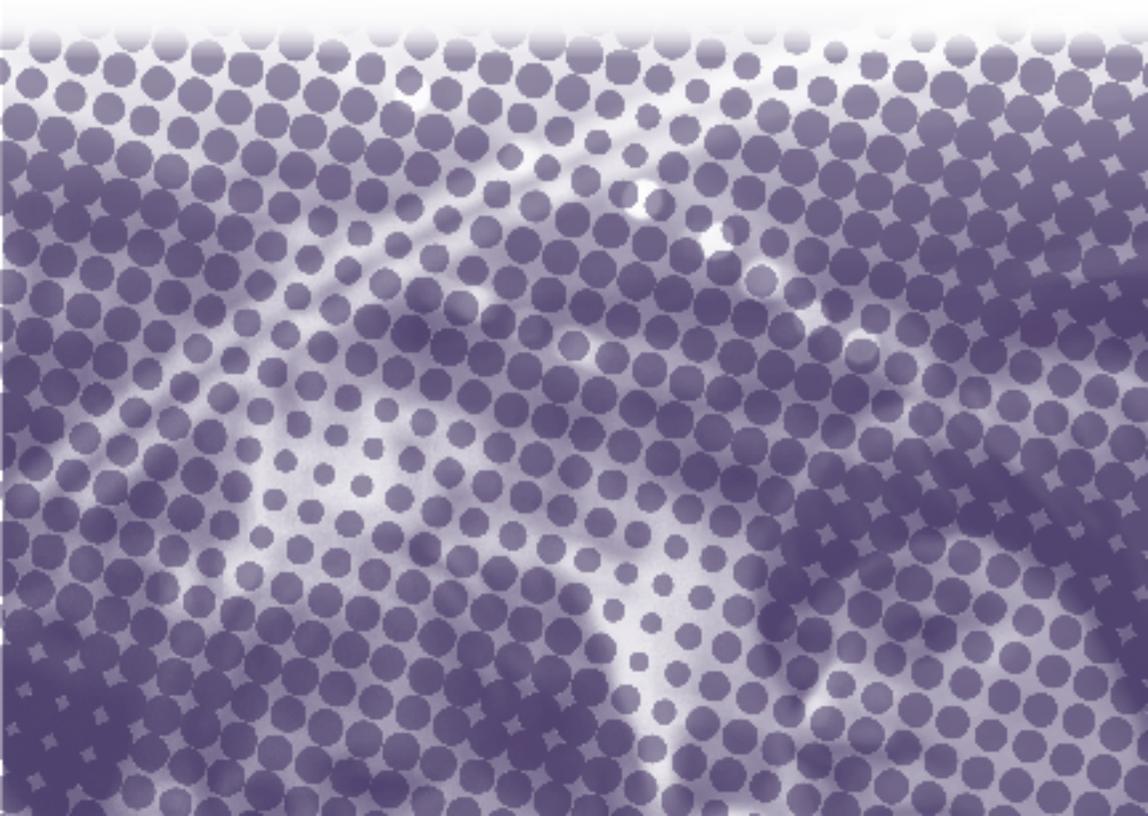


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Discretion and Subtle
Acts of Terrorism among
the Worried Well
Artists use
Medical Imaging Technologies,
What of I.T.?

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Image and medium both are linked with the body, as the third parameter to be considered in its own right. The body always has remained the same and precisely for this reason, has been subjected to constant change with respect to its conception as well as to its self-perception. The gap between the certainty of its physical presence and the uncertainty of its notion never closes.¹

1.Parameters - i) One of a set of measurable factors, such as temperature and pressure, that define a system and determine its behavior and varied in experiment

During the early to mid 1990s, as the millennium was drawing to an end in the Christian calendar, artists in Britain and [perhaps] in the United States brought to the attention of the viewing public, contemporary art practices that were interested in collaborating with and commenting on the heady debates surrounding the sciences, technology and medicine, in short, the options for the future. Damien Hirst, *The Physical Impossibility of Death in the Mind of Someone Living* (1991) preserved a dead tiger shark in a tank of formaldehyde, one of a series of pieces made by Hirst that placed dead and decaying and preserved animals in vitrines; Mark Quinn *Self* (1991) cast his head in his own frozen blood; Susan Derges photographed water drops, *The Observer and the Observed* no. 6 (1991) and active bees in great detail *Spawn* - nos.7-9 (1995); Cornelia Parker, *Cold Dark Matter* (1991) blew up a wooden shed with the assistance of the army, and then reconfigured the pieces of the shed in the gallery space in a response to an interest in quantum theories of physical space, whether

representing the Big Bang or the gravitational implosion of a black hole, and Jake and Dinos Chapman, *Zygotic acceleration, biogenetic, desublimated libidinal model* (1995) referenced the un-nerving potential future of cloning, and artist Anthony Noel Kelly was arrested and imprisoned for nine months, for sealing body parts.

The body parts were stolen from the Royal College of Surgeons (RCS). Since the body parts taken were unidentifiable, it was difficult to establish whether Kelly was in fact guilty of theft. The judge in Kelly's case decided that the specimens were the property of the RCS because 'skilled work' had been carried out upon them by a 'previous generation of surgeons'. The judge asked the jury to determine whether Kelly had taken the body parts; had intended to deprive the 'owners' of the property permanently; and was acting dishonestly.²

Much of this work caught the imagination of the gallery going public, but was also picked up by the Press, tabloid and broadsheet, rendering the British public generally bemused as to why art had suddenly, it appeared, become mixed up with technology and the sciences, when in fact many of the artists declared it to be nothing more than the age old themes of art, 'sex and death, and politics'. Perhaps part of the discussion, revolved around the fact that artists were responding to a topics such as imploding universes

and biogenetic engineering and natural history, that didn't serve to enlighten the non-scientists, but only to perpetuate a politics of scientific and medical unease. To appear to undermine the 'Golden Calf' that was Science these new practices appeared to represent what many were to turn their noses up to, a 'pseudo-science' and was further confused in the public perception as the artists glorifying these new scientific and medical technologies, without involving themselves in the ethical and moral questions. Dead animals in vitrines along with mannequins depicting mutated forms of children convinced a moralizing public that it was the artists that were irreverent, amoral and indulging in unethical practices.³

When you think about it, normality is extremely strange. Natural death seems far less natural than unnatural death. It's a far more difficult concept to understand, as Rebecca West noted, than somebody dying because they've been stabbed or shot or poisoned by somebody that hates them.⁴

Books were written and conferences were held on the subjects of *Order, Chaos and Creativity* where topics discussed were quantum physics, social engineering and artistic practice, and funding bodies were set up along with grant programs to engage with and encourage this new alliances between art and science and technology.⁵ Many of the artists mentioned above were

exhibited together in a show entitled "Sensation"(1997), a show which caused controversy through its addressing of issues such as sex, death and politics, graphically and asked an art-going public that was desensitized through a televised and computer orientated society, to reconsider what was meant by ideas of 'progress' as Western culture was being subsumed by ideas of genetic engineering and a laws of physics being broken down into quanta.⁶

Traditionally, there has not ever really been a break between Science, Technology and the Arts, but with the invention of the camera in the early nineteenth century the relationship between art practice and its tools became further complicated with the camera's ability to capture the moment. The camera became understood to be an instrument that had the ability to offer up a passage to 'truth' through a form of archaeology of the present. Used, but not exclusively, as a tool for recording and identifying 'types' in some scientific practice, it also served to categorize a population. Where portrait drawing and painting still served to 'glorify' the subject, the camera, with it's unemotional lens, was relatively quick and accurate. There were few surprises that the subjects of the photograph received on viewing the photograph. What the subject saw in a mirror was extremely similar to what they saw in a photograph.

When artists started using the

photograph and the movie camera, it wasn't long before they were experimenting with different chemicals used in printing and superimposing and making collages using the prints and films. The actual science of using the technology of the photographic camera, was what was exciting and constantly available to experiment due to the fact that it was portable and inexpensive.

Although visual artists were embracing aspects of the world of Science, it is not necessarily the other way around. As Sian Ede, assistant director to the arts at the Calouste Gulbenkian Foundation, points out: "although in a few rare cases artists actually *assist with scientific investigation*, it is still not a very frequent occurrence."⁷

One need only think of the contemporary work of Prof. Günter Von Hagen, the inventor of 'plastination', and his exhibition *Body Worlds (1 and 2)*, which emerged in Japan in 1996 and is still being exhibited globally today, to see that there is an unclear divide, although he has often stated that he is not an artist. In the United Kingdom, 'Body World 1' was exhibited at the Atlantis Gallery in London however, in the United States the exhibition was at the Museum of Science and Industry in Chicago, and is currently in the California Science Center in Los Angeles. In the gallery, the art reviewers picked it up as an art exhibition, assessing and appreciating



the work with the emphasis on a reading of the vagaries of the human condition and perhaps more specifically about the nature of exhibiting art which is about science or a science which is artistic, and therefore, in a very different light than as it was in a Science context. In the Museum of Science and Industry the exhibition of flayed and dissected human and non-human bodies was taken solely as presenting an educationally useful science exhibit in which we learn more about the intricacies and workings of the human anatomy. Art critic, Adrian Searle, writing in *The UK Guardian* of March 23, 2002 said:

Context is the issue: the exhibition cannot fail to be hugely instructive, nor can it fail to engage us in an extreme way. It has little to do with art, even though the anatomist's work is hugely artful. The dreadful exhibition design, and the publicity machine is what taint the enterprise. Body Worlds does not in my view lack dignity or respect for the body.

The 'artistry' that Von Hagens employs in the exhibition is not to be underestimated. The dissected and flayed bodies are posed and stationary in athletic endeavor, or are placed

carefully to become three-dimensional sculptures referencing many of the most famous two-dimensional paintings of modern times. For example his *Runner* is presented so that the muscles have been splayed out aerodynamically in the form of



a fan and references Italian futurist Boccioni's painting, *Prototypes of Movement in Space*; *Ring Man's* body is more than a little reminiscent of Dali's painting entitled *Anthropomorphic Cupboard*. Where Dali was critiqued and appreciated for bringing together classical notions of the immortal Greek form, with a contemporary reference to Sigmund Freud and the power of psychoanalysis to open up the secret 'drawers' of the mind, the information accompanying the Body Worlds exhibition, describes *Ring Man* with:

[T]hick body slices [which] demonstrate the compactness of tissue and close proximity of

individual structures to one another. Sections of the skeleton as well as blood vessels and nerve pathways can be seen between the slices. The body cavities (cranial, thoracic and abdominal cavities) show that space that is available for vital organs.⁸

Also apparent are echoes of St. Bartholomew from Michaelangelo's Sistine Chapel ceiling, and Cezanne's *The Chess Players*. All these poses bring to mind the practice of using naked models for life drawing and painting, and reconsider what it means to do 'Life Drawing' as an artistic practice as well as harking back to the early days of medicine and science when dissections were performed on stolen cadavers in order to understand better the workings of the human anatomy.

The authenticity of the specimen on display is essential for such insight. Every human being is unique. Humans reveal their individuality not only through the visible exterior, but also through the interior of their bodies, as each one is distinctly different. Position, size, shape and structure of skeleton, muscles, nerves and organs determine our face within. It would be impossible to convey this anatomical individuality with models, for a model is nothing more than an interpretation. All models look alike and are, essentially, simplified versions of the real thing. The authenticity of the specimen, however, is fascinating and enables the observer to experience the marvel of the real human being. The exhibition is

thus dedicated to the individual face within.⁹

In 1977, when von Hagens invented the technique of 'plastination', this could be said to have 'marked the second anatomical revolution'.¹⁰ Leonardo Da Vinci had of course been making drawings of anatomy from corpses, but it was Andreas Vesalius, who worked with the production of precise anatomical drawings as early as 1543 and was the published pioneer of the clinical study of modern anatomy. Since then human corpses have disappeared again from Western modern culture with the establishment of medical schools, and increasingly the corpse has become a subject of taboo. There remains a taboo of using the body or parts of the body in art or science in the West, unless highly aestheticized and somehow rendered out of a 'recognizable' visibility. By not calling himself an Artist, von Hagens has positioned himself very definitely in the milieu of the world of science and invention, and yet his affiliation to art and design, is undeniable.

