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Body Image and Prosthetic Aesthetics

Abstract

The success of the London 2012 Paralympic not only revealed new public possibilities for the disabled, but also thrust the debates on the relationship between elite Paralympians and advanced prosthetic technology into the spotlight. One of the Paralympic stars, Oscar Pistorius, in particular became celebrated as 'the Paralympian cyborg'. Also prominent has been Aimee Mullins, a former Paralympian, who become a globally successful fashion model by seeking to establish a new bodily aesthetic utilizing non-organic body parts. This paper examines how the modern discourse of prosthesis has shifted from the made-up and camouflaged body to the empowered and exhibited body to create a new cultural sensitivity of body image – prosthetic aesthetics. Prosthetic aesthetics oscillates between two polarized sensitivities: attractiveness/'coolness', which derive from the image of a perfect human-machine synthetic body, and abjection/uncanny which is evoked by the actual materiality of the *lived* body incorporating a *lifeless* human-made body part.

Key words: body image, prosthesis, disability, Paralympics, perception, psychoanalysis, phenomenology, Pistorius

Introduction: Star Athletes and the London 2012 Paralympics

The 2016 Rio Paralympics created new star athletes, such as the New Zealand sprinter Liam Bevan Malone who set new Paralympic records (he broke Pistorius's world records) in winning gold medals in the 200 and 400 meters. The Dutch sprinter, 'Brade Babe' Marlou van Rhijn was also given a good deal of public attention and won consecutive gold medals for the 200 meters in both the 2012 London and 2016 Rio Paralympics. Yet, in terms of the public awareness of disabled athletes on the global stage, the London 2012 Paralympics proved to be a much more significant turning-point. In fact, the London 2012 Paralympic Games had increased significantly the amount of media coverage and attracted the biggest ever global audience. The London 2012 Paralympic Games were watched by a cumulative global television audience of 3.4 billion (excluding the U.K.), which was a 37 percent increase on the successful 2008 Games in Beijing (Brittain and Beacom, 2016).¹

The London 2012 Paralympic was heralded a great success not only by the massive increase in public attention, but also by the way it stimulated an intensive discussion about the relationship between elite Paralympians and sport technology. While those

Paralympians who suffered from uncontrollable spasticity with cerebral palsy or those who had an intellectual disability, were paid less attention in media coverage², Paralympic stars, such as Oscar Pistorius, dubbed '*Blade Runner*', a double amputee with 'spectacular biomechanical' carbon fibre prosthetic limbs were given a great deal of media and public attention. Although there were previous cases of other disabled athletes competing in both the Olympic and Paralympic Games, Pistorius was given unexpected levels of media coverage.³ In this context, it is interesting to note that Lauren R. Smith (2015) examined the 2012 London Olympic and Paralympic media coverage to investigate the choice of terminology for disabled athletes. Her research focused on two official broadcasting companies, NBC (United States) and Channel 4 (United Kingdom). In her careful analysis of the Olympic and Paralympic coverage, Smith (2015:404) remarks that while a range of terms (pioneer, legend, history maker, poster boy, supercrip) were used in commentary to describe Pistorius, the indisputable fact was that no disabled athlete has ever been accorded the fanfare and media coverage that surrounded him.⁴ Given that some 4237 athletes participated in the London Paralympics (IPC, 2012b), the disproportionate media focus on Pistorius was extraordinary. One reason for the media coverage could be the controversial narratives surrounding Pistorius. He became the first double amputee to compete against able-bodied competitors in the London 2012 Olympic Game. This led to a major debate in the public domain about the threat to the established categories between disabled and abled bodies, which went to the heart of the Paralympic Games manifesto. The debate also problematized eligibility, fairness and the boundary between the human body and non-human entities – especially with reference to high-tech prostheses.

This paper focuses on Pistorius, not just because he was a super athlete attracting global media attention, but also because he is a fallen hero who is now known as the murderer of his girlfriend. This suggests that the narratives around Pistorius reveal a fluid and changeable public image of him as a disabled person. This was particularly notable when the public saw him without prosthetic legs in the South African courtroom in 2016. Pistorius's human drama went through many twists and turns, shocks and surprises, generating considerable public interest and debate which fed well the sensational-seeking appetite of the global media. On the one hand, there is the dramatic fall of Pistorius to become a convicted criminal, as opposed to a Paralympic star who had conveyed a very positive social and political image of the disabled's role in society. The media coverage of his court appeal also created an opportunity for the public to inspect his disabled body without prosthetic legs. This was a moment which demystified the super athlete prosthetic body. On the other hand, his Paralympian cyborg body still evokes new imaginings of the future

possibilities of the organic body and created questions about how we could perceive, understand, and recognize the 'new' disabled body coupled with advanced technology.

