning it. It is this question of space that enables the discourses of propinquity or the contagion of kinship through the agency of the images and their capacity to render the encounter intimate. Agency is used here, following Gell (1998), as a way of negotiating a direct indexical relation between image and viewer, an encounter considered so profound that it defines the space between the eye and the body wherein a spectacle is made, and in these examples there is direct access to a complicated treatment of ‘deviant’ patients as potential threats.

Figure 3.1 shows the glaring bright whiteness of the prosthetic technology that has been apparently implanted in the wrists of the man imaged. This is neatly counteracted by the spectacle of the manipulation of his wrists despite his ‘chronic malunited fractures.’ In Figure 3.2 the patient smiles, his hands held high above his head in a spectacular gesture of jubilation. Figure 3.3 does not tell such a happy story. Here there are three visual narratives with accompanying texts that describe, in medical terms, their conditions after surgical intervention; stories of

three post operative patients, or more clearly, as three operations and those men who have been visually objectified through them.

Outside the clinic, on the Internet, the fact that the pages cannot be retrieved is not so much one of loss of files as one might experience in the clinic, but rather a potential change of mind by the publishers regarding the sensitivity of the images, or indeed the lack of interest by the Internet community or lack of funding to purchase the pages needed. The options are many, and this is part of the new thinking where information and bodies merge and become dispensable or unaffordable, but above all publicly visible or not.

The second principle of heterotopias describes how a society can "make an existing heterotopia function in a very different fashion" (Foucault 1984, p.3). As an example, Foucault refers to the cemetery. The elusive place of internment and memorial that is "connected with all the sites of the city, state or society or village etc.., since each individual, each family has relatives in the cemetery" (Foucault 1984 p. 3). Foucault admits that his assessment is undeniably Eurocentric. He is describing the eighteenth and nineteenth century European traditions of cemeteries built around social infrastructures. However, outside Europe, burial sites exist in different ways, not least in deference to the body's connection to the land. Whereas eighteenth century Europe buried their dead in places central to social activity, by the nineteenth century cemeteries had migrated to outside the city walls, confluent with a 'bourgeois appropriation of the cemetery', or individual death. A person's demise became seen as an "illness" (Foucault 1984, p. 3).

> The cemeteries then came to constitute, no longer the sacred and immortal heart of the city, but the other city, where each family possesses its dark resting place.
>
> (Foucault 1984, p. 3)

In the Shadow Clinic the option of immortality depends on an acceptance of transcendence from the physical body into a disseminated digital body. It is rarely clarified whether the x-ray images displayed portray the living or the dead. There

are current concerns within the culture of the Internet, that pertain precisely to the question of what happens to such things as, for example, personal web sites or Facebook pages, on the death of the individual. The boundaries and litigations are unclear about who owns and has access to the information freely given by the deceased, as part of their lived experience. Conversely, Facebook sites have become alternative sites of public grief and mourning. In the Shadow Clinic, there are no Facebook sites, but nevertheless the dead are present.

Foucault's third principle of heterotopic space is that it is "capable of juxtaposing in a single real place several spaces, several sites that are in themselves incompatible" (Foucault 1984, p.4). As examples of heterotopias exhibiting this third principle, Foucault refers to the theatre, the cinema, the garden and the carpet, which Foucault tells us was initially designed as symbolic of the garden, featuring a microcosm of the external world with significant borders (Foucault 1967, p. 4).

The cinema offers an "odd rectangular room" at the end of which is projected three dimensional space onto a two dimensional screen however, this does not mean that the dimensions within the architecture are "incompatible" (Foucault 1967, p.4). In Classical terms, it is possible to see the logic emerge from the classifying of different dimensions, although conceptually there is little doubt that the three elements of the blank screen, the projected light and the film would be thought most compatible through the efficacy of time and space. The space of the cinema and the theatre is a space of convolution. Space and time is organized and condensed.

The fourth principle Foucault has the defined heterotopia as beginning to "function at full capacity when men arrive at a sort of absolute break with traditional time" (Foucault 1984, p. 4). The structure of these "heterochronies", as he calls these specific heterotopias for which the fourth principle applies, is to be found in the institutions of libraries or museums. Historically the nature of these institutions has changed from being personal collections to being government property and back again, over a number of centuries. It is "the idea of constituting a place of all times that is itself outside of time and inaccessible to its

ravages" (Foucault 1984, p. 4). Like museums and libraries, the institution of Wikipedia, "the free encyclopaedia that anyone can edit" stores up signifiers of time in data. It is constantly subjected to being updated by scholarly contributors, academics and interested parties all over the world — unless it is not. It could be said to present a massive museum that has annexes but is fundamentally is centralized through a main objective. As an archival business, it is managed by paid employees situated in an office in San Francisco, who out-source editorial work, to 'polish up' all contributions.

Unlike the library or the museum, the archaeological object is not central to the definition of time, as Foucault would have it here. Time is identified for Foucault through linear trajectories that place and displace in a heterochronia. "Museums and libraries have become heterotopias in which time never stops building and topping its own summits" (Foucault 1984, p. 4). How true that is, in the ambition of today's museums and libraries, however the architecture of the place will significantly change to cater for the ever-loftier ambitions and restrictions of space wherein all object material is digitized.

In the Shadow Clinic, the 'patient' may turn to Wikipedia for clarification of terminology or use their reference library or consult with a professional, and find "The Doctor is *always* in." While the museum or library is subject to hours that correspond to a 'working' day, Wikipedia and the Internet are always open and accessible as long as the mediating technology can be physically accessed. The fifth principle of heterotopia proclaims, however, that the heterotopic site, "is not freely accessible like a public place […] Either entry is compulsory […] or else the individual has to submit to rites and purifications" (Foucault 1984, p. 4). The example Foucault gives of the Brazilian and South American farmhouses that encourage entrance for the visitor through the front door but only for them to find there is no further access to the household has many resonances to the workings of the websites on the Internet. By entering the site, the visitor is already

excluded, anonymous and disembodied, separated and disseminated through bit parts, with no real access to the programme.[41]

The final function of heterotopic spaces is to put all the parts together again, or rather to "create a space of illusion that exposes real space, all the sites inside of which human life is partitioned, as still more illusory" (Foucault 1984, p.5). Alternatively an heterotopic space, "creates a space that is other, another real space, as perfect, as meticulous, as well arranged as ours is messy, ill constructed, and jumbled. This latter type would be the heterotopia, not of illusion, but of compensation" (Foucault 1984, p. 4-5). The Shadow Clinic compensates for the physical clinic where the patient is subjected to waiting with the crying baby, the irritating complainant, the mess of activity, the smell of illness or worse, superficial air freshener and so on and creates a space where one can, share and learn to self-diagnose through hearsay and research, as well as complain and rejoice, all from the comfort of your own home.

It is necessary to make a distinction between the tele-clinic or 'medical sensoring', as discussed for instance in Laviolette (2009), and the work involved in the Shadow Clinic. The central thesis in Patrick Laviolette's ethnographic study is that of remote surveillance of the patient through clinical apparatus in the domestic situation. Although the Shadow Clinic emphasises the extrication of the embodied patient from the physical place of the clinic to the potential extended space of clinics, it also alludes to market forces and various strategies of treatment and diagnosis that the 'patient' under no particular guidance, is subject to. The Shadow Clinic does not support any standardised medical efficacy, but encourages a haphazard individualised research practice carried out by the 'prosumer' that encourages the "worried well" (Pontious 2002) to enter into a world of "'self-serve' consumerism" (Menzies 1997, p. 108).[42]

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[41] Here I make the assumption that the 'patient' in the Shadow Clinic is not a computer programmer, and is using an Apple Mackintosh which notoriously keeps hidden its access to programme maintenance and extension.

[42] The 'prosumer' is a word used by Menzies, but was first coined by Alvin Toffler in his novel *Future Shock* (1970). It refers to the chimera of the producer as consumer. Discourses on the "worried well" are numerous, covering such conditions as 'somatization disorder' and 'minor acute illness' (Smith et al. 2002).

Fig. 3.3

“Dislocation of both ends of the clavicle. A: Clinical view demonstrating anterior dislocation of the right sternoclavicular joint.

B: the axillary x-ray reveals posterior dislocation of the actromioclavicular joint. C: These injuries are generally treated by acromioclavicular joint repair, with return of near-normal function.”

The clinical discourses within the visual culture of medicine, as seen through the World Wide Web, are not solely discourses of advertising and consumerism, they also involve central hypotheses of life and death, diagnosis and treatment, ethical choices and prioritising the body as identified through visual pathologies. Through the search command of "clinical x-rays" these discourses of the clinic are evident. Along with its institutional structure comes its "central hypotheses of life and death, ethical choices and [the] therapeutic decisions within institutional regulations" that are provided by the x-ray images themselves as tools of the trade (Foucault 1973, p. 33).

> The gaze is no longer reductive, it is rather, that which establishes the individual in his irreducible quality. And thus it becomes possible to organize a rational language around it.
>
> (Foucault 1989, p. xv)

Between the discourses of the clinic and visualisation there still exists the spectacle. How the patient is "spectacularised" through the World Wide Web exists as one of the many contributions of the clinic and x-ray imagery into the amorphous Shadow Clinic. [43] This may well be at the expense of what we might otherwise expect to be the rational language utilised in the clinic, but also manifests to great effect through visual aesthetics further insights into what our understanding of x-rays is and what they are used for.

In Figure 3.3 the sign of the bare-chested man along with a couple of x-ray images of what appears to be the shoulder area, demands that we read them as connected, as has been already discussed. We are also given the letters of A, B, C, as sequential signifiers that demand to be read in a certain way. The graphic interventions shown in Figure 3.3 (B) connote that something has happened since the original x-ray image was taken. Someone has looked at the image and added

[43] The use of "spectacularisation" is to amplify the new media of the Internet and especially the World Wide Web, as not just a place of spectacle, but a site of agency and reception, a site of "spectacularisation" where the most mundane can be exhibited, a space of consumerism and social interaction.

to it, an ‘R’ and a dotted line. These are signs of imminence or history: that something will happen or has happened. The imagined procedure is mapped out but as yet, not implemented. In Figure 3.3 (C), the co-ordinates are embedded in the image through the computer graphics on the left hand side and at the top. Added to these embedded co-ordinates of the image, is the central radiant screw, the signifier that the operation is over. The visual language of the x-ray is increasingly becoming familiar with exposure through populated sites on the Internet but there are many variations upon the theme, and some of them are not so obviously clinical.

The text accompanying Figure 3.3 (A) tells us that we are being offered a ‘clinical view’. The subject of the image is identified as being the ‘dislocation of the right sternoclavicular joint’. What we see is a man standing up right with a protruding collarbone. He appears to be holding in his stomach, his eyes are hidden and we cannot know where he is looking. Unsmiling and with hidden eyes, we cannot read his face and we cannot emotionally empathise with his plight. Gesture-less and expressionless, supported by x-ray evidence, he is present purely as a site of a medical intervention.

Intersubjectivity /Interobjectivity in the Shadow Clinic

In 2009, the co-director of Medical Humanities at Durham University, Jane Macnaughton, described the practice of empathy as being an ‘icon’ in the expanding field 11of medical humanities. Writing in *The Lancet*, she confessed to being unsure as to whether empathy understood as ‘emotional identification’ was possible (Macnaughton 2009, p. 1940).

> In clinical practice, the patient is the object of a physician’s scrutiny; the doctor maintains an objective distance…This relationship, I would suggest, has to be one of subject and subject rather than object (patient) and subject (doctor).
>
> (Macnaughton 2009, p.1940)

She proposes that empathy can only be possible if it derives from a place of "inter-subjectivity" (Macnaughton 2009, p. 1940-1941). As we have seen, it is the expectations and parameters engendered by the image that objectifies the 'patient', i.e., the visual identification of a particular pathology, break or fracture, or surgical intervention.

Phenomenologist Alfred Schütz's (1899-1959) methodological position as regards phenomenological social research might help to clarify the following concept of inter-objectivity that I propose here. Schütz's basic argument states that the phenomenological aspects of social research deals with 'research objects' that work amongst themselves to make sense of the social world. In this case, the 'research objects' can be read as people. Thus for Schütz the notion of 'intersubjectivity' creates and perpetuates a world primarily founded on a "we-relationship" whilst the 'research objects' represent 'the Other'. With the expansion of the clinic into areas of the Shadow Clinic, it appears that inter-subjective empathy, as described by Macnaughton, with its reliance on emotional investment may not as useful as *inter-objectivity*. Where the 'Other' is predominantly on view, we might be able to consider the empathic gaze as emanating from habitual perceptual practices; practices that enable us to look past the screen and surmise the importance of information through an aesthetic focus, consuming whilst producing and therefore enabling discourses otherwise unavailable. The Other is the research object through text and image, whilst we can easily position ourselves as the other should we chose, through participation. The narratives are not limited to those we must identify with immediately. Harrington (2000) references the observation employed by card players as described by Schütz where, "[o]bservation merely denotes an attitude that anyone can freely adopt and relinquish at any moment, just as in a game of cards where each player constantly alternates between actively following the rules and silently reflecting on the rules while observing the other players and strategically calculating possible moves" ….Just as our calculating observer remains still involved in the game and never completely detached from its flow, so our self-objectification is not extrinsic to ongoing interaction"(Harrington 2000, p.734).

In this way then, the gaze in the Shadow Clinic is not to be understood as reductive, but rather as something around which it is possible to organise a 'rational language' (Foucault 1989, p. xv). A rational language that is born of a mutual objectivity through participation however 'passive'.

> The eye becomes the depositary and source of clarity […] Rational discourse is based on the geometry of light than on the insistent, impenetrable density and the boundaries of experience can be found in its dark presence. The gaze is passively linked to the primary passivity that dedicates it to the endless task of absorbing experience in its entirety, and of mastering it.
>
> (Foucault 1989, p. xiv-xv)

Aesthetics and, more precisely, visual empathy are traditionally understood to identify the position of the subject and object, but rather than make concrete each position as separate entities they become interchangeable through the process of looking. The science of aesthetics in the late nineteenth century treated the viewer capable of visual empathy as a particular stereotype, as an "educated and cultured individual whose elite status depended on a presumed superiority to an uncultured public" (Koss 2006, p. 6). Yet there is no reason that visual empathy cannot be in fact a condition available to every sighted person, everywhere.

Empathy is illusive and has been given a number of meanings over the course of the last couple of hundred years. Applying the term 'Einfühlung' from the world of nineteenth century German aesthetics accesses characteristics about spectatorship and the image that allows the x-ray image, as visualised through the Internet, out of its confines as merely a source of medical information and to be transformed into a multitude of visual scenarios that engage viewers in numerous ways. Einfühlung, literally translated from the German, means 'feeling into' and is vitally a physical reaction that a spectator has to an inanimate form. Vischer (1873) describes a motivation where the viewer "unconsciously projects its own bodily form — and with this his soul — into the form of the object" (Koss 2006, p. 2). The language is one of feeling and emotion, as well as desire and consumption. Early writers on aesthetic empathy all extol the virtues of physical

responses. Wilhelm Worringer ([1908] 1967) challenges the understanding of empathy as emanating from an aesthetic response given by a spectator who has a "psychic presupposition" because he understands that the Eurocentric view of Aesthetics disallowed an ability to fully grasp the nuances of works of art emanating from outside Europe that informed much of the Classical and Byzantine world right up to the Renaissance (Worringer 1967, p. 7, 137). The response guided by the 'psychic presupposition' can only become available when the spectator is confronted by something presupposed to be organically derived in the world, or by human intervention — it must be "cognate organic" (Worringer 1967, p.33) — in short, organically derived from some relation with the spectator, something connected and familiar. That is it contains within its image that message of availability, something within our grasp. Finally, if the object is always 'cognate organic' then any empathic interaction is necessarily accompanied by "an absence of desire" (Worringer 1967, p.33). Worringer is critical of the relationship of projection of subject onto object and foreshadows much of the conversations to follow in visual culture studies regarding the 'agency' of objects and images.

In the medical or clinical environment the question of empathy is often bound up in a question of sympathy. Gustav Jahoda discusses how aesthetician and Worringer's foil, Theodore Lipps (1903), changed the common meanings of sympathy to empathy. Jahoda adds that this was relatively easy as there is little disagreement that empathy differs from sympathy in common parlance but the identifying factors in the nature of both are intangible: "both terms refer to unobservable internal processes" (Jahoda 2003, p. 162). Historically, sympathy had been the term that was most commonly used in the context of medical science to describe how certain medications dealt holistically with particular conditions, whether they were 'sympathic' to diseases or the organs of the body (Jahoda 2003, p. 152). It was George Cabanis (1802) who stressed the importance of sympathy in medicine, since "from it alone the faculty of imitation is derived, and on that in turn all human perfectibility depends" (Jahoda 2003, p. 152). Towards the end of the nineteenth century it came to be viewed in an "evolutionary

context" by Charles Darwin (1871) and Herbert Spencer (1872) (Jahoda 2003, p. 152).

In 1903 Lipps produced his work *Einfühlung, Inner Imitation and Organic Feelings* in which he described the term as "the fact [...] that the object is ego and thereby the ego object. It is the fact that the contrast between myself and the object disappears" (Lipps 1903a, p.188). He came to regard Einfühlung in the same light as 'inner imitation' and proceeded to describe this as being the activity that explains a subconscious imitative act, for example with that of a moving figure.

> In a word, I am now with my feeling of activity totally in the moving figure. I am also spatially, insofar as there can be question of spatial extension of the ego, in the place of that figure. I am transported into it. As far as my consciousness is concerned, I am totally identical with it. While I feel myself active within the perceived figure, I feel myself to be at the same time free, light and proud. That is aesthetic imitation, and it is at the same time aesthetic Einfühlung.
>
> (Lipps, 1903a, p. 191)

Figures 3.1, 3.2 and 3.3 do not make me feel "free, light and proud." I am drawn into an aesthetic space where I find myself attached to their imaged scenarios, but what seems at stake here is not so much the problem of representation but rather the representation of the problems. In Figure 3.3 the problem represented is pictured in (A). Image (B) shows the process of solution, whilst (C) is evidence of problem solved (or not). In (A) a representation of Latin America appears in the form of a clean-cut, well- groomed man stripped down to his waist, unsmiling, holding in his stomach and standing to attention. The clinical image presents this man subdued. The portrayal of the problem is intrinsically connected to Latin America via the World Wide Web. Its URL address where I initially found it indicates this. But three men seemingly fixed and healed by the machinations of clinical intervention are also represented. What we do not know is how these men came about their injuries. Only in Figure 3.1 do we understand the problem as being part of the subject of labour. In Figure 3.3 information is provided that the injuries presented are rare and usually result from a severe kicking, or being run over by a vehicle.

> […] nature, through the action of a real and disordered juxtaposition, causes difference to appear in the ordered continuity of beings; human nature causes the identical to appear in the disordered chain of representations, and does so by the action of a display of images.
>
> (Foucault 1994, p. 309)

On the World Wide Web the three figures presented are inextricably linked by their gender group, their racial group, age group, their publisher and by being able to found on the Internet with the search phrase "clinical x-rays." To me, they do not present any form of quantitative evidence of 'normal' pathology. As I negotiate every image that I am allowed to access, I have been drawn into racial profiling, stereotyping male working practices and ageism, which I might not so quickly have done if all three were returning my gaze. In other words, it is undeniable that the black bar across the eyes made me look further into these images as connected and of a type, but not necessarily if we can understand the definitions given earlier, in an empathic way. Among one thousand images, I have tried to find links or streams of consciousness in amongst the networks to reflect upon public representations and reception. In effect I am searching for discourses that lie in the domain of x-ray images on the Internet in the heterotopia of the Shadow Clinic. The discourses of the Shadow Clinic are unpredictable and disturbing, but still reveal functions of 'nature and human nature' (Foucault 1994, p.309).