Perhaps the wisdom in this is that there is inevitably more money in Science than in the Arts, and this is what artists are being drawn towards, but I suggest that there is something else going on and for this paper, I am particularly interested in how artists have become increasingly conspicuous about incorporating within their work literal representations of their or another's body made by *medical*

imaging technologies. Among these artists exist such notables as Robert Rauschenberg, who imaged himself in the form of a full body X-ray in his work *Booster* (1967); Mona Hatoum, who revealed the inner cavities of her stomach and reproductive organs through the technology of the endoscope in *Corps Etranger* (1994); Annie Leibowitz, who portrayed the head of artist/musician/performer Laurie Anderson through a series of digital MRI scans in *Laurie Anderson MRI* (1994); Gabriel Leidlhoff who uses MRI, CT and X-ray in an ongoing project to address the potential of the collaboration between art, neuroscience and the establishment of consciousness in *Log In/Locked Out*, (1997- ongoing) and Joyce Cutler Shaw, who worked as a resident artist in a training hospital to produce an artists' book with various representations of identity and its connection to medical processes through imaging technologies used by the medical profession. One of the works produced by Shaw for her book, was *The Anatomy Lesson: Memory Picture with CT* (1992) a photo collage she made in collaboration with Phel Steinmetz.

Although there may be nothing particularly startling in this, in as much as new technologies as media are embraced by art practices all the time, what it does reflect is a conflict in the structures of art and medical practice particularly when it comes to representation and perception of

the human body.¹¹ Somewhere in the image lies a deeper question of intent and the evocations involved in using medical imaging technologies, thereby allowing the image or picture, to become subject to a level of scrutiny that must be considerate of the subject of the image and the objective of the picture, both of which are the body and the third parameter that Belting speaks to, as quoted in the introductory paragraph. This parameter, as defined by *Stedman's Medical Dictionary*, (2002) is to be understood as either: a) a set of measurable factors, such as temperature and pressure, that define a system and determine its behavior and are varied in experiment; b) a factor that determines a range of variations, a boundary; c) a statistical quantity, such as a mean or standard deviation of a total population, that is calculated from data and describes a characteristic of the population as opposed to a sample from the population; d) a psychoanalytic tactic, other than interpretation, used by the analyst to further the patient's progress; e) a factor that restricts what is possible or what results. Not in technical use; f) a distinguishing characteristic or feature. Not in technical use. My wish is to examine these parameters. In effect, the 'parameter' is a singular entity or series of singularities that indicate and are representative of a unified system, and this is of course how we understand the medical world to study the human subject. The subject

is a specific example of a general condition, but is there such a thing as 'the human condition' or must we begin to understand the human as being specific examples within a 'medical condition'?

Perhaps what makes von Hagen's 'Body Worlds' so appealing to the public of which over 16 million world wide have visited the exhibition, is that it speaks to the individual by representing the form 'artistically', and yet identifies the body as a general medical condition that everybody has. The flayed and dissected bodies do not refer to the 'human' condition of alienation through color, gender, religion, culture, class or age, only to the utopian dichotomy of well and ill, dead and alive.

However, not everyone felt represented by von Hagens, especially not women. In 2002, von Hagens was beginning to hear from women who felt under-represented, women who thought the exhibition to be a useful opportunity to learn about the intricacies of the female anatomy. In December of 2002, as the press department of Body Worlds reports, Amanda Wilson, protested the lack of female representation in the show, by streaking and threatening continue a mass nude protest, if nothing was changed, to which von Hagens replied:

Unfortunately, many female bodies we get have had operations such as a hysterectomy

on their reproductive organs, which render them incomplete and their female form practically unrecognizable. In addition, it is a fact that females don't have muscle tissue as men and therefore don't look so convincing to the visitors. Last but not least, I do not want to be accused of exposing the female body to male voyeurism.¹²

This nervousness may be well intended, however it reinforces questions about representation of the female body that won't shift, unless the female body is present. By the time Body Worlds 2, comes about in 2004, more female cadavers are present.

2. Histrionics and the Unveiling : ii) A factor that determines a range of variations; a boundary

The year 1543 could be said to be the year that 'modern science' really emerged as a force with the publication of Copernicus' *On the Revolutions of the Heavenly Spheres* and of Andreas Vesalius', *On the Fabric of the Human Body*, usually known by its Latin title, the *Fabrica*. Accompanying the text of this book generally acclaimed as being the foundation work, for the study of modern human anatomy, were illustrations designed by the artists of the school of Titian, and cut on fine pear wood by Venetian block-cutters picturing the positioning of

the arteries and the veins, muscles and nerves of the human body. As well as the drawings, Vesalius used the language of written text to address the anatomical structure that had been based on the Aristotelian philosophy that Nature does nothing in vain, that everything in nature was put there to fulfill a *telos*, or *purpose*. To impose this further, he used the metaphor of architecture to speak about the human anatomy, thereby giving it a status as something that is designed, created and maintained. The metaphor served to further promote the status of the human body as purposeful and useful:

shape the larynx just as we see the houses of the rustics are made of beams before thatching, tiles and clay are applied to them. In fact, if you stripped bones and cartilages of their flesh and then joined them together, you would compare them to nothing more closely than the structure of huts when they are first erected and not yet covered with branches and earth.¹³

Vesalius was also on a mission to rescue anatomy from the so-called errors of ancient Greek physician, Galen whose ideas and conclusions still dominated medicine in the sixteenth century. Galen had had to depend on animal corpses for his anatomical studies. He was philosopher, philologist and medical physician, who found the image in medicine to be misleading as a device for pedagogy. A written text was the

only way to be accurate.

Vesalius, as a medical student and wishing to investigate the workings of the human skeleton, had taken to stealing the remains of hanged criminals. In order to satisfy his curiosity about the fluid in the pericardium [also called ‘heart sac’], he contrived to be present when a criminal was quartered alive and as he recalls, he would then carry off for study ‘the still pulsating heart with the lung and the rest of the viscera’.¹⁴

After establishing himself as an anatomy professor in Padua, it wasn’t too long before magistrates started providing Vesalius with fresh corpses for this anatomy lessons. Not sitting aloof giving directions, he often performed the dissections himself, and the title page of *Fabrica* illustrates just this.

The title page of *Fabrica* – as if to emphasize masculine conquest of ‘Mother Nature’ – shows him handling the abdominal organs of a naked, cut-open woman, surrounded by tiers of eager male spectators. The woman, Vesalius records, had tried to cheat the gallows by declaring herself pregnant.¹⁵

Although surrounded in the image, by male onlookers fascinated at the sight of the female organs, Vesalius looks out of the page, out to the audience or the reader of the book as if to check that they too, are looking.

An ‘iconic’ status of the body is



revealed in the symbols and signs that dictate the image to the reader. In this case, we see the woman as having her reproductive organs revealed as well as her stomach, the symbolic beginning and nurturing of Creation, which exposes the corpse as ‘Mother

Nature’ revealed by Man. Vesalius is depicted as the ‘icon’ of Male knowledge and power over Nature. Not content to let the woman die and be buried in peace, he is shown to be revealing that she is not pregnant, but he above all, can still find a use for her body. Vesalius, as many have learnt since, was extremely careful about what was represented when he was portrayed in image.

Understanding the body as something that is either dead or alive has radically changed in a modern world where the body can be artificially kept alive and regenerated through medicine and the machinations of the medical world. Added to this complication was the possibility for the body to be pictured through the mediums of the moving image and the photograph and the various types of imaging technology



that are now used as a matter of course in the medical field. The body could now effectively be held in a form of stasis, in between life and death.

Comparing the title page of *Fabrica* and Mona Hatoum's, *Corps Etranger* it is clear that although both reveal the female reproductive organs and stomach, the mediums and contexts that reveal the two similar subject matters, show very different perspectives involved in the discourses of medical imaging and the representation of the female body. Looking predominantly at the work of Mona Hatoum and Joyce Cutler Shaw, pertinent questions arise about the choice to use medical imaging technologies in their work, the media of medical imaging technology that is intrinsically wrapped up in a politics of the medical profession – media, that must now play, according to Belting the role of the *'image maker'* the *'third parameter'* that is *'linked with the body'* – they walk a very fine line between existing as 'victims' subjected to this invasive technology, a socially historic and much investigated role examined by male and female thinkers, and subverting the uses of these technologies and this historicism to empower their position. I use the examples of Hatoum's and Shaw's work to also address the question of where the body is situated within the work which uses medical imaging technologies. My question is whether it is no longer

the 'mind' that allows the 'body' to know it's own existence, the Cartesian perspective "I think therefore I am", or the phenomenological view that all is intertwined leaving no hierarchical controlling system in the body, but in fact as Belting suggests, it is the visual *media* and the *image* that allow the mind and the body to *know* they exist.

In the world of medical imaging, it is the image that identifies the state of health, the existence of further life, and often the time left to live. This is not to say that the image gives the mind and the body life, but only that it directs modes of existence with the knowledge it holds and reveals or doesn't.¹⁶ I'm sure it is a common occurrence and I know that I have certainly be partial to seeing what the physician suggests is displayed in the medical image, in the picturing of my own body, I question myself whether I would not be denying the my body its existence, if I could not admit to seeing it with my own eyes? In the works of Hatoum and Cutler Shaw, what happens to the situation of the 'body' in transition from a *medical image* to an artistic *pictorial representation* using these same medical imaging technologies?

In his recent essay, entitled *Image, Medium and Body: A new approach to Iconology*, Hans Belting suggests that the various imaging media form the 'missing link' between the body and the image and as such direct our perceptions, thereby preventing us from allowing an image to represent

a 'real' body or solely establish the body to be an 'object' of technology. The importance of what he is identifying in this crucial placing of the body with media, is the allowance of the same body as the media in the production of the image, as the source, as well as the receptor of the image, through the establishment of 'archive', or remembering and reading the image as a familiar and negotiable entity. As Belting puts it:

...we dissolve their factual 'symbiosis' [in this case he is talking about the image from the canvas] by means of our analytical perception. We even remember images from the specific mediality in which we first encountered them, and remembering means first disembodying them from their original media and then reembodying them in our brain.¹⁷

However, this seems too vague a strategy for negotiating images that are made through technologies that produce images that are quintessentially related and yet un-familiar. Images taken by an endoscope or a CT scan, offer images of the body in a constant state of flux, and as such these images exist within the technology until isolated through our perceptions. The endoscope is an image that gets relayed as a moving image and the Computerized Tomographic scan, is usually taken at brief intervals producing a series of images. For this 'disembodying' them from the

original media and then 'reembodying' them in our brain, there must be a moment in our perception where a choice is made to 'recognize' what we are looking to 'analyze', and therefore within the world of medical imaging technologies, it is crucial to acknowledge the technology that is establishing the image. This technology has become a central player not only in the *'transmission'* of the image but as the provider of the 'vision'. The technology sees first what no human can, and therefore our desire to analyze and diagnose the image, must first involve a fundamental questioning of the role of technology as it plays 'visionary' to the interior and essential, the hidden and the fundamental, thus allowing us as humans and witness to technology's vision, to have what might be seen as a 'healthy doubt'.