The issues of the relation of the human body and technology is now a well-established area with body modification and plastic surgery, virtual bodies in digital media, biotechnology, robotics, reproductive technology, organ transplantation, genetics and artificial body parts which is able to transform or to be substitute organic body (Haraway 1991; Featherstone and Burrows 1995; Braidotti and Lykke 1996; Sobchack 2010; Slatman and Widdershoven, 2010; Shildrick, 2010; Braidotti, 2013; Wilson, 1995; Crawford, 2014a, 2014b). These debates focus on what future human-technological bodies could be and the range of socio-cultural implications. These questions are also closely associated with discussions about the materiality of human bodies as unstable and unfixed entities. In addition, the term *posthuman* has become central to discussions which have been accompanied by a new perception of bodily transformation involving high-tech artificial body parts, such as contemporary advanced prosthesis.⁵

It is common, particularly for disabled athletes to use prostheses in Paralympic events. The use of world class high-tech prostheses can be a key factor in winning world-class competitions. Accordingly, many high-tech prostheses have been developed: carbon fibre feet for footraces, the high-tech wheelchair for basketball, and the high-tech bicycle for cycling races etc. The use of technologically advanced assistive devices has changed the way sports spectators enjoy watching more spectacular sports and has created a new corporeality for Paralympian athletes. The development of high-tech prosthetics seems to be changing the nature of prosthesis. The prosthesis is now no longer a simple device which can replace a missing part of the body in order to disguise appearance and help physical functioning, rather it become part of embodied identity and the visible materiality of the disabled. In this respect, the prosthetic body can be defined as a complex entity, which encompasses both meanings of the coupling of human flesh with human made devices, and the associated images and narratives that challenge the idea of bodily integrity.

This paper focuses on the case of lower-limb prosthesis. This is because the upper and lower limbs play an important role as definitive parts that help us identify the human body shape. Therefore, visual images of lower-limb prostheses can have a relatively strong impact on the overall image of the human body. Advanced lower limb prostheses tend to depart from the human shape. Yet when for example they are compared to wheelchairs, they can still be perceived as part of the human body, since their shape is often designed to

loosely resemble to a human skeletal structure, which is very different from a wheel. As exemplary cases, the paper also take up lower-limb prosthesis users, such as Pistorius and Aimee Mullins. They have been prominent in media coverage with their appearance celebrated as a new positive aestheticization of the human body.⁶ Unlike high-tech wheelchairs, beautifully designed lower-limb prosthesis (see Yamanaka 2012: 101ff) that departs from the human form can potentially create ambivalent sensations.

[Shunji Yamanaka's the below-knee prosthesis 'Rabbit',

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The aim of this paper is to explore how the contemporary discourse of prosthesis has shifted from the made-up and camouflaged body to the empowered and exhibited body, to the extent that it is opening up a new social and cultural sensitivity about body image – prosthetic aesthetics (Smith, M and Morra, J. 2001).⁷ I also endeavour to articulate the ambivalent emotions and feelings about prosthetic bodies. I would argue that prosthetic aesthetics generates two contradictory sensitivities: attractiveness/'coolness' which can derive from the *image* of a perfect human-machine synthetic body, and abjection/uncanny which can be evoked by the *actual* materiality of the *lived* body with *lifeless* body parts. To examine these assumptions, it would be useful to first consider the brief history of prosthesis and the narratives around human-made body parts. This is followed by an analysis of the media discourses of cyborgification in the context of both commercialized Olympic sport culture and contemporary art and fashion, to see how far prosthesis narratives have

changed. In doing so the paper explores body image not only in the political and socio-cultural domains, but also the complex formation process of perceptions, images and feelings about 'new' bodies' in the fields of psychology, phenomenology and robotics.

The Discourse of Prosthesis

Before the discussion of the prosthetic as a contemporary concept to analyze the complex relationship between technology and the organic body, it would be useful to briefly examine the history of prostheses. After the First World War, prosthesis began to be perceived as one of the most urgent national project for many countries which had tremendous numbers of physically injured and disabled soldiers and civilians during the war. In the German case, according to one estimate, limbs were amputated from some 80.000 German Soldiers (Neumann 2010:97). The German rehabilitation project provided them with not only financial compensation, but also, perhaps more importantly, with rehabilitating them both physically and vocationally in order to get them back to become 'productive citizens' (Cohen 2001 cited in Neumann 2010:97). Before the First World War, most artificial limbs were hand-made. They were constructed to closely mimic the human form. Many of the devices were made of wood and covered with felt, using celluloid nails to produce a more natural appearance. In this sense, the prosthesis was largely expected to camouflage their impaired bodies and disguised the disabled body as able-bodied, or 'normal'. However, the huge demand for artificial limbs and the limitations of the hand-made production processes increased the criticisms of the cosmetic natural look with its limited functionality. Instead, mass production techniques and increased functionality became deemed more important and thus a new type of uglier, but cheaper and functionally superior prostheses became made available.