> …for since the real world, as it presents itself to the gaze, is not merely the unwinding of the fundamental chain of being, but offers jumbled fragments of it, repeated and discontinuous, the series of representations in the mind is not obliged to follow the continuous path of imperceptible differences; extremes meet within it, the same things occur more than once; identical traits are superimposed in the memory; differences stand out.
>
> (Foucault 1994, p.310)

The empathic gaze it seems is driven, in this case, by excess darkness in the form of bands across to the eyes, to initiate a gaze of curiosity. It is a gaze that might be involved in a process of imitation or sharing a feeling with those imaged is denied

through any access to subjectivities, seemingly reliant on the objectivity of the viewed and the viewer.

Foucault's first principle of heterotopic space, or rather the first principle of heterotopology, which implies that the space is certainly created culturally, the heterotopia of crisis, carries with it probably the most meaning for web pages on the Internet which depict patients in hospital or having just undergone medical intervention (Foucault 1967, p.3). The difficulty is in identifying the difference between the hospital or clinic as a crisis heterotopia, and the web page. Suffice to say, they both can be given this title, although they seem on the face of it to be completely different.

However, Foucault adds to his analysis by suggesting that these 'heterotopias of crisis' are disappearing and being replaced by what he calls 'heterotopias of deviation'. He specifically considers the problem of old age, or rather the space of retirement homes which are "on the borderline between heterotopia of crisis and the heterotopia of deviation since, after all, old age is a crisis, but is also a deviation since in our society where leisure is the rule, idleness is a sort of deviation" (Foucault 1967, p.3). Although his analysis seems to suggest that he is considering the shift that comes with health in old age, this is also a shift in health in general. He does not include the space of the clinic in any of his principles, but I suggest that the space of the Shadow Clinic might well be incorporated into his heterotopia of crisis. It is a space where no 'healing' as such is carried out, but the concept of medical care lives on and carries with it the promise of relief and care. This is most effectively thought of as palliative care and gets more thoroughly discussed in the following chapters.

> This society which eliminates geographical distance reproduces distance internally as spectacular separation.
>
> (DeBord 1967, 7: 167)

An analysis of the depth of information and knowledge available on the World Wide Web is a matter of endlessly exploring surface establishments of

information or, in the parlance of the technology, hypertext. This formation of information takes the search only to places indentified through text. Only when we have fully understood our search are we likely to get beyond the initial surface 'enlightenment.' To understand this space as heterotopic, as opposed to utopian, it is necessary to see our selves present as well as absent. This space where the 'eye and body meet' is a navigational space where our presence is required for activation and deliberation and our absence for maintenance of this space as a space external to us. It is an indexical space of searching and researching, of D.I.Y diagnosis, of clinical narratives and mythologies and reveals to us our capacity to be the spectacularised body, objectified and commodified. As the parameters of display become ever increased, the ethical negotiation of the images used becomes increasingly blurred. The nature of the images and the ensuing discourses that are revealed in the following chapter, show how the authority of the clinic that has classically been in the hands of the medical practitioner in the Clinic is now variegated through the shades on the Internet and disseminated into the hands of an extended and complicated public – a public that, most definitely, is not interested in the existence of the normative body, but rather the strange and exotic. In short, the following chapter explicitly negotiates the Other body that exists on line.

CHAPTER FOUR

Embodiment of the Posthuman Body

As you gaze at the flickering signifiers scrolling down the computer screens, no matter what identifications you assign to the embodied entities that you cannot see, you have already become posthuman.

(Hayles 1999, xiv)

The search command, "post-clinical x-rays"[44] revealed 406 x-ray images out of a 1000. By far the most x-ray images were found here, revealing that the on-line community are sharing amongst themselves images they have enjoyed, found confusing, weird or unbelievable.

In this chapter, I examine the negotiation of desire as a defining moment of the negotiation of absence. The idea that there is something that has been and gone, something to be missed also exposes the notion of abstraction. The connectivity between the viewer and the viewed has all but disappeared as neither exist in the same space, whether heterotopic or not. The technological imperative is the only portal through which various bodies can thus exist in space. As the emphasis becomes more keenly placed on the image there will always be cases where those under experienced in looking, will find nothing. The empathic gaze as we will see, is not an essential one, but one born of habit and practice. Without interest and experience, the disinterested gaze is merely gawking. As this chapter reveals, in the Shadow Clinic, the disinterested gaze can very easily become a habitual visual practice.

[44] Although not addressed in the text, I agree with Sean Cubitt in his sentiment of adding the prefix 'post': "I can find little evidence for a radical break with the genocidal, exploitative, oppressive and bureaucratic recent past" (Cubitt 1996, p. 237).

Exhibiting the body through x-ray imagery on the Internet enables us to employ what I have already termed a techno-clinical gaze, the normalising gaze of alleged objectivity and lack of attachment commanded by medical imaging technology's perception. Not only does 'post clinical' have resonances of care-giving specifically administered to the patient after surgical intervention, but in this chapter it also alludes to the "figure of the posthuman [that] has existed alongside an emergent theoretical dialogue on the breaking down of humanist binaries and the developments of teleological connectivity between the human and its other(s)" (Bishop 2007, p. 1). However, marking the field as 'post', as akin to 'after,' is problematic.

Katherine Hayles situates the 'post human' within the technological imperative given over to the interactions, as initially conceived through the cybernetic work of Alan Turing, leading to the 'erasure of embodiment' which is 'performed' in favour of an 'intelligence' which, in turn, "becomes a property of the formal manipulation of symbols rather than enaction in the human life-world" (Hayles 1999, p. xi). In addition, the experience of embodiment is to be seen as distinctly different to the locus that is the body as identified by Foucault. Hayles also provides a critique of the definitions postulated by J. Halberstam and I. Livingston whose analysis of "posthuman bodies" she does not appear to hold with. Posthuman bodies are the causes and effects of postmodern relations of power and pleasure, virtuality and reality, sex and its consequences. The posthuman body is a technology, a screen, a projected image; it is a body under the sign of AIDS, a contaminated body, a deadly body.

> […] Posthuman bodies thrive in subcultures. Culture processes and appropriates a subculture only as quickly as the subculture becomes as visible as culture.
>
> (Halberstam&Livingston 1995, p. 3-4)

My aim is neither to idealise nor discredit the posthuman body, but rather to think of it in terms of what it looks like and how it looks, enacted through a visual

culture that exists within images of mulitiplicity and multiple images. If we are to consider the Shadow Clinic facilitated by post-humans in terms of a sub-culture as defined by Halberstam and Livingston, which I am not necessarily advocating here, we can turn to Dick Hebdige for an analysis of 'spectacular subcultures'.

> [S]pectacular subcultures express forbidden contents (consciousness of class, consciousness of difference) in forbidden forms (transgressions of artorial and behavioural codes, law breaking etc.) They are profane articulations, and they are often and significantly defined as 'unnatural.'
>
> (Hebdige 1999 p. 91-92)

Imagined bodies, bodies either visualised or otherwise constructed, as they are disseminated in The Shadow Clinic, is bound to an existence through trajectories of "post human interest narratives" as defined by Halberstam and Livingston (1995). To ascribe them a sub cultural context, that is to say, to imbue them with the discourses of 'unnatural' needs further analysis, however. As I discussed in the last chapter, the Shadow Clinic offered up through x-ray images displayed on the Internet can easily become a non-place, a heterotopia of crisis, politically charged and culturally questionable. The discourses of the Shadow Clinic are further embodied by the posting of images that have passed their usefulness in the clinic as pertaining to the body, and are no longer exclusively concerned with clinical information. Their transformation and dissemination means that they perform an on-line existence that is manifested through initial reference to clinical practices and envisionings but then mutates through media and on-line participation to become a multiplex of visions.

The Shadow Clinic, with its proliferation of sites, constitutes a place that is undeniably seen to be either the indexical extension of the clinic via "the authorized medical homepage" (Bauer and Olsén 2009, p. 120) or, more correctly, the extension of many patients and many clinics via many indexical operations.

> Rather than a virtual reinvention of hospital medicine, it employs the Web as a medium to reach an audience outside the operating room […] Given the proliferation of medical visualizations by means of digital technology and bearing in mind the ubiquity of computers in 21st century society, it is not surprising that images produced for clinical purposes crop up in non-medical locations.
>
> (Bauer and Olsén 2009, pp. 120-121)

The Shadow Clinic — this cyberspace, this gallery of virtual bodies — also carries with it new and emerging discourses regarding viewing practices and the negotiation of visual empathy and abstraction required within the demands of viewing interiorities (which occasionally verge towards the more exterior) of the anatomy. This runs along concurrently with those discourses inspired by the "exploitation of information technology" with which we might be more familiar (Bauer and Olsén 2009, p.118).

Societal surveillance through the organisation of health scanning programmes or the 'techno-clinical gaze', in turn leads to the opportunities of communication through the more 'democratic' functions of the World Wide Web and for ground level discussions on the more prosaic aspects of clinical experience. The Shadow Clinic does not just extend the shadow of the 'real' clinic, nor is it a 'virtual' clinic. It is a space where questions are aired, where images are posted, where debates are conducted and where issues can be raised that might not necessarily have been an issue that concerned you. Just by eavesdropping into someone's blog site and conversations therein, much can be gleaned, although it raises ethical issues of privacy. However, as this thesis has shown, this is not all that the Shadow Clinic has to offer and apparently, not all that we require from it.

The post-human body as represented in this Clinic is re-incarnated in unpredictable ways via a media that is organised, whilst maintaining the veneer of chance. It is prudent here to contain the notion of subculture in this case. As Hebdige argues, "subcultural style is likely to be as much a function of what Stuart Hall has called the 'ideological effect' of the media as a reaction to

experienced changes in the institutional framework" (Hebdige 1999, p. 85). In this case the 'institutional framework' is that of the 'healthy body'.

In 1961, when economist Kenneth Boulding considered the meaning of the image, he articulated the importance of the body image as being not a reflexive Narcissistic engagement, but rather an outward looking relational engagement where one's public body image was directly associated with the currency of particular groups and was necessarily involved in a public interaction through discourse.

> [...] although the image of an individual person is subjective in the sense that it is a property or structure of his own organization, it is not necessarily 'private' in the sense that it is unrelated to other images.
>
> A public image is a product of a universe of discourse, that is, a process of sharing messages and experiences.
>
> (Boulding 1961, p. 132)

This shift between the private and public is crucial for the images' transformation along with the negotiation of screening and proximity. As mentioned earlier, the term 'post-clinical' also conjures up ideas of 'palliative' care, which is quite deliberate. It derives from the Latin "*palliare*", or " to cloak" (OED, 2006) and therefore exemplifies the moment when the body, having been thoroughly objectified, can no longer feel as a 'liberal free subject' (Hayles 1997) and exists as neither public object or private individual, but in the 'cloaked' world which often, only the terminally ill inhabit, hidden from the world.

Palliative care is not a form of medical care that is concerned with curing the symptoms, but rather with the easing of the patient's 'dis-ease.' Through the revelation of x-ray imagery of the anatomical trauma experienced as a private individual through very public websites, it can be said that a kind of catharsis is reached in this cloaking of the world between the living and the dead; a world of

pain management; a heterotopic space of deviance when the body suffers from the aforementioned 'illness' of imminent death.

Hayles voices a common criticism of Foucault's work when she says that his "absorption of embodiment into discourse imparts interpretive power to Foucault, [but] it limits his analysis in significant ways" (Hayles 1993, p.5). Bringing the focus to bear on the body would "clarify the mechanisms of change" whilst linking "technical landscape with the instantiated enactments that create feedback looks between materiality and discourse […] but making it difficult to understand exactly how certain practices spread in society" (Hayles 1993, p. 5). For her, embodiment is "converted" into a body through imaging technologies that "create a normalized construct averaged over many data points to give an idealized version of the object in question" (Hayles 1993, p. 6).

In the Clinic there is little doubt that this transformation takes place. Along with re-coding of the body as a site of dis-ease, the normalisation of pathologies is purposeful. In The Shadow Clinic, this is more difficult to define, because the cultural context that formulates the practice of embodiment is predominantly unstable. The information required for the creation of the normalised body is equally disseminated over data points, information that culminates in the new body image. But the life of the new body, it seems, is more expansive than one that can be said to be located.

In the Shadow Clinic, the possibilities of palliative care might exist via engagement with web sites that offer, to those who are dealing with the trauma of surgery or coming to grips with mortality and its many facets, an extension of their lives that physically may not be available to them. The peculiar experience of embodiment which renders the body abnormal or unpredictable needs palliation from the world that has, in many cases, given up on the ambition or desire to 'normalise.' Through individual autobiographical stories on personal web sites, using information from institutional sites, or accessing information

from online journals or libraries, the palliative aspect of care on-line, which predominantly exists through on-line exchange, can be a profoundly therapeutic experience, albeit one not involved in curing. Nevertheless, at the same time as there is engagement in this empowering element through this human – technological interaction, this on-line community of deviant bodies is being 'organised.' Since 2003, the Canadian Virtual Hospice has existed on–line, along with a multitude of pages and sites offering information and guidance.

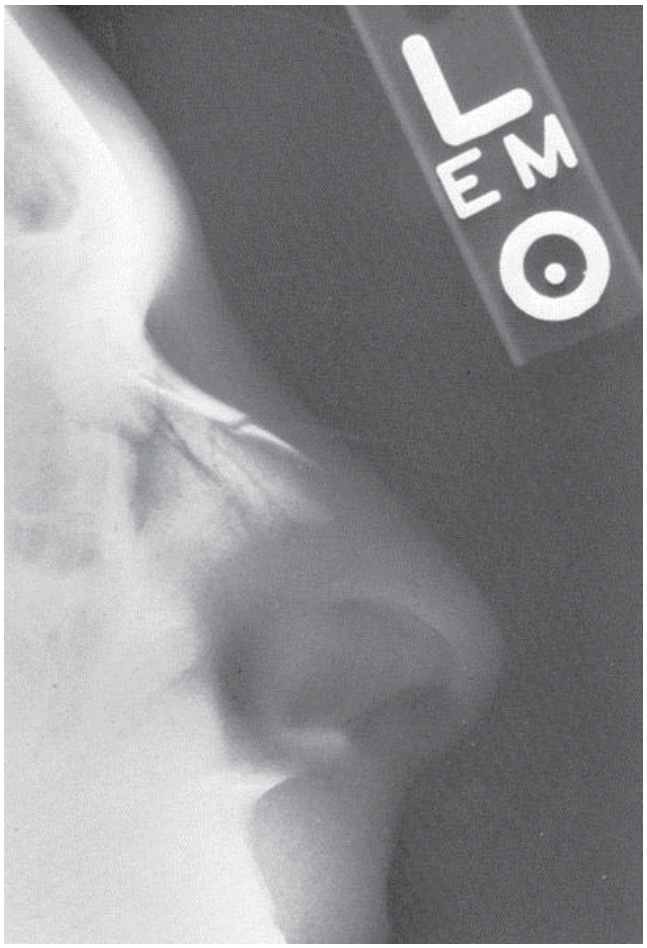

Fig. 4.1.

"Nasal x-ray of patient who was hit on the nose.
The x-ray is very clear, but is there a nasal fracture?
Clinically there was not. Nasal x-rays are not helpful
in evaluating nasal trauma."

Physical life in a hospice means that no matter what, at certain times of the day, your embodied existence will be interacted with, either through encouragement to eat, or be visited or for personal hygiene, for example.

In the Shadow Clinic, there is no obligatory system in place for you to engage with: attendance and motivation is completely self-driven. There is no easy way to define the parameters of embodiment in The Shadow Clinic and the body as it resides there. In The Shadow Clinic, there is no imperative to be seen as you are.

Figure 4.1 is one of a selection of images that appear on the Web page of Dr. Davidson of University of California, San Diego – School of Medicine. The page is dedicated to an array of case studies of facial plastic and reconstructive surgery. In particular the information concentrates on "maxillofacial trauma and cosmetic surgery."

"Facial trauma is very common in today's society", writes Dr. Davidson in his post, "[t]his undoubtedly reflects the fact that many individuals drive under the influence of alcohol or other intoxicating agents, and that other have suffered various forms of personal violence."[45] This voice of authority in the reconstruction of the damaged face and head has no qualms about becoming an authority on society's deviant behaviour which not only left the patient in hospital damaged and in states of trauma and crisis, but also finds them posted up on the Internet in this gesture of pedagogical 'generosity', along with the now unsurprising call for financial support for the School of Medicine at UCSD.

The body imaged in Figure 4.1 tells us that x-ray technologies are not good for indentifying nasal fractures with no further information about what imaging technologies might be more useful.

[45] Retrieved 13/02/11 from: http://drdavidson.ucsd.edu/_portals/0/cmo/cmo/_07.htm

The decision to reduce a nasal fracture is entirely a clinical decision and is not affected by X-ray findings. X-rays should not be ordered to evaluate a nasal fracture; they will not affect a clinical decision to reduce or not reduce the fracture. The only reason to obtain nasal X-rays is for medial legal purposes, which is not sufficient reason.[46]

Dr. Davidson's web page, dedicated to facial reconstructions and plastic surgery, displays a selection of X-rays along with personal narratives telling how the patients came upon their injuries: the car accident; the mugging; the accident with a 'walker,' are just a selection. In the form of a medical on-line text, there is some concession to a clinical approach that extrapolates an objective condition from a subjective situation.

In the next case study he describes, Dr. Davidson does not hold back his thoughts on the uses of plastic surgery. He describes a cosmetic surgery and seems to negotiate the embodied experience of his patient. In the Shadow Clinic, we see that the patient is not shown through x-ray imagery but through photographic portraits along with some mediocre line drawings which are described as "[p]rospective drawings of the nose as it might look after correction."[47] Undeniably, the difference in approaching the ensuing surgery through 'fantasy' in terms of prospective outcomes, inscribes the patient's body with desires. These appear to be shared by patient and clinician through this imagery, but in different ways. One unforgettable case involves a 16-year-old girl who wanted a reduction rhinoplasty. She was neither gorgeous nor conspicuously unattractive. She did have a big nose. A rhinoplasty reduced and refined her nose. Everything healed well and she remained an average-looking girl, albeit with a smaller, more refined nose.[48]

[46] ibid.
[47] ibid.
[48] ibid.

Mike Featherstone argues, by paraphrasing Covino (2004), that cosmetic surgeries promise ‘aesthetic healing’, a “fantasy image of oneself freed from the visible signs of ageing and culturally inappropriate blemishes. It offers a normalized body in its before-and-after picture logic. Repair the body or face and then the self will be repaired” (Featherstone 2010, p.205).

Of course, that is, unless like the girl in question, one gets exposed on-line by the surgeon as being quite ‘average’ before and after an expensive, supposedly transformative, surgical procedure. Notions of the self and embodiment are not interchangeable, however there are obvious connection points, more often than not, provided by the mirror.