Translating that same imagery into an institutional art forum moves the same image of the physically imbued *'medical body'*, to an emergence of the metaphorical body, which in turn must be understood through other readings and other modes of perceptions. Complexities arise when the image itself moves between different contexts. Firstly, we understand there is no mis/diagnosis potential when the image is transferred to the art gallery. The body image has become publicly visible and the specificity of the image is that it becomes something other than a recognizable and troubling

“I” for the viewing public and gives us as viewer, the distance and perspective of the ‘eye’ of analysis. Within this duplicity of vision the image has become representative of itself, and functions neither as a document nor as a narrative of a single case study that is looked on as an ‘ill’ body, but takes on the mantle of ‘representation’ and exists for its own sake. In the gallery forum, the image is already ‘read’ as re-production. In addition the mediated body is fragmented through these technologies and the fragment/s that is/are exhibited is/are then willfully connected to all that en-frames it, all that exists on the peripheral. In the case of Hatoum, the installation structure controls the visual dynamic of the video work, which in turn is connected to the other attributes of the gallery space. For Cutler Shaw, the images remain contained in a book, a book that takes the reader through the history of Anatomy. The viewer is thus encouraged not to recognize a representation of the singular body, but how the image of a body exists in the *body of the piece*, the piece of work. Added to this, is the potential for the image to represent a body as a ‘symbolic representation’ of the medical world and in particular the imaging technology employed by the medical world. What it perceives and how it is represented abstracts the physical body and replaces it with the Iconic Body, a body that is made up of signs and symbols reflected in the

image that are to be read, analyzed and understood.

The mirror image, the whole person...mistakes as itself, is known in psychoanalytic terminology as an ‘ideal ego’, a perfect whole self who has no insufficiency. This ‘ideal ego’ becomes internalized; we build our sense of ‘self’ our “I” identity, by (mis) identifying with this ideal ego. By doing this, according to Lacan, we imagine a self that we have seen in the mirror becomes a compensation for having lost the original oneness with the mother’s body. In short, according to Lacan, we lose our unity with the mother’s body, the state of ‘nature’ in order to enter culture, but we protect ourselves from the knowledge of that loss by misperceiving ourselves as not lacking anything – as being complete unto ourselves.¹⁸

Whether the image serves as a ‘symbol’ of the monolith that is the culture of the medical world or as a ‘reproduction’ of an analyzed body through this fragmentation and abstraction, my question lies in how the representation of the body is read through the role it performs in each situation. Firstly, can it be said that a representation or image made by using medical imaging technologies is in effect similar to using just another form of camera? I would say not. Where video, film and photographic cameras have become forms of a relatively cheap and pervasive technology of imaging and were

never solely used as instruments for specialists, medical imaging technology is significantly more expensive, dangerous and involves the participation and expertise of a trained technician. Along with the invasive nature of the medical imaging technologies and the moral and ethical questions of the level of manipulation of the given image, are questions about whose property the finished image is. All of these add up to the function being very different.

Although not speaking specifically about medical imaging technologies, but images of the body in a contemporary world of digital imaging technologies and computer renderings, Belting suggests that within this relationship, imaging “[m]edia appear less as a go-between”, and more as “self-referential systems, which seem to marginalize us at the receiving end. The transmission is more spectacular than what it transmits”. If this is so, the question of where in all of this is the referenced ‘body’ becomes heightened as imaging technologies make images of greater complexity.

Paradoxically, in the world of medicine, we must necessarily find the body situated in the image, and yet as a ‘piece of art’, we must look for it in our imagination and re-configure it within its new context, letting it offer up a new set of issues. Echoing much of the theories of Roland Barthes in his work, *Camera Lucida*, Belting’s claim for the Iconic Presence

of images is that they ‘traditionally live from the *body’s absence*, which is either temporary (that is, spatial) or, in the case of death, final...[and that] they replace the body’s absence with a different kind of presence...[and when] bodies become visible in images, they use a vicarious visibility.” This lack of presence implies lack of discourse between the referenced body and its image, giving way to what Barthes would understand to be a ‘stereotype’.

“Usually the stereotype is a sad affair, since it is constituted by a necrosis of language, a prosthesis brought in to fill a hole in writing”.¹⁹

In Mona Hatoum’s *Corps Etranger*, this ‘vicarious visibility’ becomes entangled in a narrative of ‘foreignness’ and what it means to be ‘dis-located’ from one’s country or place of birth, the literal and visual pun in her work is significant.²⁰ In the work of Joyce Cutler Shaw’s *The Anatomy Lesson: Memory with CT*, the ‘vicarious visibility’ exists within a reflection on the condition of memory. The memory of the mechanism, in this case the photograph and the CT scan, makes visible the act of memory if we are to understand memory as being incorporated in the physical realm of the *brain* and the *head*, and understand memory as a visual phenomenon.

3. Analysis and Diagnosis – iii) A statistical quantity,

such as a mean or standard deviation of a total population, that is calculated from data and describes a characteristic of the population as opposed to a sample from the population.

With the objective of finding the possible discriminating attributes between looking at a medical image in a gallery dedicated to visual art and in a medical forum, I asked Oakland based curator, art collector and radiologist, Robert Harshorn Shimshak to describe his process and the different strategies he employed when looking at medical images and art work, both of which he has been doing for a considerable number of years.

“That’s easy” he said “I look at them both the same way – I look for what’s wrong with them”. He then went on to qualify this response with “but no one ever died of bad taste.”

The ease with which he answered this question and his conclusive statement seemed to verify a status given to medical images, a status that could not with the same credibility be transferred to the art gallery. Essentially, I took his answer to mean that art is a thing of value that must be assessed for its aesthetic qualities. If it’s good, or in ‘good taste’ then it has achieved that which makes it valuable, and if it’s deemed to be bad, or in bad taste then it has done no real

harm. However my inference from his conclusion is that aesthetic *taste* is not employed in diagnostic scenarios of the radiologist’s arena, in other words, the life and death scenarios of the medical world. Decisions about life and death, we are to understand, are not made solely on the taste of the reader of the images, the physician(s). In effect, are we then to disregard the importance of the act of making aesthetic choices in the ‘clinical’ world of medical imaging?

In the world of Science, it has been well established that there are ‘sound evolutionary reasons why we may find particular shapes and patterns in nature or art pleasing to the eye’²¹ because with a bi-focal centric vision, our *focus loei* responds to things that look familiar in proportion to us and on which we can focus, and which strikes us as harmonious and ordered. When British scientist Rosalind Franklin produced an x-ray image of the structure of DNA for Watson and Crick to then build the model, they are frequently quoted as saying that they knew it was the right structure, because it ‘looked’ right²², and this may well have had to do with the structure being organized in parallels and pairings.

In 1996, British artist Helen Chadwick (1953-1996) was offered the opportunity to work with the Assisted Conception Unit at King’s College Hospital. The resulting work was a series of luminous photographs of human embryos displayed like

‘delicate jewels’.²³ She gained donor consent via the Human Fertilization and Embryology Authority, and it was during the course of making this work that she found it intriguing to note that the doctors selected which embryos to implant on the basis of an aesthetic appreciation, in particular they chose those with the best *morphology* and the *most rapid division*.²⁴ Dr Virginia Bolton of King’s Hospital in London, pointed out that there was no clear evidence to support the making of this choice, simply that it ‘felt’ appropriate.²⁵ No doubt, scientific and medical participation is intrinsically called for in this choice making, however this intuitive approach relies on a pathology of imagined and anticipated futures for these embryos, involving a less than disinterested eye, and possibly an aesthetic appreciation for a harmonious vision of the future of the human species.

On the subject of evolutionary theory, Harvard paleontologist and educator, Stephen Jay Gould (1941-2002) made one of his largest contributions to science as a leading spokesperson on the subject of looking with an objective, diagnostic eye:

Objectivity cannot be equated with mental blankness; rather, objectivity resides in recognizing your preferences and then subjecting them to especially harsh scrutiny – and also in a willingness to revise or abandon

your theories when the tests fail (as they usually do).²⁶

This offers a very clear distinction between what happens between the process of diagnosis and analysis. If the diagnosis can be said to be undertaken ‘objectively’ and yet ‘residing amongst recognizable preferences’, the job that analysis must do is to make sense of those preferences, and to find the relevant context in which those preferences should and could be employed. This conscious choice of editing and decision-making, of course also resides in the art world, however the public vision of the work involves a certain random factor that cannot be so easily controlled, or can it?

It would be impossible in the forum of this thesis, to say anything on the subject of medical looking without reference to cultural theorist Michel Foucault, and using in particular chapter seven of Foucault’s *The Birth of the Clinic* the questions engaging diagnosis and analysis, take place around the discussion of the act of ‘seeing’ and the experience of ‘knowing’.²⁷ Within these medical paradigms, Foucault has positioned the ‘gaze’ as being the pivotal and decisive action that differentiates these positions of ‘*seeing*’ and ‘*knowing*’. In this chapter, the ‘gaze’ is initially spoken of as an ‘observing gaze’, which:

... refrains from intervening: it is silent and gestureless...The

correlative of observation is never the invisible, but always the immediately visible... In the clinician's catalogue, the purity of the gaze is bound up with a certain silence that enables him to listen. (p. 107)

Corroborating this thought by quoting Corvisart from his work, *New Methods for Recognizing Chest Illness*, the idea of listening is a strongly prevalent one, first and foremost as a medical intervention with the assistance of a stethoscope for diagnosing the ills of the patient, but also as a practice to acquire the relevant information through discussion with the patient.²⁸

How rare the accomplished observer who knows how to await, in the silence of the imagination, in the calm of the mind, and before forming his judgment, the relation of a sense actually being exercised!²⁹

Translating this methodology of the 'accomplished observer' into a gallery, the emphasis is on the visual dynamic between the *diagnostic* understanding of the immediately visible image that one sees, and the ability to *analyze* its aesthetic components. Not wanting to reinforce an ideological position towards a piece of art in the mode of 'looking for what's wrong with it' offers up the ability to respond to the image and to look at its organization and strategy for use, and as addressed in the Introduction, to employ a 'healthy doubt'. It is here that the 'aesthetic judgment' resides, and can

be implemented in many other fields than solely that of the medical. The organization of the Body implies a social and a personal body, but it also calls into question, with the technologies used to survey the body, the location and performance of the body.

The strategies of using the implied Medical Body in the setting of the gallery, a setting usually dedicated to mental and sensual stimulation, also engages the piece of work in a question of strategy which acts as a mediation, "an obligatory passage point linking the interior world of the organization to the exterior worlds of the environments in which it operates for all but the most hermetically sealed organization."³⁰ Questions arise as to the nature of the spectacle, and the moment of slippage between thought provocation and entertainment and information. Where one might have a trusted family physician, the artist might have representation by a gallery that mediates and strategically organizes environments for display. These galleries that emerge as representative forces, respond to the work that has already been produced and make their decisions with this evidence in mind, as well as making decisions that will benefit them as representatives, both through financial recompense and a symbiotic increased status of reputation.

However, concentrating on the physicality of medical imaging

technology being the strategy of mediation, two things are of interest for the sake of this paper. Firstly, the deliberation within the Cartesian split between the mind and the body and then the role of ethics and morality that call for the placing of the intermediary of medical imaging technology to detract from the visceral experience. The world of medical imaging calls upon a Utopian existence, as 'the plan [which] promises perfect futures at the expense of imperfect presents: the plan is always a negative diagnosis of today's reality; it describes the actual situation as a deficiency, an imperfection, as negative, as a lack of something or other, in order to promise a better, utopian future.'³¹ Can it also be said that the world of art looks to the next piece of work as being the one that will be more 'perfect' than the last? I suggest that if this was the case, then there would be few galleries that would want to take on the role of representative, and so we have art collectors like Robert Harshorn Shimshak, waiting until his choices have been verified by the intermediary galleries, that act as the technical instruments between the diagnosis and the analysis.