The new type of prosthesis, the functional oriented prosthesis provided not only improvements in functionality, in replacing the missing limbs, but also stimulated the imagination of future bodies. Let's take an example from the 1920's movie, *Metropolis* (1927) directed by Fritz Lang, which provided the first image of a complete artificial body, from head to toe, to appear on the cinema screen - a robot. This was a human-made techno-body that would never die under harsh conditions, such as warfare, in which the vulnerable human body could not survive. Similarly, the prosthetic body, the body with human made advanced technological devices, could then stimulate people's sense of psychological uncertainty and curiosity. Hence, the prosthesis was viewed as an element for the technological advanced 'new human body' – the 'New Man' that was developed alongside the modern sentiment of techno-fetishism and was expected to be a more

efficient and powerful step beyond the organic human body. This fascination with techno-fetishism still continues to have a place in the public imagination in contemporary society.

Paralympic Cyborgs and the Uncertainty of Contemporary 'New Man'

Further improvements in the technology of leg prosthetics have been notable since 1988, particularly in the West (Howe 2011:873), with the appearance shifting from human-like leg style to non-human, but more machine-like design with the advanced biomechanics. Pistorius's Cheetah prosthetic legs, were developed by a biomedical engineer Van Phillips and manufactured by Össur. Images of Pistorius wearing Cheetahs were not only visible in sport stadia, but also in newspapers, charity posters, and advertisements for consumer commodities. Consequently, the body with high-tech prosthesis draws a good deal of attention and curiosity, which is one reason why Pistorius's media-made futuristic body images have caught people's imagination. In this sense, contemporary sports technology is a key factor in expanding the popularity of Pistorius and the approval of Paralympic culture, which has increasingly been supported by governmental bodies as well as commercial enterprises. The necessity and demand for technology for disabled athletes in the rising visible Paralympics also suggests that it could be a useful stimulus to explore the social and psychic implications of human-machine synthetic bodies today.

'Paralympic cyborgs' (Howe 2011: 869) refers to the Paralympians who have to be supported by high-tech devices to compete or play the game. Although the term, cyborg is a well-discussed concept and has featured in a wide arrays of academic debates, one of the most influential usages of the term is Haraway's conception of the cyborg as a synthetic body coupling with lived flesh and human-made non-organic entities.⁸ It has been often argued that ['W]hether the machine will take on the characteristics attributed to the human body ('artificial intelligence', automatons) – or whether the human body will take on the characteristics of the machine (the cyborg, bionics, computer prosthesis) remains unclear' (Grosz 1995:110). This idea is that bodies are open systems and are mixed entities with connection to others. Hence, our bodies are not singular or 'molar' (Deleuze and Guattari 1980/1998; Rose 2007), but can be understood as *multiple* and *processual*. If we can understand that the body is always in 'a process of becoming' (Shilling 1993:5), Paralympian cyborgs can be perceived as a variation of the *becoming* body which is an extended or reinforced new type of living body. Hence, their representations often deliberately emphasize futuristic machine-like bodies which were supposed to be the

ultimate body which is more perfect, more efficient, and faster than organic human bodies.

This contemporary narrative of the cyborgified body resonates with the German 'New Man' of the early 20th century. In this sense, the Paralympic cyborg can be seen as a contemporary 'New Man' - in other words, 'posthuman' or 'transhuman' (see Boston 2005; Twine 2010). Unlike the German 'New Man' who was identified as more productive, sophisticated and advanced than the human body and thus well-received in post-war German society, the discussions around posthuman, did not always welcome the positive consequences of technology. The case of Pistorius is no exception here, despite his extraordinary sporting records and achievements.⁹ His performances were under suspicion and his prosthetic limbs were viewed as an enhancement device. He was accused of being ineligible for competition in line with the policy of the International Association of Athletics Federations (IAAF) in 2008.¹⁰ Yet, the Court of Arbitration for Sport (CAS) subverted the IAAF's decision and declared that Pistorius was an eligible athlete, due to their tests results which indicated 'the Cheetas offered no net advantage' (Cole 2009:3). This event raised the danger in that 'the future of sport itself was imagined as threatened by a post-Pistorius, high-tech athletic invasion' (Cole 2009:3). This suggests that although his prosthetic body seems to have become familiarized to the public through the media, his advanced prosthesis generates considerable ambivalence and even suspicion.