> While the body without image, the affective body can be represented as an opposite to the body image in the visual ‘mirror-image’ mode […] the distant goal of the consumer culture transformative process is to bring both together […] This is the self improvement road which leads to not just bodily and self – transformation, but style and lifestyle transformation too.
>
> (Featherstone 2010, p. 196)

> Embodiment is akin to articulation in that it is inherently performative subject to individual enactments, and therefore always to some extent improvisational. Whereas the body can disappear into information with scarcely a murmur of protest embodiment cannot, for it is tied to the circumstances of the occasion and the person.
>
> (Hayles 1993, p. 7)

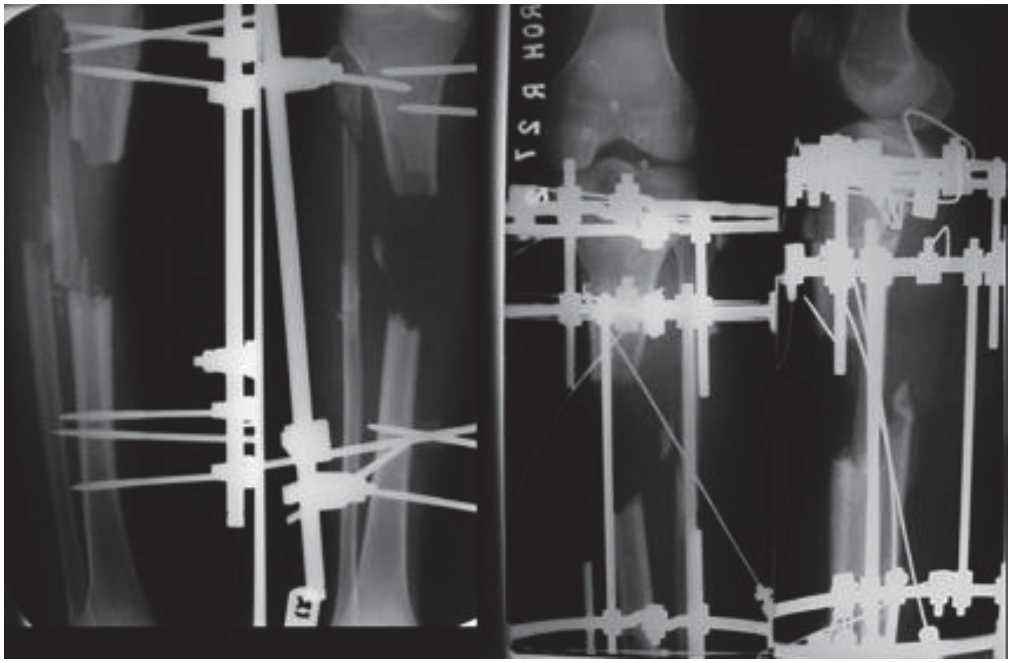

Figure 4.2 “This material does not constitute medical advice.
It is intended for informational purposes only.”

The informational routes and legitimisations of the term ‘body’ are seemingly endless. The parameters by which the body is to be understood through the flux of web page links leads to the general ‘dematerialisation’ of the body into sites of information. This shift is traced by Hayles through the writing of Jean Baudrillard and later of Arthur and Marielouise Kroker, who refer to the “second-order simulacra” and “floating body parts” (Hayles 1993, p. 192).

Yet however evocative the visuals, the theory is produced as a literal, cultural or philosophical one based on the assumption that after discourse, the body can only exist as a set of signs or symbols. As a body imbued with sets of codes already laid out our materiality is compromised through the immateriality of information

and becomes a simulacrum of its own simulacra (Baudrillard 1973; 1981). The body reduced to sign and metaphor, after the introduction of discourse, is again de-materialized to a set of relational intensities through the fact of self-image and, by extension, the resulting experience that is embodiment.

> Embodiment never coincides exactly with "the body", however that normalized concept is understood…Relative to the body, embodiment is other and elsewhere, at once excessive and deficient in its variations, particularities, and abnormalities.
>
> (Hayles 1999, p. 196-197)

The site of the body, as identified by Foucault and many theorists writing on the subject, is a site of information, or three-dimensional space that is repeatedly imaged in two dimensions. Constant imaging through reflection and image technologies, whilst constantly transforming and/or disappearing from the lived body's experience as it inhabits a world with numerous shiny surface areas, means that the self as imaged is multiple and various and above all commodified. It also means that it does not exist as a stable entity. Baudelaire's *flanêur* is capable of 'abandoning' himself through his 'intoxicating empathy' because he is constantly reflected and re-contextualized in the City. In his seminal "Passagenwerk" or "The Arcades Project" (1927-1940), Walter Benjamin describes the *flanêur* as being at ease with his interior/exterior existence as he 'loses' himself among the "shiny enamelled signs of businesses" (Crickenberger 2007).[49] The self, reflected is inevitable and disruptive.

As Dr. Davidson explained, nasal x-rays are ineffectual for indentifying the body, so Figure 4.1 with its aesthetics of calm contemplative aura signified by areas of grey 'mist' and flashes of dark lines, clearly makes visible the body which is viewed but not identified, either by its 'disease' or its clinical 'information'. The line drawings, predicting the girl's body image, likewise cannot be said to contain information, but only projections of desires.

[49] Crickenberger's work is in hypertext and does not incorporate page numbers.

Scientific viewing technologies converts the experiential into a body, thereby "converting the heterogeneous flux of perception into a reified stable object" through creating for it a "normalized construct averaged over many data points" (Hayles 1999, p.196). In other words, the experience of being the biological body bombarded by numerous x-rays and its subsequent attenuation of the rays becomes a body of information through imagery.

> It is primarily the body that is naturalized within a culture; embodiment becomes naturalized only secondarily through its interactions with concepts of the body.
>
> (Hayles 1999, p. 198)

Figures 4.1 and 4.2 both appear under the category of "post clinical x-rays." Both of them bear accompanying written texts that mark the images as redundant once out of the clinic. Figure 4.1 expressly states that the results of the clinical tests were at odds with what the x-ray image revealed and Figure 4.2 presents an image that contains 'no medical advice' but only information.

Pictorially it is clear is that in Figure 4.2 there is evidence of some medical intervention which almost completely obscures the evident breakages of the bones that are more clearly visible in the image on the left than in the image on the right. The celebration of the organic body, therefore, in dynamic 'harmony' with not only visualizing technology but also prosthetic technologies, is often a motif that can be seen through x-ray images in the Shadow Clinic. The space of the body empties as the glowing white sepulchres of technology appear pervasive, colonizing the spaces where once possibly the organic inhabited. The new mechanics become the focal point of the image and the new locus of the body imaged. The prosthetic appliances denote absence of the organic, absence of the essential body parts but presence of a new cultural embodiment, one that exists in multiple discourses. For now, I shall concentrate on those of the cyborg, the post human, the transhuman and the extropian (Bishop 2007, p. 8). The 'ambiguity' of

the body resides therefore in the new "obsolescence of the body" and the "reconstruction" of the body (Bishop 2004, p. 7).

Within the discussion of the 'post human' the cyborg is envisioned (Bishop 2004; Hayles 1999; Halberstam and Livingston 1995; Haraway 1985). In short, the 'post human embodiment' exists in 'multiple ways' (Bishop 2004, p.6). As "post-biological ontology" (Lizama 2008, p.iii) the discourses of the post-human, the transhuman, cyborg and extropian often spill into discourses of progression and future perfections (Bishop 2004, p. 9). Eugene Thacker's analysis of Extropian vision is akin to the vision of the Enlightenment, "the humanism of extropianism places at its center certain unique qualities of the human – self awareness, consciousness and reflection, self-direction and development, the capacity for scientific and technological progress, and the valuation of rational thought" (Thacker 2003, p.75). Science and technology are taken as 'inevitable' systems of progress for humans (Thacker 2003, p. 75). As Halberstam and Livingston (1995, p.10) state:

> The posthuman does not necessitate the obsolescence of the human; it does not represent an evolution or devolution of the human. Rather it participates in re-distributions of difference and identity […] The posthuman does not reduce the difference-from-others to difference-from-self, but rather emerges in the pattern of resonance and interference between the two.

The image of the body as the experiential extension of being embodied in the Shadow Clinic, potentially acts as a distraction, a reification of an endlessly extending human, immortalising the anxieties and feeding the desires. The topic of the bio-technical body is not theoretically one that is often spoken of in the Shadow Clinic, although the embodied are often immersed in a hybrid existence and physical absence with only technology in the way. The academic arguments and theoretical debates about the future of biotechnologies and what we can hope to live with is defined by Thacker as a state of the future body that has "no body

anxiety"; in fact, it is based on a "deep investiture and revaluation of the body as a materiality, and one that can be understood and controlled through information" (Thacker 2003, p. 89).

Desire for Dissemination with the Body Reborn

Natalia Lizama discusses the ways in which "resurrection is enacted [through] biotechnological processes and visualizations". However, the resurrection necessarily implies the death of what she calls "organic integrity" (Lizama 2008, p. 219).

> [T]hese resurrections that take place can also be seen to create a new kind of body, one that is not limited by the fantasy of corporeal unity but that nonetheless retains an organic *integrity:* the exquisite corpse.
>
> (Lizama 2008, p. 219)

The following examples maintain 'corporeal unity' as a 'fantasy'. Some way into my examination of images that emerge from the search for "post-clinical x-rays", I found a personal web log page, or blog, published by an Emergency Room physician. In January 2011 he had published a page displaying his interest in "x-ray porn," providing links to the work of the Belgian artist, Wim Delvoye (Figures 4.3 and 4.4).

The Stanford Dictionary of Philosophy[50] offers three definitions of pornography which are helpful to understanding not only the traditional derivation of pornography, but also how it materialises through x-ray imagery freely available on-line. Exhibition in the Shadow Clinic renders the space transgressive and driven by the market place, fantasy and desire. Etymologically, the word 'pornography' derives from the Greek coupling of the words for prostitutes and

[50] Retrieved 25th February 2011 from: www.http://plato.stanford.edu/entries/pornography-censorship/#1.

writing. In effect, the writing about prostitutes is understood as being pornographic.

A second definition, given in the Stanford Dictionary, positions pornography as "sexually explicit material (verbal or pictorial) that is *primarily designed to produce sexual arousal in viewers*" and the third definition it offers is a further designation: "pornography is sexually explicit material designed to produce sexual arousal in *consumers* that is *bad* in a certain way." Feminist theory positions pornography as all of these: an inscription onto the body (usually female) providing codes of desire and consumption.

> […] pornography, at least in part, offers itself to the (male) spectator as a form of knowledge and conception/perceptual mastery of the enigmas of female sexuality but is in fact his own projection of sexual pleasure.
>
> (Grosz 1994, p. 199)

Most of Delvoye's images are x-ray images that present couples (visually coded as male and female) in the act of graphic fellatio. Rather than shock or disapproval, these images seem to inspire, from those who stumble across the site, humorous and ironic comments such as "So it's not really a bone then" and "look at the number of fillings." Two of Delvoye's images are immediately accessible in the gallery of thumbnail images found under "post-clinical x-rays". Neither of them shows the act of fellatio, but those are nevertheless easily accessed through the hypertextual link provided by these initial images. Through these images, the on-line participator is taken straight into another blog, and further images.

Paul Laster writing for *New York Time Out* in October, 2002, tells how Delvoye has created them as art works that follow in a long line of 'provocative' images and object that exist as his oeuvre. He constructs these complex pictures by covering himself and his models in barium powder mixed with Nivea cream, and with the assistance of radiologists, doctors and technicians, x-rays his subjects

(often including himself) in a radiological clinic he has had transported into his studio.[51] His techniques render the nerves and vessels that reflect the embodied response of erotic arousal, clearly visible.

This form of imagery has worked particularly well for portraying the penis in the state of arousal. I have not included the images in the thesis, however I mention them as examples of images made which appropriate medical imaging technology, in this case, that of x-rays and for how the maker disseminates the resulting imagery through not only private galleries and their subsequent web sites, but his own personal website. The images are then re-appropriated by individuals who post them on their own websites for amusement and to share with their 'friends.' In effect, the images are 'viral', however narrowly disseminated. In the Shadow Clinic, they do not engender a clinical response.

The authenticity of the organic bodies appearing in the pictures is not questioned. The imaged visceral element appears to be evidence of organic presence. Along with the shadow of the skull, the barium concoction has vividly defined the outline of their flesh with a single white line, but it is not the clarity of the flesh that renders the image necessarily authentic. Figure 4.3 displays Delvoye's ability to capture the body as being two distinct visual entities, that of interior and exterior. His images display the envisioned organic plasticity of the exterior flesh and the mechanical structure of the interior appearing to some extent to be resisting each other's directions. In addition, the static interaction vividly shows the sites of extra-interventions in the shape of dental prosthetics.

[51] Retrieved 20th February 2011from: http://www.speronewestwater.com/cgibin/iowa/articles/record/html?record=192.

Fig. 4.3 *X-ray Kiss (1)* by Wim Delvoye

Fig. 4.4 X-ray kiss (2) by Wim Delvoye

In Figure 4.4, what had been seen earlier as the non –pliable mechanics of the internal structures of the body has changed to reveal a seemingly sudden and exuberant pouring out of their previous in-carceration. Through effective use of x-ray imaging technologies and the organic body Delvoye tells the body's narrative as having the capacity to overflow through embodied practices as they defy their confines, rather than as inhabiting a duality of internal and external spaces. The spirit of revealed exuberance in Figure 4.4 has not rendered the bodies desirable but monstrous and out of control (Hepburn 2010).

The question of proximal space between the bodies imaged and their existence in the imagination of the viewer is in reality still separated by the screen. However, in a way markedly different from other x-rays viewed earlier, the image has us intimately involved, rather than the possibility of being empathically involved (Mitchell 2004, p.230). As in Figure 2.1 discussed in Chapter Two, the viewer on the other side of the screen is deliberately meant to feel a sense of intrusion into their private world; ironically, a world available to all, over the Internet. The 'private event' of the two bodies interacting is neatly visually offset by their bodies' public display of activity.

Rendering the body visible to this degree makes the "surface effects, relations occurring on the surface of the skin and various body parts merely superficial, for they generate, they produce, all the effects of a psychical interior, an underlying depth, individuality, or consciousness, much as the Möbius strip creates both and inside and an outside" (Grosz 1994, p. 116). The visual illusion of depth is lost in these images, through revelation of all as surface, thereby visually consumable as all surfaces at once in a bold image of excess and 'embodiment.' Empathy cannot be truly found here, but intimacy may be. "Intimacy […] implies collectivity, a circle of acknowledgment and recognition" (Mitchell 2004, p. 230). Rather than a dialogic relationship between person imaged and viewer, the image requires an audience, and situates the viewer as Other. As Judith Butler describes it, the Other is an integral player in the triadic discourse of desire, "a third object" or rather a third objective (Butler 2004, p. 138). The two bodies as they exist on-line desire to be seen; the desire is that they are seen as objectified by the mechanics of x-ray imagery, and the discourses of desire in which they are involved also involves them in technology's desire to disseminate their presence through the human action.

In contrast, in 2010 the first X-ray pin-up calendar produced by medical monitor suppliers Eizo appeared on-line in the Shadow Clinic. The Eizo pin-up calendar

does not use real x-ray technology but Computer Generated Imagery (CGI) manipulated to 'look' like x-rays, and was produced by the BUTTER Advertising Agency, based in Germany. The advertising rhetoric makes the following claims:

EIZO medical imaging high precision displays for the examination and diagnosis of radiographs. Whereas craftsmen are showered with pin-up calendars at the end of every year, this kind of present is less popular among medics. EIZO breaks this taboo. This pin-up calendar shows absolutely every detail.[52]

Figure 4.5 Eizo's Pin Up Calendar, 2010

[52] Retrieved 20th February 2011 from: http://www.advertolog.com/eizo/print-outdoor/pin-up-calendar-2010-13713805/.

Fig 4.6 Eizo's Pin Up Calendar, 2010

One of the reasons that it is evident that these are not authentic x-ray images is that the entire organic body cannot physically be subjected to the amount of radiation for the length of time that it would take to get this high definition, without causing great harm to the model. In comparison with the full-length skeleton portrayed in Chapter 2 (Fig. 2.1) where the shadows of the softer interior of the body are clearly visible as 'solid' light mass, whilst the outline of the body as skin and flesh are less present, in Figures 4.5 and 4.6 the internal body appears to have no substance and the articulation of the flesh is paramount. What is highly visible is 'transparency.'

The pin-up model is presented as a generic desirable and desiring female that is easy to see through, and yet appears without substance. The most important and erotic components presented are the iconic ones: her 'fleshy' breasts, buttocks and high- heeled shoes are all visible. Abstracted from any context, the x-rayed body sits in a void waiting to be gazed upon, or just peeped at dependant on the will of

the viewer. In the Shadow Clinic, her image is not represented as affiliated to time, even though she allegedly bears the hallmark of a calendar girl.

Whether we know or not that the images on EIZO's calendar do not use bodies or x-ray technologies, they nevertheless manage to capture the imagination of the browsing Internet user, where more than anything, comments on how 'realistic' the images are. "I'm wondering," quips one who has copied these images and posted them on his personal blog page, "how much radiation the poor lady received." Rather than be aggrieved at her sublimation, there is a quizzical joy in his question that is hard to accept. In contrast to Hoffman's earlier image in a similar vein (Fig. 2.1), there are no visible witnesses to the purveyor of EIZO's 'pin up' calendar other than the written responses. The images are designed for viewing solely on the screen, in isolation on the privacy of your home computer, or sharing among your understanding friends and colleagues at work.

Pornography and eroticism have been affiliated with x-ray imagery since the very early days. Cartwright refers to Linda Williams' writing on the subject of hard-core pornography where she states that it is the "ritual concealment and un-concealment, and the narrative anticipation of the visual revelation […] that is invested with erotic meaning" (Cartwright 1995, p.119).[53] The eroticisation of the female body through x-ray imagery seems to be a matter of nostalgia and dates back to the end of the nineteenth century. Along with this nostalgia and its accompanying illusions to sadism through the systematic 'flaying' of the female form, we have an extremely basic reference to the way that the image of the x-ray is understood to have a certain 'style'. The archetypal 'calendar girl' does not show the passing of time through aging, but largely through costume and fashion. In some ways EIZO have complied with old tropes by ridding her of her clothes, but, in their resorting to the old desire of the calendar girl, they have stripped her not only of costume but any temporal signifiers; they have diminished any

[53] Studies of pornography on the Internet are more often affiliated to searches made specifically for pornography rather than the conglomeration of images available through a more various search for topics and themes that reveal thumbnail images that may be affiliated to pornographic content.

eroticism by portraying the body through the semiotics of x-ray imagery, to be a 'sort of idea' (Cantor 2006). As an objective, rendered through the use of graphic instruments, they have revealed too much and too little. As a style, a psychological conditioning, a visual habit, it encompasses an obviously still very powerful patriarchal vision that involves not just titillation but also the death of the 'subject' through dissemination and technological inscription by the male gaze, aided and abetted by the embodied technologies of the prospective market that exist through the World Wide Web. This is maintained in the following case where the human subject of the image, some years after her death, is auctioned off.

In April 2010, the chest x-ray of Marilyn Monroe went to auction. It fetched US$45,000 (Elvis Presley's x-ray of his broken wrist, a result of a karate accident, only fetched $2000). The very low dose of radiation obviously administered for Monroe's x-ray (Figure 4.7) meant that much of the outer layer of her body would be available for viewing. It is reported that this x-ray was taken when she was admitted to hospital suspecting she was pregnant and likely to lose the child. It is recorded that she was in fact suffering from endometriosis, the very painful condition of the womb. Taken whilst she was at Cedars of Lebanon Hospital: "[a] young doctor working in the hospital's radiology department later obtained the x-rays and when he taught at the centre's medical school, used it to show to students".[54]

Exhibited on Stanford University's web page entitled "Scope – Medical news and conversation from Stanford School of Medicine", the writer of the article, Lia Steakley, neither debates the ethics of auctioning the body imaged by x-rays nor does she comment on whether the x-ray was really necessary considering that Monroe was being examined for a condition of the womb. It is possible that

[54] Retrieved 11th November 2010 from: http://www.telegraph.co.uk/newstopics/celebritynews/7582112/Marilyn-Monroes-chest-x-ray-offered -at-auction.html.

Monroe asked to have the x-ray done separately from the more formal investigations, however the Stanford commentary does not illuminate this issue and with other reportage on how it fell into the hands of a young doctor, this seems unlikely. By February 2011, the site where this image was first retrieved is no longer in evidence.

The practice of selling dead bodies is not what is being addressed here, but rather the *idea* of the 'feminine' imaged corpse still functioning as commodity through imagery, available to be purchased and sold. This imagery may or may not allude to the subject of death, however, but it initiates an illusion of control and purchasing power between viewer subject and viewed object, of desire between perceived genders and disseminated interest. Judith Butler cites the work of Jessica Benjamin on the subject of desire and the psychology of the 'other'. At the core of Benjamin's work is a psychological analysis of intersubjectivity — a position that relies heavily on the process of recognition.