4. Knowledge Invents the Secrets and Doubts – iv) a psychoanalytic tactic, other than interpretation, used by the analyst to further the patient's progress

Terrorist discourse is not necessarily bound up with the peremptory assertion (or the opportunist defense) of a faith, a truth, a certain justice; it can simply be the wish to accomplish the lucid adequation of the enunciation with the true violence of language, the inherent violence which stems from the fact that no utterance is able directly to express the truth and has no other mode at its disposal than the force of the word; thus an apparently terrorist discourse ceases to be so if, reading it, one follows the directions it itself provides, re-establishing in it the gap or dispersion, that is to say the unconscious.³²

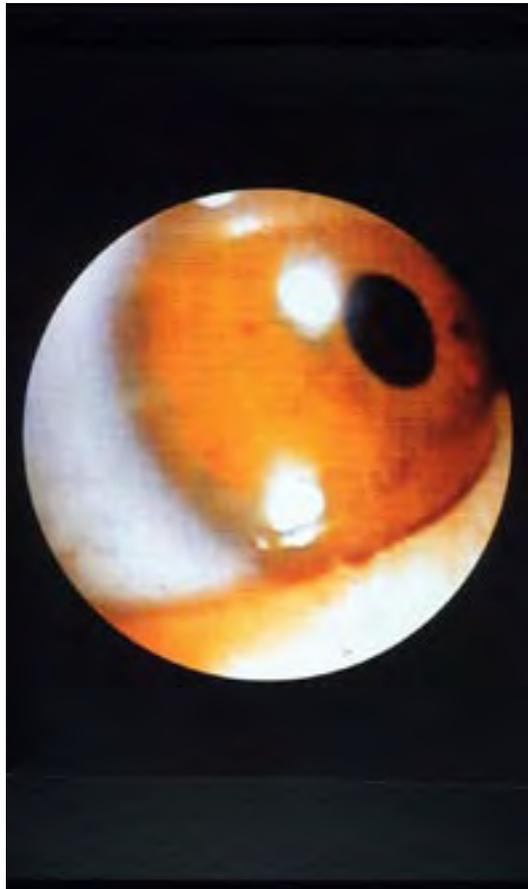
Before the days of medical technologies such as the stethoscope and the contemporary technologies used for the making of *Corps Etranger*, the endoscope, and for *The Anatomy Lesson* the Computerized Tomography scanner, the core methodology for medical knowledge was the visceral investigation of corpses. As seen in the Chapter 2, this was largely due to Vesalius and his influential lessons in anatomy, where much was to be learnt by the sensual experience of the student. However, the transition to the investigation of the living body was wrapped in a code of ethics and morality through pervasive religious and philosophical beliefs that brought about the Age of the Enlightenment. It is at this time predominantly when the Western *body* was divided into hierarchical structure

of mind over body - an Age that steered itself towards an organization of the body that disavowed 'pagan' superstitions that connected the body to the earth and the senses, and looked to the locus of 'control' through *knowledge* via the mind, and by inference, *perception*. The conceptual division of the mind and the body is attributed to French philosopher Rene Descartes (1596-1650), and much of his contributions to the topic of the mind's relationship with the body, rests with issues of doubt - a doubt that he speaks of extensively in his *Meditations* (1641). These doubts were heightened within his meditations and provided a discourse that was exemplified by his desire to have only true beliefs. Descartes' first experiment in locating doubt was by deliberating on an obvious credibility problem with our senses, namely that of *optical illusions*. Descartes began doubting the reliability of his senses by noting that we perceive distant objects to be much smaller than they really are.

Ironically, while Descartes was establishing this doubt in our sense of perception, the medical field was driven by a moral obligation to maintain a 'civilized' distance between patient and physician, between the unorganized and *ill* body of the patient and the organized *wellness*, of the medical profession, which necessarily led to ever more

technically complicated strategies to view and treat the body. As Foucault states,

The stethoscope, solidified distance, transmits profound and invisible events along a semi-tactile, semi-auditory axis. Instrumental mediation outside the body authorizes a withdrawal that measures the moral distance involved; the prohibition of physical contact makes it possible to fix the virtual image of what is occurring well below the visible area. For the hidden, the distance of shame is a projection screen. What one



cannot see is shown in the distance from what one *must not* see.³³

Thus the clinician was endowed with the observing 'gaze', that through the act of listening became the 'clinical gaze' and as Foucault intimates, the 'clinical gaze' has the paradoxical ability to 'hear a language as soon as it perceives a spectacle.' (p. 108) At this stage it is possible to understand the role of medical imaging technology as having this 'clinical gaze', having the ability to 'observe' without seemingly intervening, and creating its own language through listening. However, with closer examining of how contemporary technologies work, it becomes clear that unlike what might be being referred to here by Foucault when talking about the stethoscope and the ear of the physician, imaging technologies today, whether they bombard the body with sonic waves, radiation or literally enter the body through an orifice - surgically rendered or natural - the effect is intervention.

Is it possible to integrate into a picture, that is, into a structure that is at the same time visible and legible, spatial and verbal, that which is perceived on the surface of the body by the clinician's eye, and that which is heard by the same clinician in the essential language of the disease? ³⁴

To look at this particular quandary, Foucault speaks of the methodology used by Fordyce and Pinel who separated onto an x axis and y axis,

the symptoms and the 'significant values that these symptoms may assume', in the case of Pinel, or in the case of Fordyce, the influences that may be responsible for the symptoms, for example, 'the climate, and the patient's temperament' and how they responded with individual parts of the body, in an 'analytic geometry'.³⁵

Thus each visible segment assumes a significant value, and the picture certainly serves an analytic function in clinical knowledge. But it is obvious that the analytical structure is neither produced nor revealed by the picture itself. . . It makes nothing known; at most, it makes possible recognition.³⁶

The question of recognition still holds some complexities, both in the medical and the art world. If we could be said to indulge in the ability to recognize then it seems we are to trust our perceptual capacities. However, issuing from the making 'concrete' the fragmented body it necessarily calls for recognition of not only what is visible directly, but what surrounds spatially and temporarily what is surrounding the image to make the 'fuller' picture.

Amelia Jones's essay "Televisual flesh; activating otherness in new media art", in *Contemporary Art Magazine* (1.1.2004), looks at the quality of the 'picture' through the implementation of the screen; the computer screen which is now incorporated as a matter of course into various forms medical imaging, as a monitor.

The screen is less of a site of unity, however, than a site of disruption and displacement, marking intersubjectivity as a complex process that is never resolved but that points to the dependence of our sense on those we ‘see’ (or otherwise experience), on our ‘others’. In the self-display that constitutes our enactment of what we call our “individuality”, the subject Lacan argues, “gives of himself, or receives from the other, something that is like a mask, a double, an envelope, a thrown – off skin”³⁷

Although it is tempting to make an assessment that through this excessive mediation of technology involving reconfiguration through the process of the screen and the workings of the mechanisms employed, the material body has become ‘unknowable’, what it seems to be replaced with is crucial are the perspectives addressed through this use of imaging, that essentially view the body as a form of script, an orthographic method of visualizing. Whereas ‘life drawing’ accentuated the three dimensions of the human anatomy as displayed through subject and object, medical imaging technologies such as the CT and the images produced through an endoscope, necessarily picture the body as the camera sees it – in effect from above, and captures the outlines as an architect would draw a blue-print for a building, mapping the salient points within the frame. There exists none of the textural

materiality of graphite on paper, or the indentations from marks made and erased. The necessary illusion is projected.

Jones argues however, that artists who use computer screens and televisual apparatus, “perform their embodiment as resolutely technologized, but as technologized in such a way that their flesh takes its texture and materiality from that of the televisual monitor, its depth from the profundity suggested by the puncture-wound opening of the monitor in the dark space of the room or gallery”.³⁸

5. Foreign Bodies – v) A factor that restricts what is possible or what results. Not in a technical use.

In 1994, a close gay male friend and I embarked on a trip round Europe. Our mission was to visit every public gay bar in Paris, Berlin, Amsterdam, Prague, Budapest and London. Our curiosity stemmed from a desire to be ‘European’ and thereby take advantage of our easily available neighboring countries. Both being British born, traveling with our British passports³⁹ guaranteed easy and substantial access to all the cities we wished to visit.

Whilst visiting many of the gay bars in the various cities of destination, it began to be clear to me that although not claiming that they were male only spaces, they did not provide

toilet facilities for females or trans-folk and I increasingly felt more uncomfortable using their facilities, if I was allowed in at all. Whilst in Paris, I took the opportunity to see *Corps Etranger*, a new video installation by London and Paris based Lebanese artist Mona Hatoum, which was in situ at the Centre Pompidou. The video was installed in a white wooden cylinder structure with two narrow entrances and it seemed to me uncannily resembled a J C DECAUX public toilet, a design that was springing up all over Europe

at the time, and have since become international establishments. The JC Decaux Group, were the designers of the first freestanding public toilet to incorporate sensory devices in the ‘cubicle’. The sensory devices monitor the weight of the occupant as they step of the cubicle floor. The doors to the toilets are automated and immediately the user enters somebody in the Decaux’s surveillance offices, offices that are placed in every town and city in which these toilets now exist, monitors them. For anybody who has ever wondered why people seem to be able to stay in these devices for inordinately lengthy periods, an employee of the company recently told me that after a while the computer switches off, therefore the occupant becomes ‘invisible’ to the monitor.



I have never heard Hatoum specifically refer to this type of toilet, however she does state that the first ideas of *Corps Etranger* occurred to her while she was still at art college fourteen years prior to the piece being made. She had found herself motivated by the desire to survey people in toilets in cafés and bars and then play it back to them by a feed into the bar area, while they would be in- taking more liquid.⁴⁰ Her desire was also to play with the idea of being able to see through people's bodies. The subsequent piece that emerged was entitled, *Don't Smile, You're on Camera* (1980). It was performed at the Battersea Arts Center in London and provided an obvious response to the craze for Candid Camera, and a precursor to today's so-called 'Reality' Television shows. Throughout the performance of this work, Hatoum went through the audience videoing everyone, including herself whilst behind the scenes and out of sight, another camera was feeding a live link through to the monitors in front of the audience. Through this second camera emerged still images of bare torsos as well as X-ray images of torsos. The transmitted images that the audience then viewed on the monitors was of themselves morphed with these unfamiliar images to give the suggestion that they were literally being 'stripped' by the camera. "There was an underlying eerie feeling in the way the camera was able to materialize a fantasy of seeing through the body," says Guy Brett, writing a survey of

Hatoum's work in 1996. Hatoum says that she also enjoyed the possibilities of 'gender-bending' within this work. Morphing these images, the question of gender and bodily functions had become confused and disorientating for an audience who would have perceived their identity through symbolic representation, whether through their mode of dress displayed or symbols and iconology associated with the entrance to public lavatories. In addition, she used this work to draw their attention to some of the issues involved in covert and not so covert surveillance activities that were increasingly appearing in London at the time with the advent of CCTV.

Hatoum succeeded in making the audience feel their safe communal space in the theatre, had transformed into an uncontrolled 'public arena' by broadcasting live, her audience on television monitors. Other than the fact that the medium of television and live broadcast is necessarily uncontrolled and pervasive, the position of recognizing yourself on the screen and seeing yourself distorted through an-other's vision, works to exaggerate the distance that could be given to recognizing the disparities between subject and object.

Distance becomes responsible for creating the gap between spectator and spectacle, for separating subject and object, for putting the first in the position of transcendental mastery and rendering the second inert. Distance allows the subject to treat

the Other as object; in short, it makes objectification possible. Or, as a French fisherman summarized these arguments to a young Lacan who was looking at a sardine can floating on the surface of the sea, years before he became a famous psychoanalyst: "You see the can? Do you see it? Well, it doesn't see you!"⁴¹

Hatoum's audience however were very clear that they could be seen, and however incongruous the combination of images appeared, for example a naked female torso imposed over a torso belonging to a suited man, being surveyed however obviously in addition to a manipulation of the broadcast image, was tantamount to an invasion of

their privacy. As Hatoum reflects upon that piece she remembers how, "People got up and walked out of that performance, asking me why I was doing this to them. I remember a review that described one of my works as 'another macho performance by Mona Hatoum'. At the time, people were talking about the gaze being a male thing and I was insisting that it was not necessarily so".⁴² It seems that in the relatively quiet suburbs of London, where mothers and wives gossiped over the fence, and fathers and husbands met for a 'brew down the pub', and the local policeman is constantly on the watch, and a friendly physician has access to any part of the body they see (un)fit, Hatoum did not convince





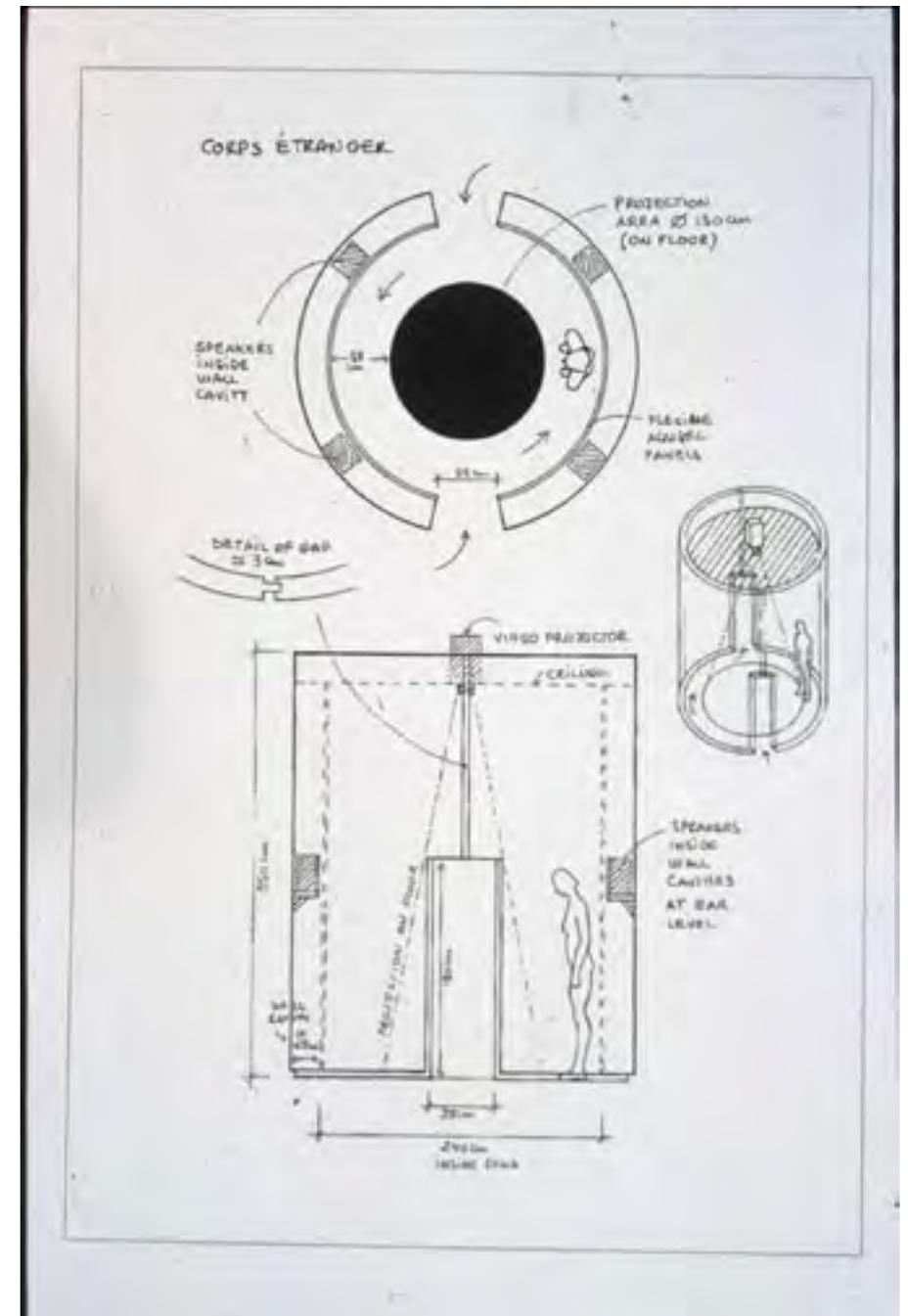
her audience that as a strange foreign female artist she had the authority to objectify their bodies, as they were objectifying hers, if they had been given a chance to, as they sat in their seats and watched her perform.

In *Corps Etranger*, literally translated as 'foreign body', Hatoum opted to turn her gaze and questions of surveillance upon herself. One of the first things of note is that the piece exists as being 'invisible' from afar, other than the sight of the structure within which it is contained. The video is heard but not clearly visible without actually entering the installation, or at least standing right at the entrance.

As well as realizing her work as making poignant political points about lack of the strategic entry into countries by nation states and empirical powers, I also had become aware of the fact that the experience was becoming rather like waiting in a queue for the use of a public facility, and the intimacy set up an within viewing the work and sharing the space with the fellow viewers, of which there were about five as well as me as I remember, made the whole experience of the piece somewhat frustrating and awkward. I became increasingly aware that I was watching to see what others are

looking at and estimating a time when they might leave and debating with myself whether I should come back

later. Once inside the installation, the image projected on the ground was not immediately available to see as





other bodies interacted with the light source, but gradually as the old wave of spectators and inter-actors moved out, the projected visuals became clearer.

At the time, the Media of Art Journalism had termed this as a 'pornographic' piece among many things, as well as informing the prospective audience that they were going to see, an investigation of the artist's body through two recording systems, *endoscopy* and *coloscopy*, for visual depiction of the outside of her body and then the two orifices in turn, the vagina and the colon. Using these imaging technologies does not

detract from it functioning as a work of art, but revealing the 'clinical' aspects of the body infers that the medical imaging industry has played a large part in how Hatoum is depicting and viewing herself. Etymologically, the word 'endoscope' can be reduced to its derivation from the Greek prefix *endo*, meaning 'within', and the verb *skopein*, meaning to 'observe'. The visual technology involved in the endoscope often positions it as being the most 'faithful', in that there is less interruption between the observed and the observer, the camera. But the endoscope does not just function as an instrument used to just 'look at

something', but rather the emphasis is to 'observe' with intent.⁴³

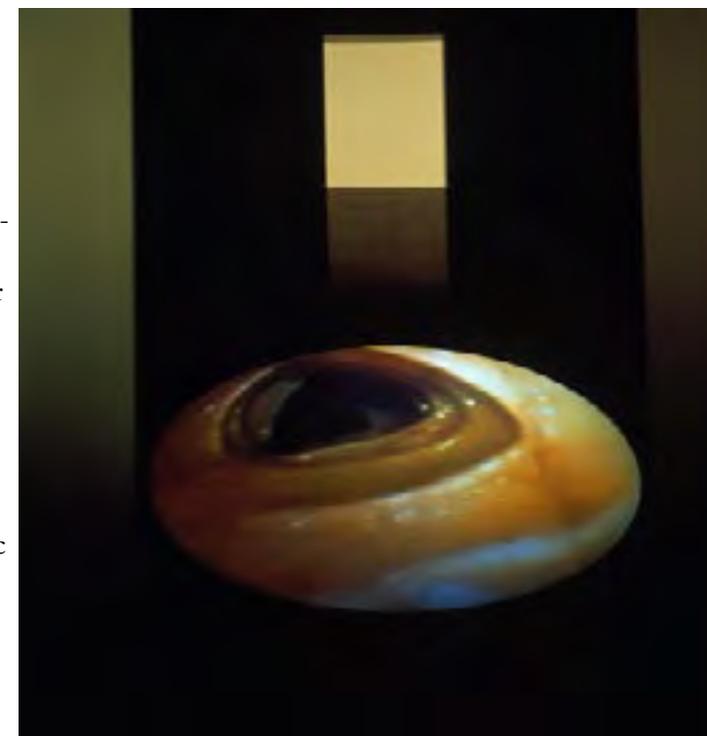
The image, when I at last had a clear view, was something akin to an obese intestine. Hugely out of scale, I was not even sure if the organ is human, so relied solely on the textual information given in the catalogue and wall plaque. As the video looped and my fellow art aficionados and I, started to see footage shots of the outside of the body, the endoscope literally seemed to skate over the landscape of her body and retreat into an available orifice. Was this an act of penetration in to a 'foreign' body or an act of retreat into an age-old creation myth back to the womb? This would depend on who was on the other side of the vision mechanization, and then the thorny question of whose or 'whats' vision was this?

An 'obscene' body in two senses: as an agent of pollution and sexual threat but also a body beyond-the-scene, at the outskirts of the visible, merging interior and exterior. Providing the viewer ultimately with three disparate viewing experiences at the same time: the aesthetic gaze, the clinical gaze and the pornographic or voyeuristic gaze.⁴⁴

Understanding the meaning of 'obscene'

as beyond accepted standards of decency or modesty, or repulsive and/or disgusting, or so vast to be objectionable or outrageous, Rijsingen's reading seems wholly reliant on the image available, and thus she is able to assign her 'viewer' the different 'gazes'. Curiously, there is not an option for Rijsingen of whether the 'questioning', 'doubting' or 'empathic' 'gaze' might be deployed, and I wonder whether this is a conceit of art journalism that is employed just because it represents a woman's organs, or is it so recognizable as to be established with the 'macho' gaze that Hatoum questions as being a male prerogative?

Van Rijsingen's suggestion is, that it is the visible projection that is then viewed as the 'obscene' body, not the



body that exists outside the image, but the fragmented and distorted body that is perceived by the medical imaging technology of the endoscope and coloscope. However, there is something more complex at play when considering what part the imaging technology of the endoscope might play. An instrument of investigation for the female body, which is generally employed to detect anomalies within the uterus and vagina of the 'subject', is under the constraints of all that is the technology within the manufacturing of the vision: the camera; the fiber optics that light up the cavities for the camera; the transmission relay; the visual qualities of the monitor and then the projector and of course the quality of the tape. All of this occurs before the visual image is even accessible for any human interaction, especially in the art context. We are not literally experiencing a 'real time' investigation of the body of Mona Hatoum, but a stylized and edited version of what she wishes to show us, after all these decisions of perception have been established. An image that is steeped in nostalgic evaluations by not only the artist, but also, the memory capacities of the technologies embedded in the microchips and the electro-magnetic tape of the video.

All of this does not mean that the image at my feet is not aesthetically and visually lush in color and form, and being aware that this is a

representation of a body, still makes it uncomfortable to step on the projection, but only for a second. As I stepped onto the image projected, I wanted to know whether I would feel what the camera sees as it twists and turns around one tube and another, but I felt no movement. The image size prevents me from really being drawn into the cavities, it is more a case of watching the scene or 'obscene' unfold before me, whilst my shadow is cast across it implicating me as a 'pene-traitor' not of the orifices, but of the image and the light source. I become increasingly aware that others were entering and I am blocking their view.