> One of the distinctive contributions of her theory is to insist that intersubjectivity is not the same as object relations, and that "intersubjectivity" adds to object relations the notion of an external Other, one who exceeds the psychic construction of the object in complementary terms.
>
> (Butler 2005, p. 130)

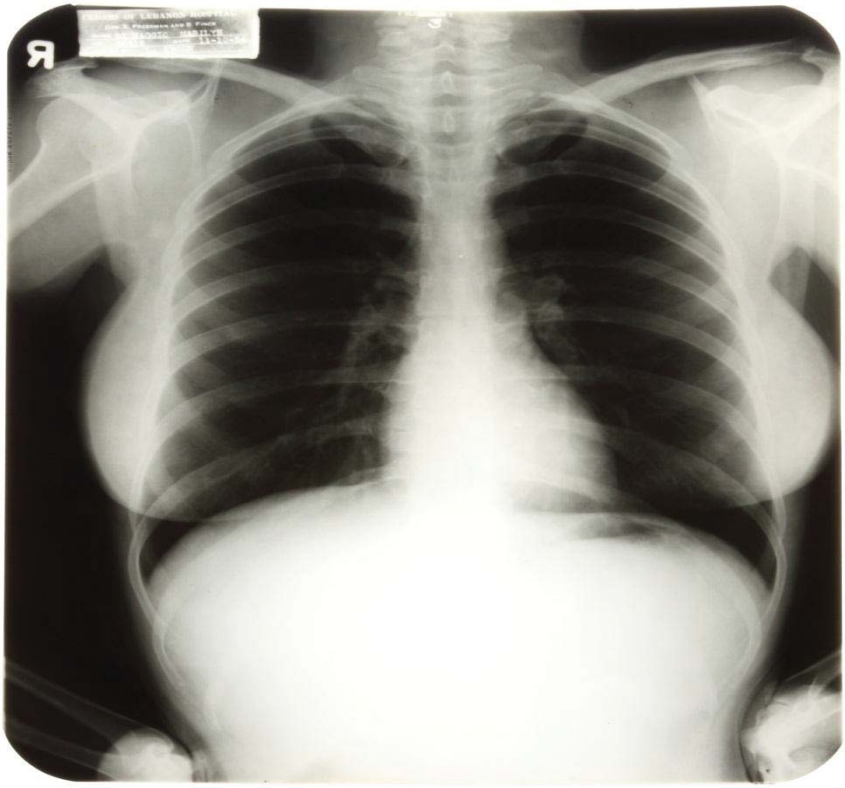

Fig 4.7 Marilyn Monroe's Chest X-ray from 1954

We are told on the Stanford site that the image of Marilyn Monroe's x-ray is featured in "a Today Show slideshow" available on-line along with other Monroe memorabilia and probably needs permission from the auction house, "Julien's Auctions" to be published elsewhere. The image on-line was very accessible, however, thanks in part to Stanford School of Medicine and its use of the Internet. The clinical x-ray having transformed into a found object on-line, is now the property of another.

Butler analyses Lacanian theory on the nature of desire: "desire is the desire of the Other" (Butler 2005, p. 137). However, in the Shadow Clinic, we can extend the hypothesis even further to recognise a subjective desire which does not want that which it lacks, but the possibility of that which it might be; desire wants the 'condition' of the Other. In the case of the Marilyn Monroe x-ray, for example,

our subjective desires collectively emphasise that of wanting the perfect female form, the fame and the spectacular death, for whatever reason.

Monroe's x-ray offers a much more desirable image than that of Figure 4.8, not just because of circumstantial context but also because of the depictions of aesthetic spatial form and concealment. Space is apparently intangible but space allows the desire to exist in the tangible surface enabling an empathic desire to reach into the seemingly endless abyss. Empathy is often the desire to reach out (emotionally) with the senses to one's beloved or to oneself. The cavernous darkness at the centre of Monroe's chest provides room in her very core for the viewer to see themselves reflected, for eyes to reach in exploring at will whilst surrounded by her shadowy remnants of physicality. The symmetry of her imaged body entices and directs the eyes to the dark cavities of her lungs, eventually drawn to the reversed 'R' and nametag in the left corner, over her heart.

> Empathy is both a mimetic and compensatory relation between the beholder and the object. Mimetic in that the beholder, as William Blake would have put it, "becomes what he beholds."
>
> (Mitchell 2004, p. 230)

Much of the significance of the Monroe's x-ray image on-line is, I believe, to do with the mystery surrounding her death but also a realisation of her life as commodity. In the Shadow Clinic it would not be desirable to see her x-ray image revealing signs of illness and mortality. The desire combines strongly with the notion that her immortalised body belongs to everyone.

Figure 4.8 does not option this 'lost in space' moment that is found in the symmetry of Monroe's x-ray. Our eyes are engaged trying to sort out what shapes are attached and attenuated and where the borders lie. As one form busily bleeds into another, aesthetic empathy is impossible. Rather like trying to visually pick

through a large web, we are forced to stop our ‘rapturous’ gaze for fear of being caught up in the details of this image. The pale globes denoting the synthetic breast implants seem extraneous to the image. The perceived inorganic nature of forms seems only to push our gaze away offering no resting place for our eyes. There is no hint of concealment and revelation but rather excessive concealment.

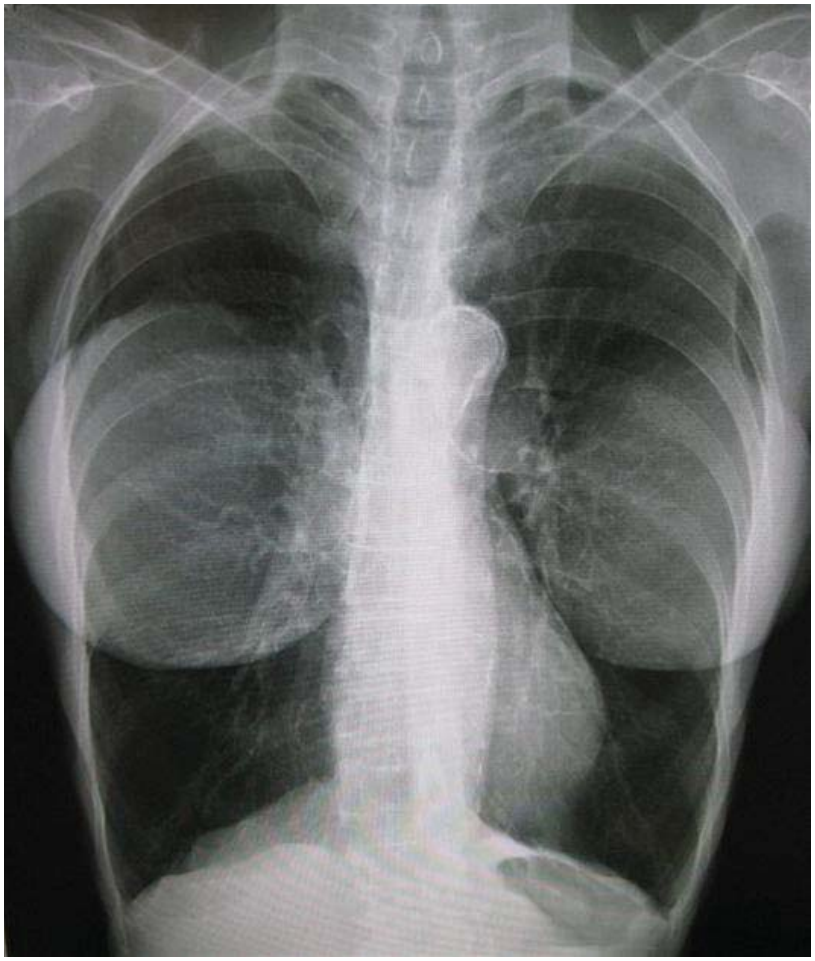

Fig. 4.8 *Stem Cell Research to Grow Bigger Boobs*

Burnett and Marshall cite Turkle and Stone in their argument that the Internet, or more specifically, the World Wide Web, has led to a deconstructive effect on both identity and culture (Burnett and Marshall, 2003; Stone, 1996; Turkle, 1995). As Burnett and Marshall explain, the Internet enables the possibility for deconstruction to provide an opportunity to “abandon the confines of a limiting self” and thereby become the vehicle for post-modern identities to exist through

personal web sites (Burnett and Marshall, 2003 p. 63). Referring to Irving Goffman's (1959) influential work in which the presentation of the self exists as a daily process of negotiating information management as a way of influencing the "impressions others develop", they tell us that Goffman is making a clear distinction between the "expression the individual 'gives' and the expression 'given off'...[t]hus the individual sets the stage for a never ending, daily 'information game', whereby the impressions formed are a result of the 'performance' (Burnett and Marshall, 2003 p.69).

This information game exists, not just in the realms of technologies of imaging and dissemination, but also in the will to respond and the facility of technology enabling this to happen. The interactivity is not just relegated to the maker of the web page, but also to the reader who is 'invited' to respond back thereby adding to the content of the page. Burnett and Marshall employ the term 'user' in this spirit of interactivity. The '*user* also captures another clear defining characteristic of the Web: it is as much about looking, reading, observing and browsing as it is about a kind of empowerment to *produce*' (Burnett and Marshall, 2003 p.73). Again, we see Toffler's "prosumer" identified in the last chapter, the simultaneous character of the user and producer who can now be identified in the Shadow Clinic.

In the 2010 film *Social Network,* that tells the story of the founders of the phenomenally successful website Facebook, a common perception was introduced about web page writers by the character playing the girlfriend of the young entrepreneur Mark Zuckerberg. She accuses him of being one of the stereo-typical writers of web pages who sit in their dark rooms raging against the world. This perception is still usually applied to the demographic of teenage boys and men. Why this should be the case is grist for another thesis, however what is of interest here is that the dark room becomes the symbol of a 'bad' space affiliated to social networking via the Internet, rather than a contemplative space conducive to communication and/or information. The combination of these dark spaces of transgression and highly effective market places that web sites offer means that what is produced on web pages can often veer off into highly controversial

hybrids of information, pornography, entertainment and transgression, all at the same time and in the same space.

The Appeal of Dark Subjects

The following three images accompany extremely disturbing stories of accident, self mutilation and killing, but they are of interest because they are posted through personal web logs as well as institutional sites, and it appears that there is obvious defensiveness on the part of the writers of the blogs, as a way of legitimising the showing of them. Figure 4.9 is one of a selection of, in the blog writer's own words, "bizarrely morbid" x-rays showing various skulls with foreign objects implanted. Of all the images exhibited this is the one that is immediately available from the gallery, the image that invites the *flanêur/ze* in his/her censorious detached role or rather in this case the aforementioned *badaud*, or rubber necker, to enter his blog page. I would have to here accept both of these roles although I would like to add that these images are legitimately in the space of the Shadow Clinic, until they are not.

The author of the page, Kevin Pho M.D., proclaims himself to be "social media's leading physician's voice" but states by way of a disclaimer that by "[u]sing, accessing and /or browsing the Site and/or providing personal or medical information to the Author does not create a physician/patient relationship," although he does claim that the site is "made available for educational purposes."

Fig. 4.9 Gratuitous and grisly x-ray image

The horror of this image is accompanied by the option given by Dr. Pho. It exists because it is 'educational' and comes with an accompanying didacticism about what not to do with nail guns. The one response that this posting elicited recognises this image, not as being *the most* educational but as being the 'most disturbing'. These images with freakishly violent acts of abuse, whether intentional or accidental, appear on a vast number of sites. Perhaps not surprisingly, wherever posted they do the same work, providing an image of a shocking event which no doubt would have been unthinkable to visually contemplate in the 'flesh', and presenting it as an almost whimsical image of violence. Whimsical because it seems to bear no structural relation to the other information on the page or the accompanying advertisements for medical procedures and further information about, in this example, Dr. Pho.

Butler argues that by "imagining the content of the confession as a deed, a deed of desire, a sexual act, the [...] speaking becomes the new vehicle; for the act

becomes, indeed, a new act or a new life for the old act" (Butler 2004, p. 165). In the Shadow Clinic, desire occurs through wanting to know what to do in the event of having the condition of the Other. Exhibited as x-rays, the discourses initiated by images of violence is confused by their prior status as clinical evidence and their subsequent transformation into gestures of on-line community activity, where we are all banished together to contemplate the condition that we must adopt as helpless on-lookers.

In a similar way that the obstructions of the screen and imaging technologies are already in place for any inter-subjectivity to really occur between the viewer and the image, the body imaged becomes the backdrop for a scattering of alien objects that seem to resist embedding themselves in the places where they lie. The fusion of technology and the body imaged present a complicated picture which requires, at the least, a familiarity with x-ray perception, and in addition, an objective stance that enables an on-line ontology for images of horror.

Figure 4.10 is a police photograph taken from the early 1930s x-ray of the pelvic region of serial child torturer, killer and cannibal, Albert Fish. Used partly as evidence for his defence in his trial, it exhibited obvious signs of his sado-masochistic tendencies and by extension, his insanity. The image shows Fish's pelvis penetrated by approximately 29 needles. Because of the heinous nature of his crimes against children, he was found in the judicial courts to be sane and thereby able to be sentenced to death.

The image is as surreal and mystifying, as is the story behind the man himself. So much so that the on-line lengthy article documenting in detail the trial and crimes of Albert Fish published the x-ray image upside down. The contributions in the form of comments added to the article make it clear that among the on-line community there is a feeling of disgust about the crimes perpetrated by Fish, however only one comment points out the discrepancy of the image. That comment comes from someone who identifies him or herself on line as, "x-ray

tech." The site itself is entitled "truTV Crime Library – Criminal Minds and Methods."

Fig. 4.10 X-ray of Albert Fish's pelvis (the right way up)

Figures 4.9, 4.10, and 4.11 display the results of objects penetrated. Yet the visibility of the objects through these images forbids the viewer to understand them as having penetrated the surface of the organic body. Rather than appearing to penetrate the body, the offending objects rise to the surface of the image as if yet to be placed. At most, we can have empathic feeling for the victims in the narrative background, but the image itself in these cases do not let us delve beneath the surface. The surfaces have instead risen up to us, the viewer.

It is these types of images that, perhaps more than any others, ring the alarm bells of indifference or rather, lack of empathy. The superfluity of their existence on-line negates their power. Their obvious connections to documentation and fact

only tell some of the story. The images exist among the ever-growing gallery of x-ray images on the Internet that expose the viewer not only to a suspect altruism of potential education in morality, but to an indifferent gaze of randomness. Although not strictly understood to be random images, as they do sit within parameters defined by specific codes and selection processes, they are potentially susceptible to the often thought, commonsensical principle of chance. The more available and numerous they become, the less they exist as images of choice and the more chance of exposure for the viewer. Their multiplicity embroils them in the space of lack of difference, and normalises them thereby encouraging a 'gaze of indifference'.

This is a criticism often voiced at television coverage of violent events. Unlike images transmitted through television, these images are increasingly de-contextualized on the Internet and, rather like Figure 4.9, are literally exhibited as a "freakish and gratuitous images", not as might be more legitimately and humanely understood as freakish and gratuitous acts of violence. The act of violence, it could be argued, is to post such images up, in between the advertisements, medical articles and other sensitive discussions.

On 31st October 2009, the Guardian website published a disturbing article entitled, "A testament to torture – A German professor's extraordinary collection of x-rays shines light on the world's darkest deeds" by Clive Stafford Smith, founder of the organisation Reprieve.[55] The text is accompanied by an even more disturbing picture. The article profiles Professor Hermann Vogel and his collection of x-rays of various torture injuries and fatalities that he has been amassing for the last thirty years. Vogel is quoted as saying:

Photographs of torture victims are often so brutal and blatant that the viewer looks away. It's a reflex. Anonymous x-ray images can be viewed more objectively.

[55] "*Reprieve* is a group of international charities dedicated to assisting in the provision of effective lega representation and humanitarian assistatnce to impoverished people facing the death penalty" based in the US. Retrieved 28/02/11 from: http://www.reprieve.org/home.htm

The images make the viewer think about the issue of torture, but in a bearable way. That is my aim.[56]

Further on in the article he explains why x-ray images are useful in providing proof of torture. "A forensic investigation will reveal fractures, foreign objects and needles, but x-rays provide plausibility…In some countries, x-rays can be used in evidence in court and a few of my x-rays have helped prove that torture has occurred." (See Fig. 4.11)

The difficulty with x-rays used as 'plausible' proof in court, is outlined here in the following historic example. It is still the case however, that x-rays as evidence are not welcomed all over the world. At the beginning of the twentieth century when x-rays were first introduced into courthouses as evidence, they were not considered "pictures of real objects […] but only *shadows* of objects, which could never have been seen with the naked eye" (Holtzmann Kevles 1997, pp. 93-94).

Not only did their obvious disconnection with the organic matter of the eye seem to be problematic, but they were also far removed from the clarity provided by photographic evidence and were in addition pronounced "distorted shadows" (Holtzmann Kevles 1997, pp. 93-94). Their characterisation as photography was initially unquestioned, but in less than a year after their emergence, the exuberance surrounding the new 'camera-eye' that could render "Invisible Objects Photographed" (*New York Times* 1896) came to adopt the more sober and more "clinical sounding" name of Roentgen Rays (Keller 2006, pp.2-3).

The first recorded incident of x-ray imagery being used in a court of law was in the United States in 1896. It was a lawsuit brought against a clinical practitioner for negligence. At the time, photography was not considered primary evidence

[56] Retrieved 13th February 2011from: http://www.guardian.co.uk/world/oct/31/xrays-of-torture-victims.

and in court photographs needed an eyewitness to vouch for its veracity. The x-ray image, it was deemed, also required this, which of course, was not feasible (Keller 2006, p.5). Abstracted from the proximity of the human eye, the x-ray image was its own and only 'witness'.

The ethical debates regarding the uses of x-rays in court are still pervasive and have extended into questions of public privacy and covert surveillance. Whether the images are used for evidence in cases of wrongful surgery, immigration or identification of the individual post mortem, they all have different guidelines. The on-line article publicising the archive of Professor Vogel does not delve into the results or possibilities of using these images in court, but leaves the options open for all who view the images to again be horrified or fascinated by the image abstracted. The caption accompanying the image describes the nail being hammered into the skull, which already speaks of the victim as nothing more than a skeletal form. He is, however, given nationality. His killing is given some explanation, although we are not told as to whether this was the court's finding. The body inscribed by acts of torture still seems to evade the notion of embodiment, as the accompanying text attempts to sound clinical by offering a description of what is visible. In recognising his skull, it prudently omits to mention that it pierced his skin, went into his head and through his brain.

> […]the relative weight to be given to an interpretation of an X-ray picture by an ordinary physician, as compared to interpretations by roentgenologists with claimed greater training and experience ordinarily is a matter confided in the jury.
>
> (Scott 1946, p. 796)

The visual evidence of the x-ray also intimates that the nail may very well have been implanted after death. The image, however 'bearable' Professor Vogel considers it, cannot be easily viewed, objectively. It carries none of the textual information that accompanies many x-ray images in order to situate it within a clinical framework, for example indicators of the left and right hand side of the body indicating some process of 'normalisation' or treatment. It bears no marks

that it has been studied or the body operated on. The disembodied and abstracted image stands alone within its horror, alleged evidence of the brutality that people are capable of inflicting upon each other.