Corps Etranger has been given many readings by various art critics, each concerned with the question of what it means to be using the body as reference in the twentieth and twenty-first century. "The question is what kind of body are we returning to?" says Rijsingen, "Is it a site of identification and identity - or - of disidentification, and subjective volatility? What we see is definitely not a familiar body, easy to identify with." When standing in the work, one becomes increasingly aware of the other bodies in the confined space, more than the body that is projected on the floor after all, it is not in the least bit clear that it is Hatoum's body. What is perhaps possible is that it is stock footage of an anonymous body that has been appropriated by the artist as

a metaphor for 'dis-identification', however, this is not what Hatoum says happened, as she claims the 'foreign body' as her own, implicit in the process. As I bore in mind the collusion that she had with the image, questions then arose as to what we should read as an analysis of her work and why her desire to use medical imaging technology as a device of perception. As she explains the process of how the work came to be in an interview with Claudia Spinelli in 1996, she reveals a great deal about how she knows the piece.

"I could not, at the time, get any doctor to agree to do the endoscopic examination on me...so it was only in 1992 when a curator from the Centre Pompidou, who wanted to do a video production with me, actually managed to find an endoscopy specialist who agreed to film my insides that the whole thing became a reality". From referring to herself as the subject of the piece here, her stance then changes, a couple of sentences later.

There is basically one sweeping shot surveying the surface of *the body* in extreme close-up in a claustrophobic way. *We* then follow the camera as it penetrates inside *the body* through various orifices into *the* stomach, intestines, vagina...I wanted to give the feeling that *the body* becomes vulnerable in the face of the scientific eye, probing it, invading it's boundaries, objectifying it...on the other hand when *you* enter the room, in places, *you* feel like *you* are on the

edge of an abyss that can swallow *you* up, the devouring womb, the vagina dentate, castration anxiety...there is a sense of threat which is something that is present in a lot of *my* work.⁴⁵

The curious fusion between autobiography and documentary is extremely evident. Who is the Body and who is it that she is referring to when she refers to "you entering the room"? There seems to be an intrinsic need to put a 'subjective' stance on the piece, and yet the many layers of perception, afford no easy language of subject and object. As she states, she wanted to 'give the feeling that the body becomes vulnerable in the face of the scientific eye', however what seems to be occurring, if we can read 'scientific eye' as 'medical imaging technology', the body in fact becomes less than vulnerable. It has become an object and icon, certainly in the perception of the 'scientific eye'. A universal monument that is devoid of feeling and sensation under scrutiny. At least this would seem to be how the projection works. The sound track that accompanies the piece, does not portray the discomfort of the investigation but a rhythmic breathing and heartbeat that emanates from deep within 'the Body'. The lack of odor that seems connected with the image and the lack of sensation that is connected with the image for the viewer within the cylinder, add to the affect that the body is that which is self contained in the image, and exists only there as representation. The



viewer, only seeing fragmentation of a body in the image and unable to see their own body except in silhouette, is reminded of the lack of their own unity of structure of presence as they are by viewing the lack of the entirety of the other bodies in the space.

There looms, within abjection, one of those violent, dark revolts of being, directed against a threat that seems to emanate from an exorbitant outside or inside, ejected beyond the scope of the possible, the tolerable, the thinkable. It lies there, quite close, but it cannot be assimilated. It beseeches, worries, and fascinates desire, which, nevertheless, does not let itself be seduced. Apprehensive, desire turns aside; sickened, it rejects. A certainty protects it from the shameful – a certainty of which it is proud to hold

on to it. But simultaneously, just the same, that impetus, that spasm, that leap is drawn toward an elsewhere as tempting as it is condemned. Unflaggingly, like an inescapable boomerang, a vortex of summons and repulsion places the one haunted by it literally beside himself.⁴⁶

The shadowy specter of the traces of the body in the space, along with the enforced engagements with the other bodies in the space along with the anamorphic anachronisms of the endoscope, allow the body to exist in a variety of forms for contemplation.⁴⁷

With respect to the ‘scientific eye’ that the art historian might bring to the reading of the work not tempted by a ‘diagnosis’ of the body workings, but looking at how the work can be ‘analyzed’, *Corps Etranger* fits neatly into a trope of many an artwork. For instance, there is more than a passing reference to Hans Holbein the Younger’s famous painted anamorphosis of a skull in *Jean de Dinteville and Georges de Selve The Ambassadors*⁴⁸: 1533; London National Gallery.⁴⁸ As in the painting, the skull is only a visible ‘skull’ when the viewer stands in a specific place, the Body of *Corps Etranger*, is only a visible ‘body’ when inside the wooden structure.

Anamorphic projection seeks to deny the usual conventions of ‘looking’ where the observer views an image frontally from a limited range of

viewing angles. It is a technique of disruption, distortion, and ‘eccentric’ viewing...it is an effect that is explained by – but seeks to undermine – classical methods of perspectival representation. An image subjected to this class of perspectival distortion still depends upon a classical (Euclidean) paradigm: light travels in straight lines; when light reflected from an object intersects a planar surface...an accurate representation of the source object can be described. The crucial difference from the classical perspective is that an observer positioned to receive the undistorted

view of an anamorphic image would be radically oblique angle to the picture plane – and not incidentally have one eye shut to overcome the corrective effects of binocular vision. This monocular, self-conscious gaze – exaggerated proof of the ‘cone of vision’ – that explains classical perspective – presumes a subjective, eccentric view point that reinscribes the source of vision in the physical body.⁴⁹



"Djinnery / Anamorphic Skull" © 1992 Jane Cutler Shaw

Photo credit: Full Skinbody

6. “We are all variations of the homo-sapien”⁵⁰ – vi) A distinguishing characteristic or feature. Not in technical use.

Joyce Cutler Shaw’s *Anatomy Lesson – Memory with CT* directly speaks to a relationship between photography, drawing and mapping in the context of historic and contemporary medical imaging practices. Forging a strong relationship between history and memory becomes all-important. After the death of her mother, Joyce Cutler Shaw decided that she needed to focus on what the passage between life and death meant and looked like, and in fact if there was such a thing called ‘death’. Her focus was within the transition that occurred within the body between these stages. On applying to UCSD Medical School, as an artist in residence, she decided that she wanted to take anatomy classes. UCSD is one of the few medical schools that have a body donation program, so that the students can work with new cadavers. Shaw was submitted to a grueling interview, which she informed me was not only to see whether she would be able to emotionally cope with the experience, but also very much for the new cadavers during their time of passage. This time changes from body to body, but there is a tentative three-day period before the rigor mortis has relaxed and the body has released all fluids and gases. Then the body begins to decay, but as Shaw remarked

she was drawn to the mysteriousness of the experience and started to make connections to tales of Christ’s Resurrection. Vesalius himself, it was rumored was denounced to the Spanish Inquisition, for performing an autopsy on a body while it was still alive. It has been twelve years that Shaw has been drawing the human anatomy and she proclaims herself to be constantly surprised at what life and death has to show. “The History of Anatomy”, says Shaw, “is the reflection of human representation”, as we talk about the contemporary proclivity for less dissections to be carried out in medical scholarship, in favour of the more distanced and sanitized ‘prosections’, which can be learnt over the internet and through the computer – human interface.⁵¹

One of the crucial aspects of blending historicisms implied through medical and scientific ‘knowledge’ is embodied in a negotiation of perspective. Shaw’s *Memory with CT* is an image described by the artist as a photo collage. It depicts a disembodied head placed on top of a matt black background. A Computerised Tomographic scan depicting an image of a section of a brain, is placed in lieu of the identifying properties of facial features, such as the eyes, nose and mouth. The brain, says Shaw, is the ‘new frontier’ for identifying us as individuals, and these scans that enable a vision of ‘activity’ in the brain, are very often the testament to

our being alive, in the medical world. In the image, the head appears to be somewhat crudely ‘cut and pasted’ onto this matt black void focusing the viewer on what is occurring in the area of the head. The lines that segment the scan are echoed in the lines of the face that emanate from where the eyes and the oral region should be and the viewer of the image is drawn to the central part of the vision, the scan itself.

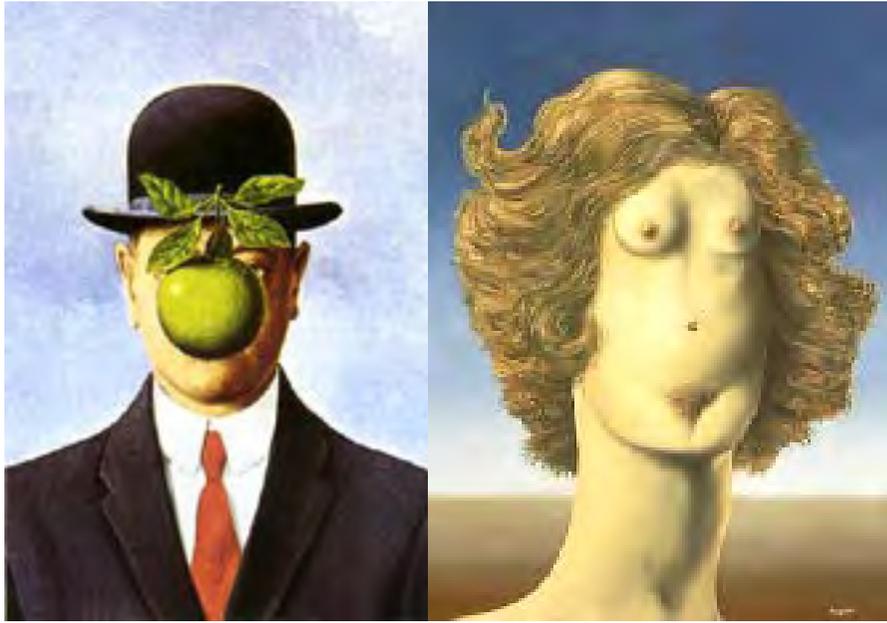
Although this was not an effect that Shaw wanted to see in the image, it reveals a reflection of perspective and depth akin to an early painting from the Renaissance period, and in particular 15th Century, Italian artist Filippo Brunelleschi and his employment of linear perspective.⁵² This centric vision, which places the viewer at the center of their perception places the object of the vision in a perspective envisioned by the viewer, where central and peripheral objects are understood to exist, but as we know through Descartes revelations about small things only ‘appearing’ small, optical illusions persist in the negotiation of distance and perspective, and therefore, are not reliable as ‘true’. The preservation of true distances is a desirable characteristic for the medical profession as it is for engineering and technical drawing and is heavily used for these purposes. This true distance is the objective vision. This objective perspective is otherwise referred to as ‘orthographic’, a term mostly used to

refer to the ‘right’ way to use language and grammar. In effect visually, it measures all distance as the same, thereby bypassing any subjective visual anomalies.

Orthographic drawings (plans, sections, and paraline drawings) can completely, unequivocally describe a building, a landscape, or an interior and are indispensable in designing, estimating, and constructing an environment.