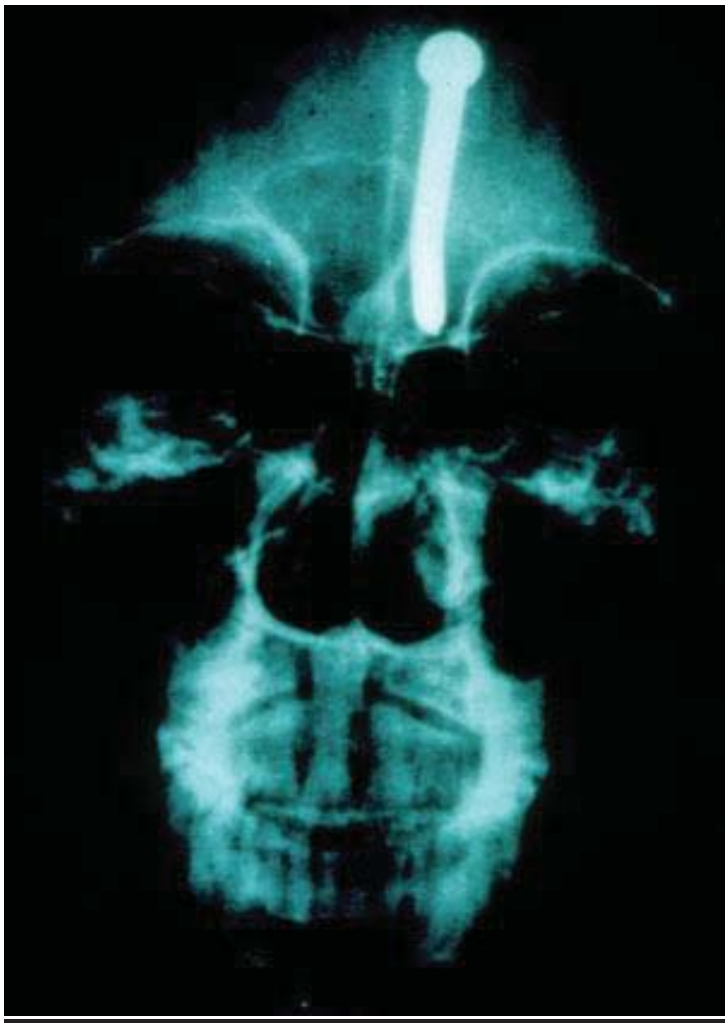

Fig. 4.11 This Filipino man died 14 days after having a nail hammered into his skull ‘to expel evil spirits

The “techno clinical gaze”, which I have identified as that gaze that begets visual habit through multiple exposures, is not the same as the “gaze of indifference” although one is very much affiliated to the other. Both rely on mediation through technological instruments capable of the reproduction of images. The techno-clinical gaze is identified as being bound in the project of normalisation, whereas

the “gaze of indifference” is the product of that normalisation; a gaze that draws the image into a selection of others by which it can be a contributor to an operational language.

The techno-clinical gaze, as it is used on the Web, works to compose meanings through numerous images that bear some relationship to the words delivered in the search command. Without this written operation, many of the images bear little resemblance. What differs between the image constructed for ‘scientific visualisation’, and the gallery of images available under a single search command on the Internet, is that the data collected in the techno clinical gaze of the Internet is constantly shifting. Such is the nature of dissemination over the World Wide Web encouraging personal interventions and continuous desire.

It is evident through this chapter that the link between “clinical x-rays” and “post” has clear connections to visualizing x-ray images as signifiers of eroticism and violence. Responses by the community in the Shadow Clinic are also strongly connected to the embodied experience of the viewer. The engagement, not only intellectually but physically through the act of looking and writing, makes clear that the ‘darker’ the images are, both allegorically and pictorially, the more comments they elicit from Internet users.

Catharsis is often understood to be a pathological release of emotion, predominantly as a performative act. But if we can consider it partially in its form, as Aristotle uses it in his *Poetics*, it must be understood as a release of pity and fear. Throughout this chapter we have seen an on-line negotiation with these images as shocking as they are intimate in the way of banal commentaries that eventually become, as in the case of Professor Vogel, bordering on the offensive. What will we understand about the violence that we do to others and the pleasure that we may have with others, through these depictions? After all, in the Shadow Clinic, we are barely aware of which imaged body belongs to the living and

which does not: which image is a real x-ray, a real trace of a body and which is a designed manufacture?

Relying only on the “immediately visible, once one has removed the obstacles erected to reason by theories and to the senses by the imagination” (Foucault 1998, p.131) leaves us with an indistinguishable ethical stance and a gaze of indifference as we lose the necessary powers of observation which enable a negotiation of life and all that is necessary for the manifestation of the empathic gaze. At this stage the position of the *flâneur* and the *badaud* are complicated. Through a detracted objective meandering, projecting individual likes and dislikes on the world of the Internet, if one stops at this moment and realises that empathy has taken over and one’s eye is attracted to the horror, this is how we have been practiced in looking through the spectacle of the mass media. According to Shaya (2004), this is how we have been taught to look and we take our place among the *badauds*.

CHAPTER FIVE

Iatrogenesis, the Good Death and its Palliation

Diagnosis always intensifies stress, defines incapacity, imposes inactivity, and focuses apprehension on non-recovery, on uncertainty, and on one's dependence upon future medical findings, all of which amounts to a loss of autonomy for self-definition.

(Illich 1984, p. 104)

The search for "palliative x-rays" revealed 267 x-rays out of 1000 images. Most of the images in this category revealed portraits of people, the 'human face' of palliative care homes, or showed illustrations of medical procedures, or photographs of patients undergoing care. One elderly man is heavily featured, usually on his own.

Chapter Four illustrated some of the more gratuitous and disturbing ways that x-ray imagery is used in the Shadow Clinic to expose the more 'un-natural' aspects of human experience or sub-culture that, for the sake of argument, the rest of us are can consider the more deviant and perverse. Presented in the arena of the Shadow Clinic, we can keep our distance and be horrified, repulsed or objective, as the work of diagnosis has been done. X-ray images through the authority of the Clinic have implicated their ways into these acts of violence, as harbingers of truth and justice that are providing through imagery, a direct route to the cause of the crime or misdemeanour, which is evidenced by the offending implements. The functions of these images in the Shadow Clinic are various but, above all, they are looked at and considered by those who want to. There is no need for provision of diagnosis and so their presence in the Clinic is re-inforced as one that is bound, in most cases, to provoke an emotional response rather intellectual. How they are used and talked about by professionals whether through the facetiousness of Dr. Pho or the ghoulish 'science' of Professor Vogel or the sheer audacity of EIZO,

displays how the culture of images does not so much display the ‘un- natural’ but rather is represented as an opportunity for all those in the Shadow Clinic to confront what they *can* bear to look at. All the images in the last chapter work to reveal what humans to do each other for one reason or another whether its insulting, degrading or masochistic, but in this chapter I shall confront how the Clinic uses x-rays to reconstitute the organic body through medical intervention in the act of preserving life, rather than displaying death.

According to Ivan Illich, it is “[t]he medical profession [that] have become a major threat to health” (Illich 1984, p.11). Using the term “iatrogenesis,” deriving from the Greek “iatros” meaning ‘physician’ and “genesis” meaning ‘originating,’ Illich lays out a political, social and economic case to argue that the medicalisation of the world has become more problematic than beneficial. Catherine Waldby uses the term, albeit a wilful reconfiguring of it as she freely admits, as a perfunctory problem of ‘desire’, a desire for the “possibility of technically producing bodies which are stable, self-identical entities rather than fields of perverse contingency” (Waldby 1999, p.79). In short, iatrogenetic technologies are again implicated in the provision of ‘normal’ formulaic bodies.

As a rule, says Illich, health is increasingly something that has moved away from personal responsibility to become something that is not only diminished by our lived environments but also something which has become a commodity, something that we see as a thing outside ourselves; “people are conditioned to *get things* rather than *to do* them” (Illich 1984, pp. 217-218). As Waldby attests, iatrogenesis cannot be “readily configured along the simple axes of cause and affect” because the desire for the stabilised body through pharmaceuticals, surgery or technological implants frequently “involve the provocation of often unpredictable instabilities and losses, as well as therapeutic gains” (Waldby 1999, p. 79). What Illich identifies here, therefore, appears to be a societal condition made apparent by the institution that stems from the ‘incapacitating’ effects of diagnosis (Illich 1984, p.104).

What Illich really identifies as being commodified is the “dominant image of death” which “determines the prevalent concept of health” (Illich 1984, p.179-181). The “dominant image of death” is, in this context, one emanating from an ancient Western ethos. It is “[t]he white man’s image of death [that] has spread with medical civilization and has been a major force in cultural colonization” (Illich 1984, p. 179-180).

The image of death portraying the skeleton complete with black cloak and scythe is quite familiar from a European perspective. However, in the Shadow Clinic, through the search for “palliative x-rays”, we do not see the image of Death revealed through x-rays but, rather, the metaphor of health’s ability to provide a distinction between a ‘good’ and ‘bad’ death. A study carried out by Godfrey Hochbaum’s in the 1950s looking at the willingness of people to be screened for Tuberculosis, showed that 41 percent of over a thousand interviewees “voluntarily and without any signs or symptoms of illness” had one or more x-rays taken, to check for signs. Ninety percent of 510 people interviewed believed that “early detection of tuberculosis would decrease the problems and worries which he thinks would arise for him should he ever contract the disease” (Hochbaum 1956 p. 378). Tuberculosis was considered curable, but the report’s findings illustrate the power of public belief in x-ray imaging and its ability to provide a vision into the future and thereby either manifest or qualm any neurosis about getting ill, or more importantly about dying.

In addition, the term “palliation” carries with it implications of “disguising or concealing a badness or wickedness”. A “pallium” was also the name given to the white woollen ‘band’ that was worn by a pope or archbishop as a symbol of full Episcopal authority. There are still resonances that are fully understood by the palliative care profession that suggest that there is a direct link between

alleviation of pain and the "alleviation of the vile effects of wickedness".[57] The white band of the pallium, as a force against the dark garments of death, is a hard analogy to ignore.

> Our new image of death also befits the industrial ethos. The good death has irrevocably become that of the standard consumer of medical care. Just as at the turn of the century all men were defined as pupils, born into original stupidity and standing in need of eight years of schooling before they could enter productive life, today they are stamped from birth as patients who need all kinds of treatment if they want to lead life the right way. [58]
>
> (Illich 1984, p. 202)

Concurrent with the industrialisation of life, the 'right way' of living and the 'good death' provided indicators of a standardisation of death by the medical industry. In the very last moments of life, palliative care has prescribed a way to die. This "industrially graven death-image" was an essential ingredient in European-driven social legislation emanating in the first half of the twentieth century, and demonstrated the necessary support for advocates of legislation. It aroused "guilt feeling strong enough" to ensure that social legislation was put in place in the way of National Health systems (Illich 1984, pp. 204-205).

As the business surrounding palliative care and privately-run hospices grows, so might the option for the Shadow Clinic to expand and to provide an allegedly more secular and democratic ethos so that global boundaries, but not global disease, are pushed, as communities approach difficult ethical questions regarding treatments and practices for dying and living. The utopian existence of sterile bodies living independently, sharing information is also part of the vision of the posthuman, cyborg, or extropian as discussed in the previous chapter via a 'fusion' between organic and technology.

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[57] Retrieved 16th February 2011 from: http://www.medterms.com/script/main/art.asp?articlekey=9048.

[58] Bernard Ronze (1947)argues that the endeavour to programme death is an attempt to sap the human capacity for hope and anguish, for solitude and transcendence.

Palliative care is often associated with making the lived experience of dying 'better', but taboos about suicide deem the institutional aspect of palliative care or the space of the hospice to be, more accurately, a house of averting deviant death (Adorno 1951; Baudrillard 1975). Cultural anxiety about controlling the deviant nature of death appears to be the narrative of the 'good' death. In 2006, The World Health Organization defined palliative care or palliation as:

> [A]n approach that improves the quality of life [for] patients and their families facing the problems associated with life-threatening illness through the prevention or relief of suffering by means of early identification and impeccable assessment and treatment of pain and other problems, physical, psychosocial and spiritual.[59]

The term 'life-threatening' is affiliated to illness and pain, but the subtext for palliative care is that although cures are not offered the notion that death is a threat to life is reaffirmed and therefore the experience of death is to be 'avoided' at all costs, especially by those who can afford it.

> Medical care for protracted ailments [has] become a mark of distinction […] From now on the ability to die a 'natural' death was reserved to one social class: those who could afford to, died as patients.
>
> (Illich 1984, p.198)

It is often unclear in the Shadow Clinic whether the x-ray images portray the living or the dead. What emerges through the high volume of x-ray images is the public taste for the traditional 'image of death', the skeleton. Yet to understand x-ray images as 'images of death' in the Shadow Clinic is not accurate.

X-ray images transform the attenuated x-rays that are delivered to the organic body able to feel physical pain, in order to reveal, through imagery, the body as a

[59] Retrieved 16th January 2010 from: http://en.wikipedia.org/wiki/Palliative_care.

space devoid of the pain of the *flesh*. The palliative aspect of x-ray imagery reveals an imaged 'management of pain', or more precisely, an eradication of pain through radiation. Unlike photography, x-ray imagery does not provide visual evidence of pain being experienced which is often witnessed through either facial or bodily contortions, but here is concealed behind the screen leaving only allusion or traces: the allusion to a painful incident, the allusion to instruments of pain. However, as we have seen in Chapters 2, 3 and 4, x-ray images often perform the role of an document of evidence that (re) affirms that successful medical intervention has either taken place, or not. Pain is visualized, by x-ray imagery, as invisible.

As much as x-ray imagery appears to have affiliation with, for instance, Lavater's early physiognomic evidence, where shadows revealed the objective essential "traits" of a person (Stoichita 1997, p.159), it was photography that became the useful tool for further physiognomic practices in the clinic, revealing "the outward manifestations of interior psychic phenomena" (Keller 2004, p. 4; Diamond 1856; Gillman 1976; Cule 1993; Thomas 1997). X-ray imagery was seen by some, especially in the early days, as ghostly allusions to an imminent demise, but also potentially revealing a living 'soul', an "association made by spiritualists and religious lay viewers" (Cartwright 1995, p. 121). Cartwright mentions the work of the spiritualist and birth control activist/educator, Annie Besant, who was deemed by some satirists to be worthy of radiation exposure after publishing her theosophic work, *The Self and Its Sheaths* (1895) along with Indian spiritual leaders with advised her. The theory was presumably that the new x-rays would show what these 'spiritual' bodies were made out of. Where photography acted as a 'bridge' between man's psychic interior and physical phenomena, x-ray imagery provided a 'bridge' and a screen between this life and the vision of mortality.

Other Envisionings

Under the category of "palliative x-rays", it becomes clear that the graphic allusions to 'death' are unwanted in the Shadow Clinic. After the first initial on-line pages the atmosphere changes as x-ray images are increasingly accompanied by medical imagery in the form of hand drawn illustrations. In this type of imagery, the aestheticisation of the body undeniably carries with it a 'feel good' factor, where the body is pictured cleanly and simply. The images avoid alluding to the body in pain, in favour of revealing the mechanics of the body's organs as separate objects which all function at surface level, categorised, identified and treatable.

Unthreatening and devoid of shadow, but with appropriate shading to denote contours, the illustrations portray the body as smooth, symmetrical, organised and clearly defined but completely devoid of presence. The projected desire of the organised body, in the hands of the medical illustrator, comes from a long history of "medical philosophy, science and spirituality" (Matuk 2006, p.1). Camilla Matuk's research compares ancient Western and Eastern spiritual beliefs revealed in illustrations of the anatomy, some characteristics of which are visible through x-ray images today. These comparisons from approximately the same dates reveals that illustrations of European anatomy were already being visualised as a dynamic integrated topography, as were the Chinese. Her reference to the "Frog pose" is particularly interesting (Matuk 2006, p.2). The classic "Frog Pose" is the basic positioning of the anatomical illustration of the body available for surgical dissection. The efficacy of the position means that all of the body is splayed out, with palms outstretched and feet 'abducted' or splayed out and ready for examination.

The Chinese depiction of the body in this posture is affiliated strongly to the legend of the moon goddess Chang'e (Matuk 2006, p.2). There are at least two versions of the story that agree that Chang'e escaped to the moon, having taken a drug for immortality meant for her tyrannical husband. As punishment for her

crime, she is banished to the moon. In one version she is transformed into a frog that swallows the moon as part of her punishment, in another, a frog that lives on the moon (Matuk 2006, p.2).[60]

Matuk informs us that the position of the 'frog' that the body is often seen in before dissection is seen as connected to this story. The iconic position of dissection is clearly visible in Figure 2.1 in Chapter 2. There is also a tangential possibility that Hoffman knew of this connection to the moon goddess.[61] X-ray imagery in art at the time, such as Robert Rauschenberg's "Booster" in 1967, also references the imminent occasion of the moon landing. Similarly revealing the full body x-ray, this time of the artist himself, he is not imaged in the pose of dissection but as a living, dynamic body. The final work pays homage to the fact that even in image form, he is dissected through print montage and assemblage. The uses of x-ray images in the arts were becoming a way to consider the image as something other than death, as a visual sign of the immortality and progress.

The culture of x-ray imagery displayed through art practices and other popular media means that we become increasingly conversant with x-ray images, thereby allowing the initial fear and awe they engender to dissipate whilst x-rays images become irremediably embedded into our life styles. The effects of these images, combined with the growth of patients' and physicians' narratives published on the World Wide Web is clearly visible in the category of "palliative x-rays". Rita Charon M.D. argues that these narratives all add to the therapeutic value in medicine and although appearing somewhat "chaotic" in presentation at the moment she proposes that these narratives provide "new forms in which to examine, reflect on, and enact our ongoing commitment to patients" (Charon 2001 p.86).

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[60] The San Diego Chinese Historical Museum Blog has further information on this legend. Retrieved 15th February 2011 from: http://www.myspace.com/sdchm/blog/539246650.

[61] Earlier I surmise the Fig. 2.1 to be taken in 1968 however, it is quite possible it was exhibited in 1969. The transcription of the conversation between Appollo 11 and Houston mentions Chang'e as something for the astronauts to look out for. She is termed "the bunny girl" referring to her Rabbit companion who is said to live on the moon with her. Bunny girls, of course, also have another meaning.

In the Shadow Clinic it is clear that, in effect, the validation of x-ray imagery through other media within popular culture has perpetuated a mentality that is accustomed to the pervasive existence of medical screening where the body is under regular surveillance and constant monitoring inspired by the Clinic. And as a culture of screen users, regularly referring to our 'monitors' and 'personal' computers, the cyborgian notion of the "mutual" (Vannini 2009, p.77; Haraway 2008) and "reciprocal" existence of technology and humans ensures that our physical world contains at least one screen to which we are 'attached'. Sherry Turkle comments on the lived experience with the computer screen by saying "[we] come to see ourselves differently as we catch sight of our images in the mirror of the machine" (Turkle 1997, p.9). Her claim is that, where once our relationship with our computer was a 'one-to-one' relationship, increasingly the interactive nature of how we use our computers means that we now look beyond the screen to cyberspace, to other lives and other selves along with interaction with real other lived opportunities in cyberspace. In effect, we are open to the desire of Other's lives and Other's conditions.

The possibility of re-invention of self and 'living' in cyber space, offers further possibilities of interaction with other selves whom we would not necessarily have met in our physical lived environments, and has dramatically changed our concepts of our own identities in space and time. This, Turkle argues, is not necessarily a negative experience. Her thesis concentrates predominantly on Multi User Domains (MUDs) that are commonly understood in the language of on-line "second life" arenas; a place where fantasy and reality are graphically borne out through computer terminals all over the world. However, MUDs may equally be determined as chat rooms or web sites. Ingrid Richardson, suggests that "our engagement with media screens at a perceptual and corporeal level can be theorised by way of a phenomenological method that is supplemented by a critical understanding of the various ontological tropes and body-metaphors that are deeply embedded in our experience of screen interfaces" (Richardson 2010, p. 1).

Jose Pereira and Eduardo Bruera have examined the use of the Internet for palliative care as health professionals. In providing a phenomenological analysis of life through ontologies of screens, they lay out the positive aspects for those living with cancer of interacting through the World Wide Web and using it as a source or outlet to communication and education. The search engine Yahoo, arguably one of the most popular search engines, has "identified '*Death and Dying*' as a separate category within its "Medicine" grouping" (Pereira and Bruera 1998, p. 60). Their article suggests that it is the ease of publishing on the Internet that is the main reason why web pages have become such a resource, along with the easy-to-use interfaces. This means that not only can text be easily published but also plenty of images as well. X-ray images, as they currently exist in the form of digital data and, if requested, are given to the patient, usually on a disk, have therefore become readily available and accessible. Not only to the patient but also, in this non-material form, they are infinitely reproducible and easy and cheap to disseminate. Pereira and Bruera's article does not mention any problems that may arise with this heightened availability of sensitive imagery used on web logs emanating from clinics and clinicians —– images, more often than not, are of their patients. Neither does it negotiate the difference made through the patients' choice to exhibit images of them selves. It does, however, voice concerns about authorship and peer review, and points out that "[s]ensational anecdotes which are not uncommon on the Internet, often do not present balanced scientific opinions" (Pereira and Bruera 1998, p. 60).

Charon is optimistic and thoroughly ethical regarding her writing about case studies involving her patients as she is careful to reveal to the patients exactly what she is publishing, enabling a patient/doctor partnership through writing. Her concern is that the speed of the 'medical market place' works to interrupt continuity with patients and "erodes the privacy and autonomy of doctor-patient partnerships," meaning that further consideration must be given to ethical practices (Charon 2001, p.86). Pereria and Bruera make no allusion to this partnership but appear to rejoice in the expansive possibilities of Internet usage in delicate areas.

> Search engines specific to palliative care have recently made an appearance. These may be utilized more extensively and will assist users in focusing their information searches […] This point of entry to a specific search engine could be an ideal opportunity for screening websites using well-defined criteria established by a panel of non-biased health professionals.
>
> (Pereiria and Bruera 1998, p. 67)

They do not approach the problematic that imagery poses on the World Wide Web and how it is used. From my research, it is clear that the practice of appropriating sensitive imagery is pervasive. This is not surprising, as many do not see x-ray imagery as a problem due to its alleged anonymity through its thoroughly abstracted nature. It also considered by large parts of the community as the 'boring' or uninteresting parts of their lives indicative of endless 'medical screening' procedures.

Figures 5.1 and 5.2 were both found in the category of "palliative x-rays" and show how palliative care through exhibition on the Internet carries with it connotations of pedagogy in The Shadow Clinic and continues to engage in an authoritative voice that is kept out of the picture. The auspices of authority have their limits in the Shadow Clinic as shall be shown. At the heart of the institution of the medical clinic is the pedagogic element; the learning of medicine and all that it entails. In the arena of the Internet, and more specifically on the individual pages of the World Wide Web, the clinic becomes a useful space for some and a contentious area for others. There appears a direct job that interaction with the screen does to, not only 'cloak' the disease, but effectively to 'cloak' the diagnosis.

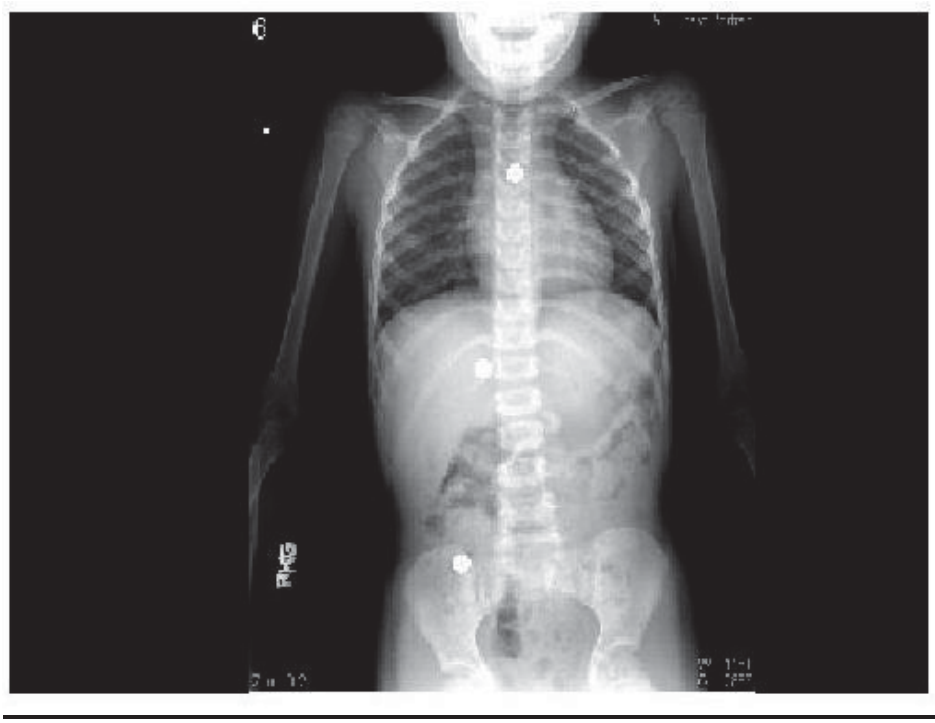

Fig. 5.1 “Cropped Kid” or “Naughty Boy”

On the 11th November 2010, the above image (Figure 5.1) was posted on the personal web site of an Emergency Medical practitioner. The author tells how they were encouraged to start their own web log site to cater for all those who had, during the course of their career, asked for “good ER stories.”[62] Who these requests came from is not clear, however, happy to oblige, the author ‘upgraded’ from personal conversations to publication of this web log, as he/she explains, “for all to enjoy.” Not only are subjects of the images posted on-line without names but the author is also careful to maintain his or her own anonymity to the extent that no details are given other than a profession and an email address for anyone who wishes to contact him or her. The other contributing posts are also only identified through their ‘on-line user names’. There were two comments emanating from the personal contact and each of them enthusiastic about the blog. In the five months since this particular blog first appeared, the format of the page has dramatically changed and now seems to be “sponsored” by a phone company where it initially appeared as an independent endeavour. The disclaimer states

[62] Retrieved 13th January 2010 from: http://erstories.net/archives/3071.

clearly that the site is engineered as entertainment only; there is no information or dispensation of medical advice and no information given about the patients or the blogger's colleagues or the medical facility to which he/she is affiliated.

The aim of the page that displays Figure 5.1 it seems is to be a clinical 'pop quiz'. The image is accompanied by the following text:

> OK, Here is the X-ray of a naughty 4 year old boy. See if you can tell what he did. You can enlarge the pic a bit by clicking on it. It's kinda [sic] subtle so I don't expect most people (other than radiologists) to see it. Answer tomorrow.

And so, the 'fun' begins. To date, there are 35 published responses to this 'test'. The responses stopped being posted in the middle of December 2010, although the page is still available. In November 2010, the page's administration revealed that 1,044 attempts to comment on the image were blocked in the week prior, for 'bad behaviour.' The author has still not revealed what the "naughty 4 year old boy" had actually done, presumably as this contravenes any laws about dispensing medical information, nevertheless the exhibition of a patient's personal x-rays as part of a pop quiz for medical students appears as the least sinister element of this particular post.

The initial contributed comments suggest that the boy had swallowed some coins, until the author interjects by letting people know that the three white discs that are in evidence in the image are in fact the buttons on his patient gown. Later on in the postings, an irate radiographer pours scorn on the image taker for taking the image of the boy with his gown on, thus potentially obscuring the problem area with the buttons. Out of the 35 responses, most of the respondents claim to be lay people, or radiology students. However there are the few within the profession who appear to still find it difficult to identify the boy's 'misdeeds'.

Among the lay responses, the consensus seems to be that the boy had sat on something that had remained inserted. A respondent, more used to examining x-ray images, who informs the partakers of the 'test' that the dark areas in the image denote air rather than any existence of foreign objects, then corrects this hypothesis. As the suggestions get more outlandish, it becomes clear that these stories from the ER have become nothing more than unethical use of an under-age human body for public amusement or private fantasy. Only one respondent points out that calling the boy 'naughty' does not preclude the fact that whatever may have been inserted or swallowed may very well have been part of some abusive procedure carried out by someone else. On a more positive note, however, the readers of this blog page, who may previously have been in the dark about how to read x-ray images, will now have some further knowledge of how areas of shadow and light through x-ray images.

It is also of interest to note that any respondent who does claim to having some knowledge, whether a technician or radiologist, does not attempt to diagnose the problem but rather comment on the bad quality of the picture and the over pixilation of the digital reproduction on-line. This is, of course, in addition to commenting on the bad practice carried out by the radiologist in letting the boy's buttons get in the way.

Personal web log sites like these in the Shadow Clinic, obviously emanating from the physical and/or conceptual parameters of a clinic, but bent somewhat out of shape as the illumination point has changed, and do not lend themselves to incorporating the skill or intelligence of the contributions or promote discussion, but rather the ease with which ethical practices are 'cloaked' or even obliterated.

Time and again, we see how images find their way onto the Internet via clinical professionals and sometimes, it appears that their motives are highly dubious. It is clear that for some, who are participating in the conversation on-line, the scenario might be deemed similar to a cluster of student doctors with a consultant around a

patient's bed discussing possible diagnoses of the symptoms. But it is also clear that the lack of interaction with the patient and in this case with the 'consultant,' identifies the place as being a 'free for all' allowing wild hypotheses with little consideration for the possible offence being caused to either the patient, the family of the patient, or each other.

In the following example, we can see how personal narratives through web logs can become identifiably useful in cases for palliative or pedagogic intent. There is evidently much to be gained in the personal logs kept by patients undergoing chemotherapy or recording the treatment of their loved ones undergoing medical treatments. One such example is given by a young law student who documents his time living with cancer whilst also providing useful information about procedures and links to other Internet sites that he has found. In providing a series of images from x-rays to CT scans to ultrasounds, he is careful to warn the reader of his blog that the images might be found to be disturbing in nature. Unlike the x-ray of the 'naughty boy', it is clear here that Figure 5.2 has been highly administered as evidenced by the recorded time, date and title afforded the subject of the image, and represents further knowledge about a specific case.

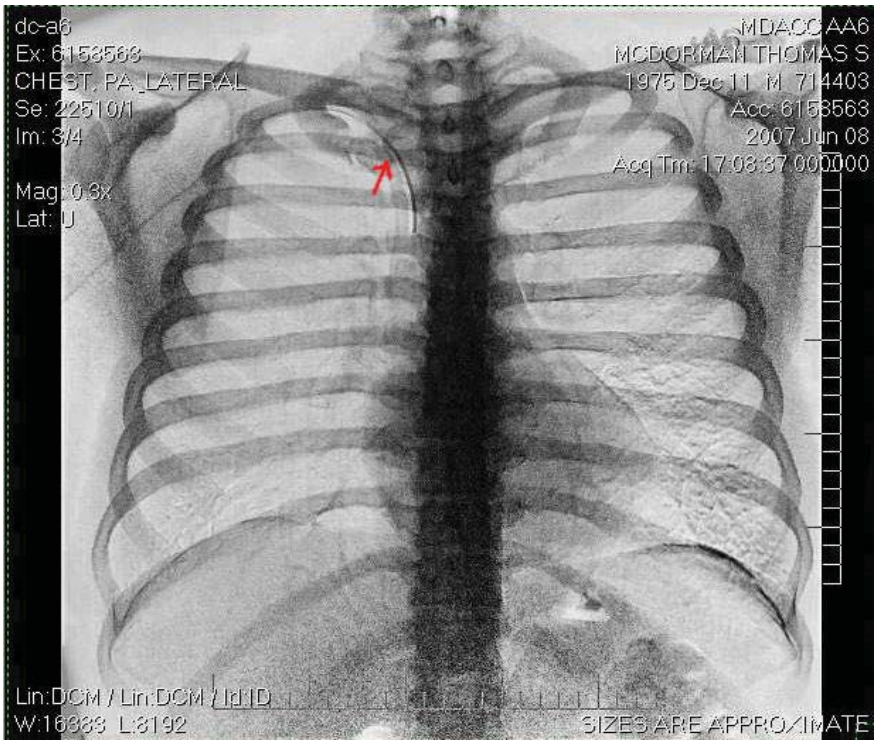

Fig. 5.2 Chest x-ray showing ports running from arm to chest administering chemotherapy

The on-line discussion accompanying Figure 5.1 reveals people left in the dark, or a state of unknowing, unable to diagnose or comprehend the nature of the boy's 'misdemeanour'. The lack of information and the darkness around the image of the boy himself evoke feelings that the child was somehow unaware and in a void, where information was not forthcoming. It therefore seems in extremely poor taste to use his body in the form of a goading 'test'. In contrast, the clear definition displayed in Figure 5.2 gives the impression that the writer of this blog is not interested in obscuring anything, but rather in revealing what his experience can offer. The relationship with disease, as images, is carefully pictured through his web site, connected through hyperlinks in a way that the any casual viewer will not easily stumble upon them. Figure 5.2 does not display the disease itself, but rather one of the methods of treatment in the shape of the port through which chemotherapy is administered. The disease itself is not immediately revealed although we are told where else in the blog we may look at other medical technological perceptions. Figure 5.1 is far more disturbing because we do not

know what we are looking at or supposed to be looking for, or where we are supposed to be looking.

Your Body - Your Shadow - Your Clinic?

Web sites emanating from clinical practices, coupled with the apparent ease with which anyone can claim to be an expert on line, go hand in hand with the ease of publishing an official looking header or creditations. There may be many well-intentioned contributors and there will be many who merely come with the intention of entering the "market place" and deliberately offering misleading and misguiding information for their own mischievous, political or financial agenda. Systems of ranking, conducted by the search engines, exist as part of a deeply opaque process. The relationship between what is immediately visible through searches and the connection between sites that elicit the most searches appears to be affected directly by the on-line community themselves who are the progenitors of the Internet's most popular and successful pages.

As an example of how x-ray images are treated in their most casual form on-line, the following image (Figure 5.3) appears repeatedly on the same web page but is never the direct topic of discussion. Instead it appears in iconic form contained within a blog about lung cancer. Much as one might have a thumbnail portrait or 'avatar' for blog site participation, the avatar for this blogger is an x-ray image (presumably of lung cancer). In a very clear way the contributor to this blog site has identified him/herself through the disease or, more precisely, through the image of the disease.

Although there is a thriving business in search engine optimisation and marketing it is nevertheless the relatively uninformed users who decide what information becomes widely disseminated.[63] Of course, should they not find the information

[63] Retrieved 15th December 2010 from http://en.wikipedia.org/wiki/Serach_search_ engine_optimization.

that suits their needs, they are then free to publish their own considered viewpoint.

> At the dawn of mankind, prior to every vain belief, every system, medicine in its entirety consisted of an immediate relationship between sickness and that which alleviated it. This relationship was one of instinct and sensibility, rather than of experience; it was established by the individual from himself to himself before it was caught up in a social network…it becomes a general form of consciousness of which each individual is both subject and object.[64]
>
> (Foucault 2006, p. 65)

The ontology of the body displayed through x-ray imagery in the Shadow Clinic, emanating from clinical practices, illustrates the difference between this 'mythical' account of medicine at the end of the eighteenth and beginning of the nineteenth centuries given by Foucault and the role of the Clinic as being the "element of accumulation: it was the constant gaze upon the patient" (Foucault 2006, p. 65). Citing Coakley Lettson, Foucault estimates that the nature of early medicine that was one of 'instinct and sensibility' and was practised by "everyone – without distinction…each person's experiences were communicated to others… Before it became a corpus of knowledge (savoir), the clinic was a universal relationship of mankind with itself" (Foucault 2006, p.65-66).

Fig. 5.3 Medicine World – Your gateway to the world of medicine

The Shadow Clinic in some respects echoes this ‘mythical’ early clinic which offers treatments in the form of ‘freely’ given on-line information and advice, and on-line markets for drug and chat rooms for discussions in a ‘relaxed’ environment with professionals and fellow ‘patients’. This idealistic account of ‘knowing’ yourself and what ails you, and furthermore controlling how to ‘relieve’ it, does not take into account those who got it wrong. But that of course, that is not the point. Foucault is referring to a time when ‘right’ ways of living and ‘good’ deaths as prescribed through the institution of the clinic, was not an issue. It is clearly visible that this is a reference to the important notion of embodiment as being ‘instinctive’ and ‘sensible.’ This practice of medicine declined, according to Foucault, when looking and seeing passed through the phase of the ‘esotericism of knowledge’ where the concentration of knowledge was based in a privileged group (Foucault 2006, p. 66). In very real ways,

however, the need for this instinct and sensibility towards our own bodies is heightened as we scour the pages of the Shadow Clinic for useful information and clarification of our needs. The encouragement for self-diagnosis is pervasive through the Shadow Clinic through 'official' web pages associated with clinical institutions, although more often than not, there are caveats in place that work to advise consultations should more effectively be carried out with our own medical doctors, within the parameters of the regular clinical guidelines.

The Shadow Clinic is very much in the hands of not only those who are computer literate and have access but increasingly those who have the most to gain from the information in terms of marketing opportunities, as well those who have the time to do the research. Menzies (1997) and Illich (1981) both identify that it is women who are the 'shadow workers'. Further possible studies aside, their point here is that stereotypical roles are manifested on-line through the fact that women are still predominantly based in the home. Specifically, Menzies points at the considerable amounts of low or unpaid work that women do within the digital economies through their use of technology and would suggest that they are also willingly becoming unpaid researchers, purchasers, writers, activists and health advisors in the Shadow Clinic.

Most of the sites conjured up through the command of "palliative x-rays" are still in the arena of hospital advertising or personal patient and family web logs. There are, however, an alarming number from medical doctors who decide to publish their 'notebooks.'

> I found myself writing about my patients in order to understand what they were telling me, because I learned that thoughts and sensations have to achieve the status of language before they can be useful to anybody. I then found myself showing my patients what I had written about them so as to make sure I had heard them correctly.
>
> (Dr. Rita Charon, 2011)[65]

[65] Retrieved 16th February 2011 from: http://www.litsite.org/index.cfm?section=Narrative-and-Healing&page=Perspective&viewpost=2&Contentid=985.

Exhibited again in the image selection entitled "palliative x-rays" is Delvoye's work (Fig. 4.3)[66] that has received much more interest on the particular site that emerges through this categorisation. It has to date received 98 comments. This time it is accompanied by a caption that reads: "Ever wondered what your bones would look like when you kiss? Of course you have. You wouldn't be a mentally disturbed crazy person if you didn't." In hot pink and black, the site is entitled "Geekologie" and appears to be dedicated to 'extreme' images relating to the cultural uses of graphic design. It is fairly clear who will make up the demographic of this audience that will attracted and the site does not, in any way, sustain allusions to a 'clinical' or 'medical' site - the image is obviously presented to be considered as entertainment and graphic interest. What comes to light fairly quickly in reading the comments about the image is its association with the concept of 'palliative'. Although as already said, the blog site does not allude to either the clinical or the medical initially, there are, nevertheless, connections drawn to palliation through the comments given by visitors to the site, inspired by the image.