Orthographic drawings are called objective for several reasons. The strongest reason is that they represent whatever is being designed as an object, separated from the viewer spatially and further separated by being a view that is impossible to perceive in reality. Such objectivity is thought to promote the unbiased, unemotional neutrality much valued in scientific and judicial matters. Phrases in our language like “becoming emotionally involved”; “taking it personally”, and “losing your objectivity” all exalt the kind of detachment or even disinterest associated with scientific neutrality and unprejudiced judgement.⁵³

Memory with CT is one image made for a book compiled by artists to image the human anatomy, however, on first sighting of the image I was struck by the perspective of art history that it talked to, more than it’s illusion to medical imaging, other than it being used as subject matter. Whereas, in *Corps Etranger*, the viewer is drawn



physically into the symptoms of being foreign and another, feeling invaded and still invading, The experiential element of Hatoum's installation, the fact that the image is moving and integrated in the situating of the perceiver, sometimes projected onto the viewer, sometimes completely obliterated by the viewer complicates the power controls exhibited in the work and the fact that the interactors are moving and historical moments are constantly changing, is crucial. Viewing Shaw's work, insists that the viewer must employ a 'gaze' of distance, and this is exactly Shaw's concern with the medical profession furthering itself and employing more imaging technologies that detract from any 'real' human interaction. In fact, when speaking to Phel Steinmetz, the photographer of the image of *Memory with CT*,

he informed me that the CT scans were from stock that he had re-photographed.

I took a series of document photographs and then re-photographed them, one at a time, on top of another photo of Joyce's face, which I also took. Our 'collaboration': Joyce designed and conceptualized the work; I photographed and printed them.⁵⁴

This distancing of the identified subject of the image exists similarly as with *Corps Etranger*, where it is impossible at certain parts of the video loop to tell whether what you are looking at, stepping on, reflecting is human, male or female, well or diseased. Among the ambivalences of Shaw's image, is whether the 'subject' of the image in this mode

of representation, is really the 'object' within the 'Still Life' or arrangement of objects. On the surface, the head that enframes the CT scan resembles that of a white female, over the age of fifty and on the surface, the shape of the CT scan resembles a half of the inside of a shell of a walnut. The image of the brain, is semi-familiar only if we are familiar with the visuals made by Computerized Tomography and know it to be used to image slices of the brain. As the gaze of the observer is drawn into the image, the area of concentration in the face, where all the perspectival lines converge, is the darkest and densest area of the slice. This is the 'central' area where the nose would normally be pictured, and the area where Shaw presents an insight into the brain segment that takes on a semblance of an archetypal vaginal area. The overall effect of the image, I take to overtly refer two art works by Surrealist painter, Renee Magritte entitled *Son of Man* (1964) and *The Rape* (1945). Both of these paintings by Magritte use the device of re-inscribing the features of the face with iconic forms used to refer to psychological 'make-up'. Rather than portraying the image of an apple, the mythological apple that caused the downfall of Man in Paradise, or the female torso, which is portrayed as ultimately connected to the mythology of Psyche, Shaw has re-inscribed the features of the face with an image of an anonymous segmented brain, redundant and inactive.

Shaw [potentially] makes with Magritte's images enable the sense of violence and betrayal to be processed through her use of the image of medical intervention through imaging and examination. Unlike *Corps Etranger* the sense or at least the promise of revelation is not present, the necessary engagement is with obscurity. Wherever the viewer physically stands, the image remains the same, and so the process becomes more of a mental revelation.

Since the earliest days of the X-ray, it has been the disembodied hand that has been the symbol or icon of medical imaging. The first X-ray image taken and shown publicly, was that of Frau Berthe Roentgen's hand, and became emblematic for its power to suggest the functional value and the creative value of the new technology. Without it's identifying



external attributes, except the infamous ring, the objectified hand took on a fetishistic role, iconic – that is to identify it as an anachronistic image that exists in a collective mind of a society and represent something, in this case we could say, the power of her husband’s insight. The hand being stripped of any evidence of personality or proof of life leaving the skeletal image identifying the hand as post-decomposition, and having been dead for some time exemplify the absence of Frau Roentgen from her hand.

Joyce Cutler Shaw was not overly familiar with the medical world when she became the artist in residence at the Medical School of California, University California San Diego in 1992. Whilst at the Medical School, she observed the newest techniques of imaging along with the students, medical profession and inventors and realized her different perspective. Her work creates the tension between personal contact and technological intervention. Whether it be through the drawing of the cadaver, the act of drawing which she feels to be an act of empathy, or the photographic ‘double’ portraits, using traditional photography as a method for classifying and displaying medical conditions.

Mixing the digital in the Computerized Tomography scan, and the analogue in the photographic, Shaw offers up the question of the ‘programming’ of

an image, and what information is included and subsequently, what is excluded. This process of editing is fundamentally involved with the process of remembering, but is it the technology’s memory and not the memory of the human subject of the image that is of importance? She identifies the technology as being the site where information is retrieved from specific programming commands involved in the ‘scan’, as opposed to the recall of information, which occurs in the functions of the brain. A “storehouse of selective memories that are remembered as an eclipse of an event”, can be recalled, through the functioning brain. The camera, on the other hand, can be used to make an image that evokes a specific memory the workings while digital technology depends on trying to make the technology forget, and the brain has difficulty remembering.

In a computer, once a file is created, it never disappears except when explicitly deleted by the user. And even then deleted items can usually be retrieved.⁵⁵

Questions of storage and filing become crucial, as do issues surrounding the questions of privacy and freedom of information. Shaw’s work presents the digital image to be about the nature of presence, trace and remembrance. The Computerized Tomography appears as an alternative ‘mapping’ of the territory of the face, not the memory that is visible in the imprint of the

time passed that is usually available in the face through texture of the skin, the brightness of the eyes, the expression of the face, in other words, the memory that is performed in the features of the face. Shaw takes the face and covers it with an anonymous picture of memory ‘in action’. That is of course, if we are to conceive of memory as being located physiologically in the area of the brain, and more specific and mysteriously, in certain sections of the brain.

In contrast with the endoscope, which has already been described as being deemed the most ‘faithful’ of the medical imaging technology, the CT scan’s process of looking is highly complex. The contemporary CT scan creates, digitizes and stores in the computer, the X-ray shadows from a large number (typically 700 to 1500) of perspectives, all different. Its computer then works backwards from the data to ‘reconstruct’ mathematically the spatial distribution within the body of materials, or more precisely, the spatial distribution of the X-ray attenuation properties of the materials responsible for this particular set of 700-1500 images. Computers and digital representation of images are essential for CT scans. Once it’s in digital form, any image can be mathematically manipulated to improve its appearance and communicative usefulness. Parts of all of it can be enlarged or reduced, rotated, inverted, stretched or

transformed from a positive image to a negative.

Using CT scans, attributes the image with a sense of fragility and imperfection, and implies a course of treatment is necessary. This is only reinforced by the static ‘case study’ feel to the image. Devoid of emotion the sample of memory we are offered is unrecognizable. Where then can the viewer proffer empathy or find their own connections? The experience element is detachment as the image appears in an artist’s book. There is not the ‘danger’ of involvement implied in Hatoum’s work. Here we are encouraged to engage in an intellectual and critical exercise, to engage our minds *about* our bodies. The aesthetic gaze is employed heavily for this is not a functional book, to study for medical practice ability. However the image on it’s own, when presented in a less organized forum, has more to offer I suggest, with the enforced alienation and the fragmentation of the imaged mind from the body of work. This re-identification with the image of the self which is unfamiliar and alienating, is akin to placing oneself in exile, that is to say, the placing of the self away from the comfort of the recognizable and ‘familiar’. This becomes a vital question when considering who controls the image. Again, we are daunted with the potential that in order to do ‘justice’ to the images emerging with these technologies, we must be in a position to operate, and

/or potentially ‘build’ the methods of visualization. We must all become expert in these new visions if we are to be able to recognize ourselves.

By 1981, there were more than thirteen hundred CT scanners in the US. The National Institute for Health would soon pronounce them ‘safe, powerful and cost effective’.⁵⁶ CT was then called CAT, the ‘A’ standing for ‘assisted’ or ‘axial’ depending on who was doing the explaining. It was shortened to CT by the end of the 1980s in medical circles, though is still called CAT by much of the public. Although many knew that CT scans were produced by X-rays, few understood that X-rays in CT scans do not make any initial picture, much less an image on film. Instead, CT scanners send collimated beams of X-rays through the body to an array of detectors that send signals to a computer for processing.⁵⁷ The computer’s program turns the signals into pixels on the video monitor. The image can then be enhanced, colored or made larger or smaller by the computer. The CT scan enabled almost every kind of doctor, from brain specialist to pediatrician, to look deep within the patient without inflicting pain.

Psychiatrists are among the few doctors who don’t look at the organs they treat. Imagine an orthopedist setting a bone without taking an X-ray. It would be like an auto mechanic diagnosing a faulty radiator without popping the hood. You would think

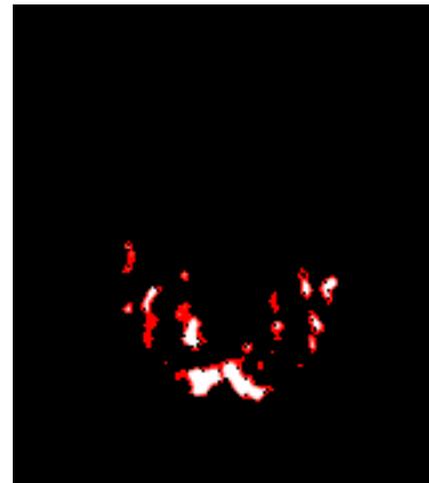
he was a crook. Yet that is just what psychiatrists typically do. Instead of looking at the brain, they rely on interviews, experience, hunches and trial and error.

But that could soon change. Brain scanning technology has already helped researchers identify abnormalities in the lobes of people with A.D.H.D ; bipolar disorder, schizophrenia and other psychiatric ailments. Studies suggest that it’s possible to track physical changes resulting from the use of psychotherapy or medication. If scanners could uncover the signs of distinct mental illnesses in the soft folds of the brain, the way X-rays can reveal a tumor, and monitor treatment effectiveness, they would revolutionize psychiatry.⁵⁸

This was a piece entitled “*The Therapeutic Mind Scan*” written in a recent edition of *Popular Science* by Paul Raeburn. In these first opening paragraphs, he has declared himself a believer of the image as the force for revolution. He then goes on to introduce us to Dr. Daniel G. Amen, a ‘controversial’ psychiatrist based in Newport Beach, California. “How can you change the brain without looking at it?” Raeburn reminds us that it is important to note that what Amen claims to see are not necessarily responsible for the illness, but might be caused by the illness.⁵⁹” Amen says that he’s simply following the instincts he developed in his first medical job, as a nineteen-year old X-ray

technician in the Army. “When you don’t know, you take a look”...

This sample of a “Spect” image in comparison to the image used by Shaw and Steinmetz, shows clearly that there is no doubt that imaging the brain in this way, it appears a highly attractive organ and delivers it from an ‘antiquated’ notion that the mind has dark recesses.⁶⁰ Everything seems vital and active belying potential difficulties that would now be only accessible through the diagnosis of the ‘expert’. The image itself may work to dislodge notions of darkness and light, clarity and lack of clarity thus potentially un-alienating the subject from the body psychologically. Rather similar to an image one might find on a Tee-shirt that has been tie-dyed, the gravitas of memory seems to be eroded. The similarities in the images of exploding stars and brain patterns, demonstrate the similarities of the potentials of the imaging technologies. What seems to be of importance in the image is the level of dynamism of the vision. In other words, the ‘glitzier’ the technology, the



‘glitzier’ the view. It does not indicate that our brains have changed shape and color. This is a purely aesthetic addition for a medical profession who increasingly has to retrain their focus to keep up with the implementations of the companies producing the information technologies and the computer graphic artists who *really* know how to produce and read the images that exist in the medical imaging technologies.

Endnotes

¹ Hans Belting, “Image, Medium, Body: A New Approach to Iconology”, *Critical Inquiry* vol.31 no. 2 (Winter 2005) p.311

² <http://www.channel4.com/science/microsites/A/anatomists/ethics1.html#kelly>

³ John Molyneux, *International Socialism* (Quarterly Journal of the Socialist Workers Party, pub. U.K., July, 1998) http://www.findarticles.com/p/articles/mi_m1248/id_ni

“I intend to assume that the sexual use of pre-pubertal children by adults is seriously damaging to children and that we condemn it...unfortunately there is no necessary correspondence between intention and outcome in art. I am by no means convinced that it is possible to play ironically with titillating paedophilic visual materials and in this particular

case one is forced to conclude that in a work which itself was and is bound to be commodified, the paedophilic element of the mannequins overwhelms the commodity critique of the trainers”.

⁴ Asif Hashim, “Massacre of the Innocents”, from the magazine *Generation X*, 1995

⁵ “Order Chaos and Creativity” was a conference organized in the United Kingdom by INTERALIA and NESTA (National Endowments for Science and Technology and the Arts), (1983)

⁶ Light can carry energy only in specific amounts, proportional to the frequency as though it came in packets. The term quanta, was given to those discrete packets of electro-magnetic energy by Max Planck quantum efficiency (QE). The ratio of the number of photoelectrons released for each incident photon of light absorbed by a detector. This ratio cannot exceed unity.

⁷ Sian Ede, *Strange and Charmed* (The Calouste Gulbenkian Foundation, 2000) p.

⁸ Press release from the California Science Center for: *Gunther von Hagen’s BodyWorlds 2 – The Anatomical Exhibition of Real Human Bodies* (2005)

⁹ *ibid.*

¹⁰ Plastination involves the removing of water and fat from cells which are replaced first by acetone, then silicon rubber or epoxy resin. After this the body is cut, composed, cured with ultraviolet light and heat, and displayed. For further information on plastination:

<http://www.bodyworlds.com/en/pages/plastination.asp>

¹¹ One of the questions arising in this conversation about the use of technologies in making art is whether using technology has taken away the need for the artist to have skill. This is a long-standing question, and I will not be addressing it in this paper.

¹² “The Naked Truth – Gunther von Hagens fulfils his promise to a nude female protestor”, issued by the press department of Body Worlds (13.12.2002)

<http://www.koerperwelten.de/en/pages/Pressemeldungen%20London.asp>

¹³ Daniel Garrison and Malcolm Hast, *On the Fabric of the Human Body* – an annotated translation of 1543 and 1555 editions of Andreas Vesalius’ *De Humani Corporis Fabrica*, Historical Introduction by Vivian Nutton : *Book One* released on March 19, 2003, Northwestern University, Evanston, IL, USA <http://vesalius.northwestern.edu/>

¹⁴ Daniel Garrison and Malcolm Hast, “Metaphor and Analogy in Vesalius’ Anatomy”, *On the Fabric of the Human Body*, p.

¹⁵ Baldesar Heseler, *Andreas Vesalius’ First Public Anatomy at Bologna*, 1540, ed. Ruben Eriksson (Uppsala and Stockholm, Almqvist & Wiksells Boktryckeri AB, 1959) quoted in the essay “Going Inside the Body”, in *Eyewitness to Science*, John Carey, (Harvard University Press, 1997) p.

¹⁶ French psychoanalyst, Jacques Lacan refers to the Mirror Stage as a moment of revelation. This stage is said to happen between 6-18 months, when the infant has not yet mastered its own body; it doesn’t have control over its own movements, and it doesn’t have a sense of its body as a whole, but experiences its body as fragmented – whatever part is within its field of vision is there as long as it is visible, but gone when not visible. Lacan states that at some point this infant will see itself in a mirror, and looking at its reflection will then look back at a real person – its mother or some other person. The child moves from ‘insufficiency to anticipation’ in this action; the mirror, and the moving back and forth from mirror to image to other people, gives it a sense that it, too, is an integrated being, a whole person. The child, still unable to be whole, in the mirror stage begins to anticipate

being whole and integrated, which is ‘orthopedic’ because it serves as a crutch, a corrective instrument, an aid to help find its achievement in the state of wholeness.

¹⁷ Hans Belting, “Image, Medium, Body: A New Approach to Iconology”, in *Critical Enquiry* (Winter, 2005)

¹⁸ Dr. Mary Klages, *Lacan*, <http://www.colorado.edu/English/ENGL20121Klages/lacan.html/>

¹⁹ Roland Barthes, *Image – Music – Text*, Stephen Heath trans. (Hill & Wang, 1977) p. 194

²⁰ Refers to James Clifford’s coining of the word ‘entanglement’ to connote the complexities in the discourse of diaspora. Firstly as the entanglement of the historical formation of concepts with the experiences they describe, and secondly as a problem of “practicing a form of discourse that [we] intend rather to analyze”. Quoting Barbara Kirshenblatt-Gimblett from her essay *Spaces of Dispersal*, p.1

<http://www.nyu.edu/classes/bkg/tourist/diasora.dos>

²¹ Stephen Jay Gould quoted in Sian Ede’s, “Science and Contemporary Visual Arts” in the *Journal for The Public Understanding of Science*, p.2

<http://visits.web.cern.ch/visits/pcst2001/proc/Ede.doc>

²² James D. Watson, *The Double Helix*, Gunther S. Stent, ed. (Weidenfeld and Nicholson, 1981)

²³ Helen Chadwick, quoted in Sian Ede's *Journal of Public Understanding of Science*, p.1

<http://visits.web.cern.ch/visits/pcst2001/proc/Ede.doc>

²⁴ The Human Fertilization and Embryology Authority (HFEA) was set up in 1990 as a non-departmental Government body that regulates and inspects all UK clinics providing IVF, donor insemination or the storage of eggs, sperm or embryos. They licence and monitor all human embryo research in the UK.

<http://www.hfea.gov.uk/Home>

²⁵ Dr. Viginia Bolton was Consultant Embryologist in the Assisted Conception Unit at Guy's Hospital in London. She is also Scientific Inspector for the Human Fertilization and Embryology Authority. In 2004, she became Consultant Embryologist at King's College Hospital in London and spokesperson for the British Fertility Society.

²⁶ Stephen Jay Gould, "The Proof of Louvoisier's Plates", *The Lying Stones of Marrakesh*, (New York: Harmony Books, 2000) p.104-105

<http://www.stephenjaygould.org>

²⁷ Michel Foucault, *The Birth of the Clinic*, A.M. Sheridan Smith, trans.(Pantheon: New York and London: Tavistock, 1973) p.

²⁸ Corvisart, preface to , *Nouvelle methode pour reconnaitre les maladies interne de la poitrine, Auenbrugger,trans. (Paris, 1808) p.i*

²⁹ *ibid.* p.

³⁰ Stewart Clegg, Chris Carter, Martin Kornberger, "Get up, I feel like being a strategy machine", *European Management Review* (2004)

³¹ *ibid.* p.

³² Roland Barthes, *Image Music Text*, p. 208-209 trans. Stephen Heath (Hill and Wang 1977)

³³ Michel Foucault, *The Birth of the Clinic*, A.M.Sheridan Smith, trans. (Pantheon: New York and London: Tavistock, 1973) p.

³⁴ *ibid.* p.112

³⁵ *ibid.*p.

³⁶ *ibid.* p.113

³⁷ Jacques Lacan, "What is a Picture" from *The Four Fundamental Concepts of Psycho-Analysis*, Alan Sheridan trans. (New York: W.W. Norton, 1981) p.107

³⁸ Amelia Jones, "Televisual flesh:

activating otherness in new media art", from *Parachute*:

Contemporary Art Magazine , 1/1/2004, pp 2,3

³⁹ The use of biometric identification is already in existence in the United States and Frankfurt. In January of this year, 2005, the UK Passport Service launched a six-month trial of biometric identity cards, and a central database of all its citizens. The database is expected to contain such information as name, address, and date of birth, gender, and immigration status, plus a confirmed biometric feature such as an electronic fingerprint or a scan of the iris or full face.

"Biometrics is not the be-all and end-all, but it will drastically reduce the risk of identity fraud and other misuses of identity" the Director of ISL Biometrics says. However, the national database of ID card information could itself become a target of terrorists or other criminals, he notes. "The government would have to make sure the data is held securely and would have to build a perimeter around that type of environment".

<http://www.pcworld.com/news/article/Oaid.11,5867.00asp>

⁴⁰ Mona Hatoum in conversation with Claudia Spinelli, *Mona Hatoum*, (Phaidon Press; London, 1997) p.

⁴¹ Lev Manovich, *The Language of New Media*, (The MIT Press, Cambridge, Massachusetts - London, England, 1995) pp.174-175

⁴² Mona Hatoum in conversation with Michael Archer, *Mona Hatoum*, (Phaidon Press; London, 1997) p.

⁴³ James LeFanu, *The Rise and Fall of Modern Medicine*, (Abacus, UK, 2000) p.

⁴⁴ Miriam van Rijsingen, *insights and dividing lines: the medico-anatomical body in contemporary art*.

<http://www.hart.hr/pdf/zu70/rijsingen.pdf>

⁴⁵ Mona Hatoum in conversation with Claudia Spinelli, *Mona Hatoum*, (Phaidon Press; London, 1997) p.

⁴⁶ Julia Kristeva, "Approaching Abjection", from "Powers of Horror" in *The Portable Kristeva*, Kelly Oliver ed. (Columbia University Press, New York - Chichester, West Sussex, 1997)

⁴⁷ *Webster's Dictionary* (1913) defines, 'anamorphosis' as: A distorted or monstrous projection or representation of an image on a plane or curved surface, which, when viewed from a certain point, or as reflected from a curved mirror or through a polyhedron,

appears regular in proportion; a deformation of image.

⁴⁸ Dan Collins, “Anamorphosis and the Eccentric Observer (parts 1 and 2)”, *Leonardo* (Journal Vol.25, No.1 and 2, 1992)

⁴⁹ A phrase coined by Joyce Cutler Shaw.

⁵⁰ The University of Iowa is one of the universities that runs a virtual anatomy lesson called Virtual Medical School.

<http://www.vh.org/adult/provider/anatomy/prosections/index.html>

⁵¹ This system allows the artist to represent the three-dimensional world on a flat two-dimensional canvas. It uses a simple observation as its basis: objects appear smaller as they get further away. It was successful as a device to represent a ‘vision’ that Descartes could not equate with a truth or a reality, but only as an optical illusion. The effect is called ‘foreshortening’.

⁵² William Kirby Lockard, *Design Drawing Experiences 2000 edition*, (W.W. Norton & Company. New York- London, pub. 2000) p.20

⁵³ An e-mail to the author from Phel Steinmetz, 05/15/04

⁵⁴ Michael Wilkund and William Dolan, “Why Choose Color Displays?” in *Medical Device and*

Diagnostic Industry Magazine (MDDI Article Index, pub. 1996)

⁵⁵ “Report, NIH Concensus Conference on Computed Tomography; Nov.6, 1981” quoted in *American College of Radiology Bulletin* (December,1981)

⁵⁶ collimate: 1) to make parallel; line up

2) to adjust the line of sight of (an optical device)

⁵⁷ Paul Raeburn, “The Therapeutic Mind Scan”, in *Popular Science*, Winter 2005. Paul Raeburn is the author of *Acquainted with the Night*, a memoir of raising children who have depression and bipolar disorder.

⁵⁸ And it’s impossible to know how many of Amen’s patients have been helped, because he hasn’t published studies that would enable others to evaluate the effectiveness of his treatments.

Amen himself declares “I could tell you a hundred cases off the top of my head where imaging has made an enormous difference in someone’s life”. One of these people is Amen himself who has had his own brain scanned eight times. He has also scanned his children, and he has a warning for prospective suitors: “If you date my daughter for more than four