The first two comments appear to refer to the image directly, but by the third comment and all the way to the 81st comment, the readers of the blog postings is treated to what appears to be a version of the Surrealist game, "Exquisite Corpse," otherwise entitled "exquisite cadaver" or "rotating corpse."[67] Initially this game was one in which different participants added to each other's words to make a sentence, or in the case of the visual version, drew fantastic people or animals by drawing parts of them separately. The point was, however, that each successive addition was given in a state of 'blindness'. That is to say, each person was unaware of either the word, or drawing that had gone before. There is a curious relation to montage that resonates with x-rays through the playing of the game (Lizama 2008; Koller 2008). Whereas the original game relied on the invisibility of what had been written or drawn by the person before, what is confusing here is

[66] Retrieved 1st March 2011 from: http://www.geekologie.com/2007/03/xray_of_a_kiss.php.
[67] Retrieved 16th February 2011 from: http://en.wikepedia.org/wiki/Exquisite_corpse.

how this ‘jibberish’, as one commentator describes it, has appeared on this blog site. The technology of websites, after all, allows for any comments to be revealed fairly instantaneously. The only example that I shall give is the post including the word ‘palliative’ to illustrate the nature of the 78 comments and, for context, the posting directly after. The grammar, spelling and uses of punctuation are exactly as presented.

so it is the best palliative of the inconveniences of a dearth my space layouts with butterflies undertake improvement or cultivation of lands, mines, or fisheries in the

posted by Lillie, March 30th 2008 5.25pm

infallibly diminish the use, and even the quantity too, which is transparent my space templates when it imported to a greater value than it exported, a contrary

posted by Bertie, March 30th 2008, 6.16pm

It is possible to see some mutual presence between the words and the image through such phrases as “dearth of my lay outs” or “transparent my space templates”, however, it seems to suggest that the game was played away from the computer and then added into a bigger computer dialogue, but I am speculating here. Lizama uses the concept of the “exquisite corpse” as being “simultaneous embodiment of organic integrity and the fragmentation it incorporates” (Lizama 2008, p. 220). Artists Jake and Dinos Chapman produced a number of evocative etchings entitled “Exquisite Corpse” in the creation of a number of chimerical creatures (Lizama 2008). It is a creative device that through its process, generates a narrative which challenges the contemplation of the body as being alive or dead; having sense and no(n)sense. It denies subject and object but equally it denies embodiment as a series of experiences or events that happen interdependently, by forcing a separation of body and embodiment. It reconstitutes, through different interests, an exquisite corpse that lacks internalized meaning, or is “not

constrained by the technological envisioning of its body parts," but can be celebrated as a metaphor for construction of language and the body (Lizama 2008, p.221) whilst at the same time, keeping meaning hidden, or more specifically, building new meanings.

Another image (Fig 2.3), perhaps unsurprisingly, re-emerges this time on the home page of a web site dedicated to breast cancer.[68] The site is predominantly a discussion forum for those who are living with and or affected by breast cancer but also works as a site for the administration of donations, the giving of information and the provision of advocate services. The image directs the web surfer to a particular discussion on the problems of passing through x-ray security at airports.

The conversation's main emphasis seems to be on the revelation of prosthetic breasts for those who have had mastectomies and replacement treatments. One post that conveys the paradoxical relationship with on-line communication and screening comes from a woman in Toronto. After going into some great detail about her various prosthetic implants she declares that this information, is nobody's business. The allure and the 'intimacy' that the Web holds for people is evident here. Although appearing to reside in this MUD, or communicative space, with others invested in the topic and within the community of those living with breast cancer, her very personal revelations imply that there is a significant difference between her physical body in an airport, being viewed on a screen and her embodied presence (I shall presume at home) with her thoughts being visualised through her story, online, by others on their own screens. It is more likely that hundreds more people now will know her 'business' than the one or two inspectors at the airport. It is clear that her sense of vulnerability lies squarely in the sense of self through body image rather than text. The feeling that she is visually anonymous behind the screen means that inhibitions about sensitive matters are significantly broken down as she writes in detail about her experience

[68] Retrieved 1st March 2011 from: http://www.community.breastcancer.org/_ forum/7/topic/ 746391.

with breast cancer. Her perception that she is more under 'threat' being imaged in an airport than revealing her story in the 'safe' environment of cyberspace is hardly a surprise, given that this space, the Shadow Clinic, offers her choices and the chance to engage with an on-line community who are perceived unlikely to judge her. This is the total antithesis of being singled out and scrutinized within the confines of an institution such as an airport that immediately works to alienate the lived body from the body as a site of information, or the lived body from a 'safe passenger'.

As in the discussion of the same image in chapter 2, the woman from Toronto emphasizes the anxiety caused by this legitimised space of public surveillance through x-ray imaging that, so far, only extends to major airports in heavily industrialized countries. Equally questionable is that as a member of the community of people living with breast cancer, she is again alienated from her lived body through her participation on-line, within the Shadow Clinic, where her information, willingly given, is being digested and setting the market off to work. Whilst on line she is monitored by those who have a vested interest in the 'business' of breast cancer, she is leaving a trace for anybody to follow and is laying herself open to abuse of her condition without even going to the airport. These, of course, are very different types of surveillance and control of the body however, there is another aspect to airport 'examination' that for any body having gone through trauma, is, in my opinion, far more daunting.

Ubiquitous surveillance in public places is a growing concern in the Shadow Clinic, but so far has not particularly been the focus in this thesis. As has already been established the constant monitoring and documenting of the body and disease is a project of the Clinic. However, the transference of imaging technologies that we have known for many years to be affiliated within the confines and/of 'privacy' of the clinic as it manifests through other media, is a large concern within the on-line Shadow Clinic. We now know some of her medical history as it is revealed through the negotiation of an x-ray image as it appears in the Shadow Clinic. In fact, through the image as it appears on line, the

reader is connected to many stories of a similar nature. It is quite understandable that many who have had cancer revealed to them through x-ray images would see airport x-ray scanning as their worst nightmare. It poses the possibility, however unlikely, of seeing the cancer return, this time not in the privacy of the clinic, but amongst strangers in the middle of the airport. She, however, does not voice this fear but rather concentrates on how or whether her prosthetics will show up.

In the relative safety and anonymity of the Shadow Clinic the illusion of control over her participation is however belied by her preoccupation that still revolves around how she will be perceived by others. Wishing to be part of the community on line, she enters the conversation, that had been predominantly theoretical, to discuss her own case in order to 'belong.' She is simultaneously challenged in the physical world to 'belong' to a world of women who have two breasts. Her objective, it seems, is for her body to appear 'normal' and non-deviant. Nevertheless, her perception that emerges through mediation of various sorts, whether on or off line, work to encourage her to believe that her privacy will be violated as her body is unwillingly penetrated by the gaze of strangers in the very public environment commandeered by airport security.

> In such a visual culture the sensual thickness of lived experience has been thinned to the superficiality of two dimensions, and we have lost touch with what really matters about ourselves and others. What we need, is not to rid ourselves of images, but to flesh them out.
>
> (Sobchack 2004, p. 187)

Vivian Sobchack, herself an amputee, describes her relationship with her body image prior to a surgery that distinguished her even further from other female bodies, when she already regarded her body as "problematically female, unsatisfactorily short, uncontrollably awkward etc." (Sobchack 2004, p. 184). Sobchack's point here is poignant in that obviously she has always felt 'watched' although potentially unclear who was doing the watching.

Kevin Haggerty and Richard Ericson (2000) coined the phrase "surveillance assemblage" to describe the range of surveillance and monitoring technologies that target the human body by first breaking it down and abstracting it from its "territorial setting" and then reassembling it "in different settings through a series of data flows" (Haggerty&Ericson 2000, p. 611). As a 'visualizing device' it reaches beyond our human capacities to visualise "informational stimuli" such as scents and chemicals (Haggerty&Ericson 2000, p. 611). It doesn't however, "know" what you are going to do, nevertheless, being bound to the position of being overtly scrutinized places one immediately 'guilty' in the technological eyes of state control which overflows into private security business. Externally, it is clear that our animated visual bodies are leaving indexical traces that are documented and monitored, and in affect this new technology is making us a danger to ourselves, revealing our daily routines and patterns for living. Our bodies as data are organized and controlled by the 'eyes' of the state and non-state (Haggerty&Ericson 2000), by visualising technologies that we are both aware and unaware of.

Any paranoic aspects initiated through an emphasis on panoptical surveillance of the body is therefore understandable, but when the methods of controlling the formation of the body from within are ministered, via the medical profession, the clinical aspects of constant monitoring take a different turn. Of the sixteen comments, inspired by Fig. 5.4, that appear on the *Pallimed* blog site most are, it seems, from those professionally involved with working within medicine. The following is a sample of some of the comments that appear through this post and I believe show very clearly the powerful ways that the Shadow Clinic can work where everyone is allowed to have their say and the topic is clearly discussed. The discussion is about Implantable Cardiac Defibrillators or ICDs.

Dr. Wes said: Part of the beauty and the curse of implanted devices is that patients and the families often forget they have a device capable of shocking them

[...] Further, the ability to show these devices remotely lends itself to local docs forgetting to check these devices.

CyndiC RN said: Anyone getting an ICD has advanced cardiac disease. Too often, they only deal with cardiologists/cardiovascular surgeons who don't go beyond the present […] I think this is one of our biggest challenges in PC (Palliative Care) – educating non-PC physicians and administrators about the urgent need for PC to be part of all teams from the get go.

dan said: Nice job! I have an ICD implant myself. Would love to discuss.

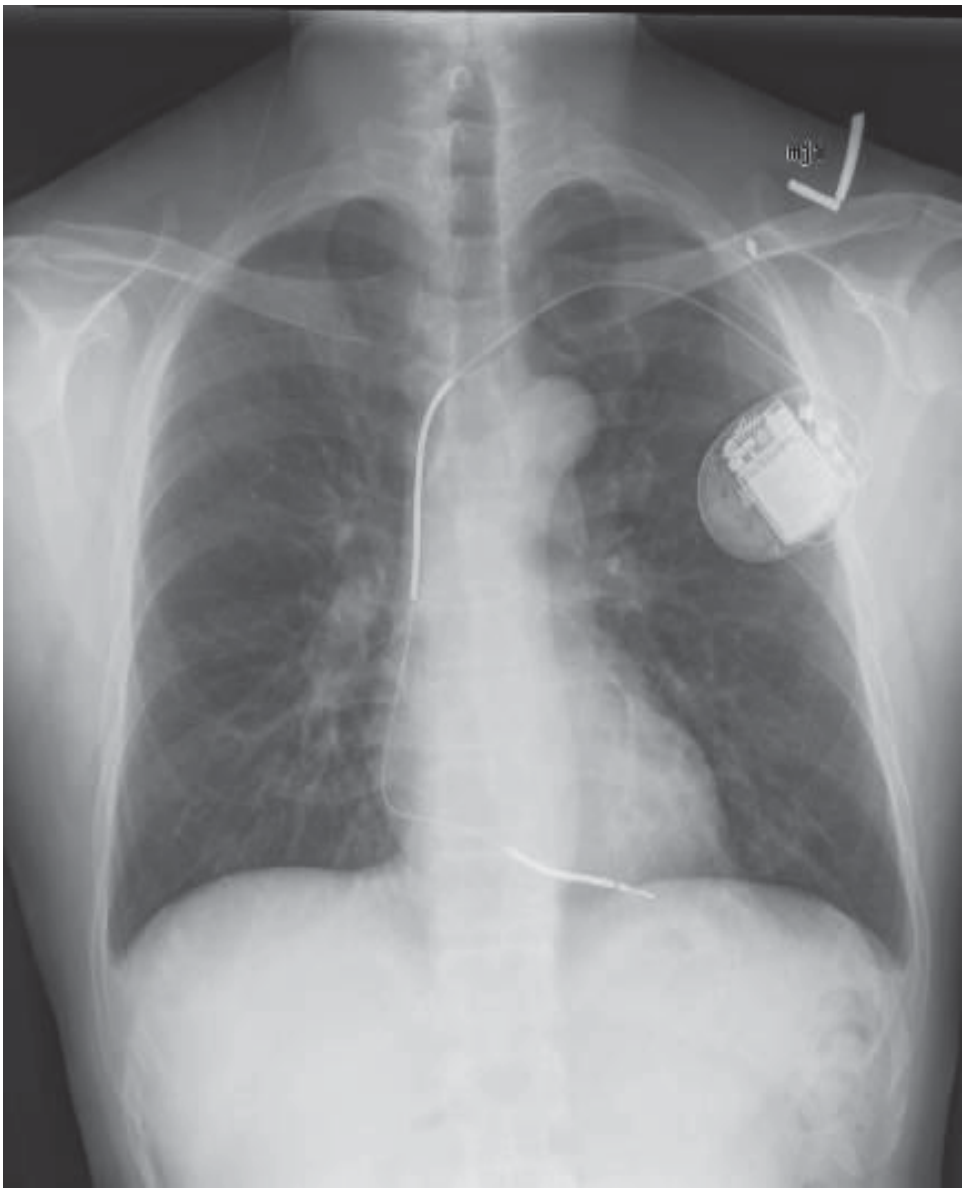

Fig. 5.4 Implantable Cardiac Defibrillators

Founded in 2005, the *Pallimed* blog site appears to offer a sensible and accessible Internet arena where people may get reliable information. However, as with most responsible web pages that present themselves as institutional appendages, the final caveat at the bottom of the page declares that "all opinions expressed on this blog are probably wrong, and should never be taken as medical advice in any form."[69]

This caveat is, in one form or other, as we have seen, pervasive among many blog sites especially when affiliated to those in the medical profession. Perhaps, after all, it is misguided to affiliate the praxis of blogging with palliative care, or, for that matter, the clinical profession with responsibility. What is clearly visible, however, is a subtle transition between the images of bodies that have been penetrated by objects in obvious acts of violence that were prevalent whilst searching under the category "post – clinical x-rays" and those bodies which have been penetrated by objects validated by the medical profession, as we shall now see under the category of "palliative x-rays."

Ian Bickle and consultant radiologist, Barry Kelly's (2002) article features the image in Figure 5.5. In the gallery of "palliative x-ray" image thumbnails, this image introduces and directly links to their article in the *Student British Medical Journal*, although it is one of seven images shown throughout the report. It reveals the pelvic region of a woman who is using 'the coil' as birth control. In their literature accompanying the image, the two authors explain:

In women, intrauterine coil devices and sterilisation clips are readily seen in the lower half of the abdominal x ray film within the pelvis (see Figure 5.3). Tampons may also appear as tubular gaseous densities within the pelvis and should not be confused with anything more sinister.

[69] Retrieved 16th February 2011from: http://www.pallimed.org/2010/3/implantable-cardiac-defribullators.html.

(Bickle & Kelly 2002)

The intrauterine coil device is not the only contraceptive device to be administered and inserted by the medical profession, that is to say, iatrogenetically. Neither is it the only birth control method that a woman might rely on to be completely confidential and private outside the clinic. However, although the device is largely appreciated as being effective, it is invasive in a number of ways. In my exploration of other web sites, there were numerous on-line conversations between women commiserating with each other and voicing

Fig. 5.5 Intrauterine coil and device in situ.

their bodily pain and dysfunction after implementation of the device. Although the financial and physical cost to the woman who has a coil inserted is significant, it is nevertheless portrayed through this innocuous imagery as a shining white 'bullet', the holy grail of immaculate misconception, and a large amount of anecdotal evidence reveals that it does not necessarily make it either the most

effective or the most comfortable of ‘palliative’ treatments for the ‘disease’ of child birth.

If the coil is then to be identified as iatrogenic, we also learn of other devices that are deliberately placed inside the body, for example, in the “vascular, hepatopancreatobiliary, gastrointestinal, and genitourinary systems” (Bickle and Kelly 2002). These ‘intimate technologies’ (Laviolette 2009, p.220) are not only ‘willingly’ housed in people’s bodies but act to reinforce the message of the clinic, that there is nowhere that cannot be attended to and more to the point, controlled and or improved. Further images reveal, “accidental objects”, “swallowed objects” and “per rectum” objects that also seem to suggest that there is nowhere that is unattended. Sobchack includes a footnote to her analysis of understanding the body as a metaphorical ‘home’ for, or property of, our lived ‘body’, by considering “homebodies” as “we experience them in a certain state of dis-ease” (Sobchack 2004, p. 183). Within her discussion of the body as ‘home’ she assesses Freud’s ‘unheimlich’ or ‘unhomeliness’ as being when “the uncanny emerges at the moment of transformation, when the body as familiar home changes into an estranged and ‘other’ thing” (Sobchack 2004, p.183). This, I would suggest, is the moment when the body is imaged ‘inside out’ with the revelation that the new furniture arrangement leaves a lot to be desired. The discourses of the “the society of the spectacle” (Debord 1967) and Jean Baudrillard’s jubilant proclamation “I am visible, I am an image – look! look!” appear as understatements if we are to comprehend how much it appears we *want* to look and what it is that we want to reveal and what it might be wise to conceal in the Shadow Clinic (Baudrillard 1993, p. 23).

Shady Projections

The remaining image in this chapter is represented as a final artefact from the search for “palliative x-rays”. It subverts the nature of x-ray image culture so far towards the aspect of desire or, as already mentioned in chapter 4, desire for the condition of the ‘other’, that appears to motivate much of the activity in the

Shadow Clinic. Literature about the following example, which exists as a number of objects, is sparse however, they clearly represent a desire to be other whilst at the same time, a need to deviate from the lived in cultural norm.[70] In one way they initiate and derive from the embodied experience; they exist as transformed found objects; in another way, carriers of desired ideologies; as another, signs of a deliberate refutation of state control; as another, dangerous objects. It is too simple to simply refer to them as x-rays, and yet they have a significant place in the Shadow Clinic.

During the 1930s, 40s and 50s, discarded x-ray films provided the 'base material' for audio record discs and were smuggled through Eastern Europe into the USSR. They were played on radio stations and in nightclubs bringing pirated recordings of American jazz, British pop and Rock and Roll behind the 'Iron Curtain.' The *roentgenizdat* or "pressed x-ray" was finally made illegal in 1958; in 1959, the 'ring leaders' were imprisoned and the beginning of the "music patrols" (Komsomol) were established, undertaking to curtail illegal music activity all over the country (Drake, 2008).[71] The records only lasted a few months and sometimes not even that, if they were played too often. "Roentgenizdat" is a portmanteau word made from Roentgen and izdatel'stvo (the word 'publisher' in Russian). This word is an extension of the more frequently heard *samizdat*, literally 'self-published.' As dissident Vladimir Bukovsky put it, "I myself create it, edit it, censor it, publish it, distribute it, and [may] get imprisoned for it."[72]

Figure 5.5 immediately links us to the blog site entitled 'gradstudentmadness'. The image, dated November 12th, 2009 is posted by a character named 'Rufus' who says very little about the image, but provides a link immediately to his source, Kevin Kelly's Lifestream. There are no comments about the post entitled "Today in (Repurposed) Art." The site that 'Rufus' directs us to belongs to Kevin

[70] There is talk of a forthcoming volume on the subject authored by Eduardo Cadava, but as yet it has not appeared.
[71] This on-line paper is currently offline. There is also the distinct possibility that although Kevin Kelly calls the author Trey, the author most probably is Tracy Donovan Drake.
[72] Retrieved 16th February 2011 from: www.technovelgy.com and www.wikepedia.com.

Kelly[73], founder and former editor of the highly acclaimed *Wired* magazine whose interest in these objects is written on his blogsite (KK * StreetUse); the posting was originally put up by photographer József Hajdú as a contribution to KK's speciality interest in subverted technologies.

These artefacts of subversion foreshadowed the popular flexi-discs of the 1970s and the late 80s penchant for picture discs. Today the discourse amongst bloggers surrounding these cultural, and highly sought after, objects takes place within the contexts of Soviet Rock music history (Troitsky 1987; Drake 2008), as well as expression of collectors' envy and art praxis. It is generally agreed that these audio recordings were of a fairly poor quality. Nevertheless they represented and delivered so much more than being mere artefacts of the spirit of Rock and Roll. Anna Szemere, in reviewing Troitsky's book, remarks how he uses the metaphors of disease in the spirit of the ideological discourses of the Soviet officialdom that had viewed the emergent rock culture and 'youthful difference' as "a tumour on the social organism" (Szemere 1989, p. 203).

A blogspot dedicated to Music and Culture points out that "although dubbing onto x-ray prints was in this case a matter of political necessity rather than any unprovoked aesthetic tinkering, the dubbers quite clearly paid attention to the images they chose, as well as the placement of the center holes."[74] The life cycle of the 'roentgendizats' was formidable.[75] From being an x-ray image for clinical diagnosis and a symbol for the possibilities of an organized body state (of health) to then being discarded as waste and becoming the very 'disease' of 'decadent' capitalism, these artefacts went on to become symbols of the dark side of wealth and democracy, all of which pointed directly to capitalism and a breaking of a Union through excess and consumerism. The x-ray image discarded from the

[73] Retrieved 16th February 2011 from: http://www.kk.org/streetuse/archives/2006/08/ jazz_on _bones__x-ray_sound_recor_1.php.
[74] Retrieved 16/02/11 from: http://musicandculture.blogspot.com/2010/12/roentgenizdat-soviet-era-x-ray-lps-of.html.
[75] Further reading on these phenomena is available on Kevin Kelly's, one of the founders of *Wired Magazine*, blog page and in his new book *What Technology Wants* (2010) Viking Adult Publishers.

Clinic, far from being discarded as a disease treated or a patient deceased, became a dynamic symbol of transformation and rebellion.

One can only imagine in the bars and nightclubs of the mid twentieth century eastern Europe, the sound emanating from the roentgendizat, as it projected the latest American and English jazz and Rock and Roll tunes; scratching its way through the darkness to fill the room with the voices and lives of Others. Some documentation exists that tell of how the tune was quite often interrupted on the x-ray disc, with the voice of a radio announcer or voice of another which had been incorporated in the print itself. The vision of dancing being halted and everyone straining to hear the words, is itself a moment of revelation. The materiality of the x-rays taken to and from behind the Iron Curtain seems all the more pertinent when considering the leaded waist-coats worn and screens used in x-ray scenarios in order to protect other parts of the body, usually the vital organs, from unnecessary exposure to the rays.

Fig. 5.6 *Re-purposed Heart*[76]

[76] The original caption that accompanies this image is "Today in (Repurposed) Art," however I changed the title to pay homage to the image.

The relationship of the protection of the dominant vital organs from the external rays reinforces the intricate networking systems in x-ray images exhibited that not only speaks of the intricacies of the human anatomy but also of human social networks, and clearly indicates and signifies the embodied traumatic experience of political desperation through deprivation and exclusion. Above all, the sign of the roentgenzidat was the sign that the 'enemy (of the state) was within'.

It is apparent throughout this chapter is that much of the information that appears through the search command of 'palliative x-rays' is not necessarily bound to the relationship between health and illness and it is because of this that the central question has emerged about how the theme of 'palliative' works through these auspices, to not only hide the disease by screening it off in the form of an x-ray, but to also hide the body behind the disease, where the disease becomes the subject of the x-ray image. We are not all conversant with the specific language of x-ray visualisation and yet our seemingly urgent need to reveal and share our or another's body under radiological examination seems to be part of the package of our shared experience of particular types of conditioning of validating our shared conditions. [77] More alarming perhaps, is the apparent ease with which those employees within the medical profession are seemingly betraying a trust, not just around issues of privacy but also around negotiation of subjectivities. The evidence seems to suggest that our bodies after imaging, after diagnosis are free for all to comment on.

On the one hand we have the example of medical workers, who use x-ray images to overcome difficult questions of ethics, relying on the anonymity afforded to such a complex image, and yet paradoxically revealing the most intimately private aspects of a person's bodily interior. On the other hand, it is impossible to escape the realisation that representation of the body through these images and through this medium involves devolving the body from a lived organism, to an

[77] In the case of the law student, there is an underlying subtext that somehow his use of his blog site is connected to his need to prove to his college that he was genuinely undergoing treatment for cancer. This is a complicated area that I cannot cover in this thesis.

image, a corpse, to a dynamic digital organism, and most often in this particular scenario, metaphor for a disease. Thus we exhibit a need to objectify our bodies, to present them as artefacts, as mementos of either a body once lived in, a disease once inhabiting a body or, as Illich proclaims, a mere need to exhibit our wealth and our knowledge through our access to a medical system that relies on us as patients, or in more contemporary language, as 'clients'.

How the organic body lives in physical space is not how the body lives in digital space through x-ray imagery, nor through personal web sites. In digital space dimensions and perspectival trajectories are not given the same parameters as physical space. The ontological significance of how we interact with the screen is potent. Our participation in the Shadow Clinic necessitates the use of screens or windows-on-the-world that can "be interpreted as membranes between "inside" and "outside" (Richardson 2010, p.6). As a permeable membrane, this flow from inside to outside seems relentless and uncontrollable, so we must distinguish that this is as a semi-permeable membrane which, as much as we can control through manipulation of an on/off switch, we can equally be controlled by through the forces of electricity or web-traffic or general limitations of the Web, that might induce a 'crash.' We are constantly faced with the mortality of not only ourselves but also the institutional aspects of technologies to which we have committed our selves and our bodies.

> It is not up to anyone of us to decide on the already presumed relevance of screens; that is what a screen is – a framing of relevance, a call for attention, a making apparent a way of living.
>
> (Introna & Ilharco 2004, p. 230)

Introna and Ilharco point to the very important interaction that we have with screens which are for some, for example the television screen, an excuse to consciously stop what we are doing to sit and watch, and as we sit back we submit to the content of the screen. With others, such as our personal computers, we interact, we sit forward or up, and our embodied life with the screen is

significantly different, as it is with our i-phones and so forth. In the Shadow Clinic that is only accessible through a screen, our body is then both subject and object as our participation dictates. Our empathic engagement, although monitored, is a matter of choice making and ethical questions that do not disappear but are obviously changing shape when materialised through the semi-permeable screen technology.

Conclusion: Traces of Exploitation

One does not become enlightened by imagining figures of light, but by making the darkness conscious.

(Carl G Jung 1945 p. 335)

It was always going to be a difficulty to bring a purely aesthetic sensibility to the lives of medical images. Unless they are my own, there would inevitably be complex social and cultural questions about whether I should be allowed to use these images for analysis. Should I only use images of those whom I can individually get permission from? Should I only use images that are images made as a product of Art?

The sheer number of x-ray images that exist on the Internet opens up a troublesome portal into a 'dark side' of human nature. The ease with which the images are shared among interested and disinterested strangers enables, not only complex and useful social engagements, but voyeuristic, sadistic and other deeply questionable ways of looking. Initially, it was my ambition to proceed with this research project through empirical research with information being freely given by interested parties, however, the prevalence of images in our lives reinforced that this is where some of the most insidious problems lie; where ethically there are continuously more and more challenges when images are posted on the Internet. Many of the case studies discussed within the thesis involve use of others and their personal information as something to be disseminated. I, of course, am also guilty of doing this.

My thesis began with an investigation into some of the ways that the nature of shadows has been manifested within a specifically Classical and Modern European tradition of literature and the visual arts. As a project in Visual Cultural Studies, I cannot ignore how classical understanding of the phenomenological

relationship between the body and its shadow indicated not only attachment but traumatic loss. By extension, the connection between the physical body and its shadow has, over the ages, become a strong metaphor in the science of psychology. In Jungian psychology, for example, the archetype that exists in the collective unconscious, characterized by the shadow, presents a moral problem, "for no one can become conscious of the shadow without considerable moral effort" (Jung 1959, p. 8). In the quest for self-knowledge, says Jung, becoming conscious of the shadow, means closely examining the "dark characteristics – […] the inferiorities constituting the shadow – reveals that they have an *emotional*[78] nature, a kind of autonomy, and accordingly an obsessive or, better, possessive quality" (Jung 1959, p. 8). The story of Peter Schlemihl, for example, that dates back to the mid 17th makes the Shadow the subject of the story. Peter, throughout, is nothing without his shadow, until the very end. The indexical nature of the shadow situates the boy not only morally, but within his class strata, his familial circle – in short, it places him in the world. The illusion being that he can 'own' his world.

A century after the first images of x-rays were published, the symbolic qualities of shadows was immediately exploited. Previously, they had been understood within images, for example through the myth of Orpheus and Eurydice and their shadowy backdrop, of desire, possession and loss to the dark Underworld of Hades, or death, but were soon to be heavily involved in the language of science through psychology and psychiatry. Over the years, this establishment of shadows as being an indexical signifier of presence and position, was usurped by representing a marker of absence, of traumatic detachment. Both the shadow and the mirror positioned the body, in Foucault's 'other space', that 'heterotopia' where the 'eyes and body meet' but neither is situated. Euro-Western thinking on many levels, became increasingly more 'simple', equating darkness and shadows as something to be feared, something that represented The Bad. It is this that appears to have carried through to 20th century psychology.

[78] Original italics – the emotional quality talked about here, Jung identifies as being "not an activity of the individual but something that happens to him" (Jung 1959, p. 9).

In Piaget's research into early childhood understanding of the physical nature of shadows, the place of the shadow is really there yet the origins of its attached qualities is mysterious and the space it occupies is constantly in flux. For the child, the source of light as being the source of shadow is unfathomable. It is therefore, the 'unknown' quality of the shadow, or rather what it conceals, that elicits an emotional response, or perhaps more precisely, an 'empathic' response. The child literally imbues it with a life of its own whilst also acknowledging that it is produced by the objects it corresponds to, the hand, or the chair – a reified object that can be separated from its source of production. [79]

X-ray technologies visualized this separation and made another dimension possible. The 'other' life became the project, together with whatever this new break with the traditional body entailed. The physical nature of the shadow is not relevant for the nature of the x-ray images, as there is no physical source of light, however the desire to see in a different way, to mystify the body so that only some would 'understand' was all working towards separation of body from its embodied source, the production of knowledge, through projection of fantasy. The control of the physical body and the ever- vigilant 'monitor' of the clinic made x-ray images vital. So much so, that in the middle of the Cold War, x-ray images were literally being born again.

Piaget's studies reinforces the shadow through the eyes of the child, as being the very symbol of modernity - the product separated from its source as the age saw the negotiation of human with their environment, renegotiated and often traumatically disconnected.

[79] Other studies carried out include for example "Reactions to Light and Darkness" in 1903 by G.Stanley Hall and Theodate L. Smith in the USA. It was more interested in dealing with the psychic reactions of a group of various school children of different racial origin and different ages, also a concentration on the responses between blind and sighted children.

There is no hard and fast rule about how we consider the functions of any culture and when Raymond Williams described the history of culture as a "record of our reactions, in thought and feeling, to the changed conditions of our common life" it becomes clear that culture mutates, or 'modifies' itself (Williams 1995, p. 164) and is therefore best understood as a "process, not a conclusion" (Williams 1995, p. 164).

The culture of the Shadow Clinic, as it exists through the exhibition of x-rays on the Internet, is a relatively new one and emerges through a community of Internet users who employ the resources of the Clinic and the Internet in numerous ways. For some, it offers a site of resistance, however, there were surprisingly few examples of x-ray images used for this purpose. Increasingly, it appears, x-ray images appear to provide entertainment. The discourses that emerged from these images explicitly reveal the spectacle of the body under examination that serves either to repel or fascinate by revealing the bizarre activities and desires of human activities. The proliferation of these ab-normal activities to which bodies are subjected, identifies many of the sub-cultural aspects that exist within the mechanisms of the Shadow Clinic, but arguably, no more than the institution of the Clinic itself. The evidence of the seemingly casual stance taken by medical institutions in sharing this private material, whether as a marketing tool, or 'educational' material, or even as just memorabilia indicates an understanding that the body is truly objectified through this imagery.

The Internet and life on the World Wide Web is a choice, but only to some extent, as it pervades our everyday activities. The establishment of the Shadow Clinic however, tries to make some sense of how x-ray images, and medical images in particular can usefully be engaged with through Internet usage. Issues of privatization of medical institutions and the overcrowding of clinics, means that for many it is more convenient to look to the Internet for free diagnosis and information. Strata of privilege dictate that if you cannot afford health care, but can afford the use of an Internet, then with some work by the individual, health advice is available. At this stage, it seems, there is little legislation in place to

guarantee that the information is coming from reputable sources. This is further work that surely needs to be done.

The Shadow Clinic does not just exist in cyberspace but in the minds of contributors to the many and varied conversations, although it is conversely the site of documentation and record. In the Shadow Clinic as well as in the Clinic, "the patient is the rediscovered portrait of the disease; he is the disease itself with shadow and relief, modulations, nuances and depth; and when describing the disease the doctor must strive to restore his living density" (Foucault 2008, p. 16). In the Shadow Clinic, the doctor and patient become one and the same through similar physical interaction. Each is subject to the technology of communication and information.

The Shadow Clinic — this cyberspace, this gallery of virtual bodies — carries with it new and emerging discourses regarding viewing practices and the negotiation of visual empathy and abstraction required within the demands, on some basic level, the viewing of the body under the clinical gaze. This runs along concurrently with those discourses inspired by the "exploitation of information technology" with which we might be more familiar (Bauer and Olsén 2009, p.118). Societal surveillance through the organisation of health, through scanning programmes or the 'techno-clinical gaze' that render us all social bodies, in turn leads to the opportunities of communication of ground level discussions about the more prosaic aspects of clinical experience through the more 'democratic' functions of the World Wide Web. The Shadow Clinic is not only the extending shadow of the 'real' clinic, nor is it a 'virtual' clinic, but it is a space where thoughts are aired, where images are posted, where debates are conducted and where issues can be raised that might not necessarily have been an issue you thought concerned you. In short, it is a space where the emphasis is on the fluctuation of ideas and images, a procession of life through the visible and the invisible.

X-ray images in the Shadow Clinic are the source of identification, of the medical body of evidence — the medical image and the image of the clinic. The ontology of the image on-line means that it has to work hard to represent and be relevant, as right next to it, is the imagined x-ray displayed in its 'fakery'. How x-rays 'should' look when they emerge as spectacle. The advertising of EIZO reminds anyone believing too well in the power of the clinical image, that it is all an illusion, born of the desire to look, but not too hard.

The Shadow Clinic can also work as the conscience of the physical Clinic, challenging the 'neutral' (Armstrong 1995) space of the clinic and the methods it employs.[80]. As already mentioned this aspect of the Shadow Clinic as I have presented it is not strongly represented. In the main, x-ray imagery is not the entrance point for resistance to the notion of the Clinic, but rather a reinforcement of the institution. Any discussions of the Shadow Clinic, must not only consider the work of the Clinic but necessarily the encroaching issues that censorship of the World Wide Web brings.

The Shadow Clinic contains within its personal narratives and discourses of alienation and suspicion directed at imagery of the physical body, the politics of the body image along with ethical treatments and control of the social body by ministration through imagery. In The Shadow Clinic, the embodied self is the potential site of 'danger' thus it is fitting to conduct all communications away from other bodies, away from anybody. There is nobody in the Shadow Clinic, only traces of activity, bytes of information.

Active participators in the Shadow Clinic are paradoxically predominantly immobile bodies that the technology destabilises. That is not to say that the

[80] Websites such as "The Shadow Practice Parts 1-10", written by William Heisel, presents itself as a site focussed on revealing corruption, bad practice, medical news, in short "Investigating Untold Health Stories". Retrieved 24/02/11 from: http://www.reportinghealth.org/blogs/shadow-practice.

‘patient’ is necessarily bed ridden or living with paralysis, however embodied concentration on the screen renders the body so, bound to a screen. In the Shadow Clinic the culture is the culture of the body as information, information that is in constant flux. Partly Narcissistic but predominantly Orphic, the inhabitant of the Shadow Clinic is defying Death itself and separated from life and death by a set of codes and logarithms that makes immortality a threat and a promise.

In this heterotopia of the Shadow Clinic the x-rayed body is reduced to quantifiable portions as space expands and contracts with evidence of presences and absences. The irregularity of the space described by Foucault as heterotopic is the site of simultaneity where place and time are organised into the ‘odd rectangle’ that works to screen. The body of others and our selves fits into this screen; the condition of others is visible as just a glimpse or just a portion or particle of revelation.

Scholars traditionally critique the discourse of the Clinic as the institutional gathering of information to organise a societal healthy body, a ‘normalised’ body to the detriment of visual empathy or embodied viewing. This aesthetic sensibility, if we are to be visually manifested under the clinical gaze, must surely be where our focus should lie. How easily our capacity for (not) looking is manipulated through ambiguity and darkness, in images. The allusions to fear, to the lack of comprehension of visual space, the perceptual abyss have all instilled in us a distrust of what we see.

In the Shadow Clinic, the vision is one of crises and abstractions. The empathic gaze is not interested in “normalising” the body, but rather of reaching in to the body with an urge to ‘empathy’ to feel oneself the subject to and of one’s vision, to feel one’s vision extended to the Other. It also works to acknowledge that we are the object of the other’s interests. For others, we ourselves are others. The importance of the connection between I who see and that at which I am looking, means that I must accept this mediation and dislocation that this technology is re-enforcing. Where the eyes and body meet is virtual space of the clinic, through

the ideological image of the body under x-ray examination, the “style of the most highest abstraction” therefore is the “ most strict in its exclusion of life” (Worringer 1967, p. 17). Where the eye and the body meet in the Shadow Clinic is the space where the eye, the screen and the hand touch and are separated.

The Shadow Clinic is a space of abstractions where the image of the body under x-ray perception is wholly spectacle. The discourses in the Shadow Clinic are numerous but always exist because the body has effectively been re-placed. It is the represented body that exists in the Shadow Clinic, but how far the shadow extends is up to those who visit.

Friedberg (2002) argues that the “trope of *flânerie*” is inherently antithetical to the notion of the “panoptic gaze [that] has been invoked by feminist theorists to underline the one-way power of gendered looking” (Friedberg 2002, p. 396) so often affiliated to that of the Clinical gaze. The Shadow Clinic, theoretically, has the power to pervert this. The constant flux of activities, the variety and disestablishment of traditional institutional thinking is present, along with the more patriarchal values and usages, indicate that there is an interest in using this new environment. In the role of *flâneur/flanêuse* or *badaud*, we will have left traces and contributed to the life of these websites. Occasionally I have identified my role as that of purveyor of questionable activities, but rather more often, been immersed in the dialogues and stories of others, one of the on-line crowd. Through the re-writing of these stories, a subjective vision has emerged. A subjective vision can be overwhelming in the Shadow Clinic when faced with the sheer volume of images and the complexities of conditions; or a subjective vision might be the only effective and empathic viewing method, after all, encountering thousands of unstable bodies is exhausting.

As Shaya (2006) emphasises, the audience ideologically manufactured for the mass media, was the *badauds* – constructed not as a gawking crowd, but as an “empathic public” (Shaya 2006, p. 29). The vision of the *badauds* portrayed, was

a tool to "dramatise the evils of public insecurity, to highlight the dangers of factory accidents, to criticise railway safety, to rally the nation before its traitors, and much, much more" (Shaya 2006, p. 30). Therefore, starting from the 'disruptive moment' where all studies in visual culture must begin where the 'eye' that looks and sees becomes increasingly complicated with the technology involved in looking and disassociated from the 'bodily' experience, I as *flâneur/flanêuse* in amongst the *badauds*, find my vision and my image selection has been affected by my perception of the shadows and darkness both physically and metaphorically.

Whether the body is seen by us to be a spectacle or under surveillance in the Shadow Clinic depends very much on our individual experience of viewing and looking and is directly linked to our political ideologies and our embodied visual habits. Our embodied negotiation with this emerging screen culture that exists in the vastness of the Shadow Clinic not only has ongoing implications for the physical body and its senses, but for our emotional, intuitive and ethical stances. The discourses are very different to those of the Clinic, but nevertheless place the imaged and screened body at the centre of the complexities. Understanding what we mean by 'empathy' still remains to be seen and whether it is an embodied experience or a social practice that is currently being re-enforced as an ideology of the Clinic, I contest, depends on how we project and reflect upon each Other in the Shadow Clinic.

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