The Visible Prosthesis as Emblem of a New Type of Hero

While a massive controversy surrounded Pistorius's legitimacy as an elite athlete, there continued to be a stream of positive public representations and images. He was seen as a respectable and courageous figure fighting to overcome his tremendous physical disadvantage as an athlete who also contributed to charity, education and sport with dignity. In the children's book entitled '*The London 2012 Games Superstars*', an official London Olympic and Paralympic Games publication, Pistorius was introduced as one of the sport superstars. In this book, Pistorius remarks, '[Y]ou're not disabled by the disabilities you have, you are abled by the abilities you have'. He was celebrated for his restless challenging spirit which refused to accept limits in pursuit of higher achievement and for 'overcoming the catastrophe of a damaged body' (Seymour, 1998:119 cited in Howe 2011:876).

The perfect human-machine synthetic body was always exposed to heroic narratives which emphasized the 'self-made man' (Foucault 2008; Featherstone 2013) and fits well with the current dominant neoliberal ethos. Neoliberalism brought about 'the formation of the type of

'the subject who is an 'entrepreneur of him/herself' who is meant to fit into the social framework of the "enterprise society"' (Lazzarato 2009:110). The new type of individual has to make an effort to compete with others following the principles of the market. The value of life and personhood could depend on whether one becomes a winner or a loser and only the self-made man can be successfully identified as a winner. Pistorius's success story fits well in this context and helps sustain his media-made heroic image.^{1 1} His media image was advantageous for the International Paralympic Committee which attempted to construct the Paralympic Game as a positive social development and referred to the essence of Paralympism as enabling 'Paralympic athletes to achieve sporting excellence and to inspire and excite the world' (IPC 2003:1 cited in Howe, 2008;137). Hence, Pistorius became a respectable figure and although his Cheetahs made him have a less orthodox human-look, his body has become an accepted and celebrated body, that can also be seen as a fascinating body – as was especially the case during the London Olympics 2012 period. Consequently, Oscar's prostheses, then, became transformed from a simple 'mobility device' to an important symbol of his heroic endeavour and success, and became integral to his very identity.

Aestheticized Disabled Body Image

We can find a similar story about the relationship of the prosthetic body image and identity in Aimee Mullins's intimate relationship with her prosthesis. Aimee Mullins was one of the most famous female double amputee Paralympian sprinters.^{1 2} She has also become a world renowned actress and model. She appeared in *Cremaster 3* (2002), an instalment of American artist-filmmaker Matthew Barney's avant-garde film *The Cremaster Cycle*. In this performance, she said that 'to be without prosthetic limbs is to be exposed, to be laid bare and these prosthetic limbs (even if in nonhuman anthropomorphic form) are an emotional crutch as well as a corporeal support' (Smith 2006:66). The film features her in semi-nude aestheticized postures with artificial limbs, or lower limb-replacements constituted to look like animals or jellyfish tentacles. This crossing and re-crossing of the boundaries between the human, other living entities and things, deliberately disrupts our capacity to see her as a human body. At the same time, these refigurings provide her with a strong emotional charge that is crucial to her very existence. Hence, her prosthesis has become central to her identity, because it extends her bodily boundaries and open and problematizes her sense of identity.

She appeared in a variety of way to represent her body with different designed artificial limbs. However, in early stage of her building new identity as a disabled model, the most

provocative image of her body could be found in the picture that appeared in the September 1998 issue of the fashion magazine, *Dazed and Confused*, guest edited by the fashion designer Alexander McQueen and photographed by Nick Knight. She stands with her Cheetahs wearing black running shorts, which represents well her identity as a top athlete who has a healthy and tough body. At the same time her naked top, well-toned physique and her direct ways of gazing at the audience, create not only an image of strength, but also a sense of female seductive eroticism. This special issue was entitled '*Fashion-able*', fashion made to face disability. The theme provided the opportunity to consider whether the fashion design and industry could use disabled body images as part of their artistic motifs and could learn to work together with them.

Her appearance raised many questions as we find in Marquard Smith's (2006: 58) remark that some of the images of Aimee Mullins could trigger sexual fetishist. Although this raises many questions both 'for' and 'against', it is apparent that the public presence of her disabled body with non-human-like legs in the fashion magazine can be seen as offering a challenge to 'the traditional cannons of beauty and promotes the idea of diversity' (Vainshtein 2012:150). Thus, Aimee's aestheticized prosthesis became not only a crucial part of her identity, but also a 'new' type of beauty.^{1 3}

A designer, Graham Pullin (2009: 31) suggests,

Conventional wisdom is that prostheses should either be made for appearance, so-called cosmetic limbs that are an accurate copy of the human body, with optimized functionality within this constraint, or for optimized functionality above all other considerations, as are tools. But Mullins's legs show this to be too simplistic. Her legs have a beauty of their own, not just as objects, but also in relation to her body and posture.

Consequently, *People* magazine listed her as 'one of the fifty most beautiful people in the world' (Vainshtein 2012:149). The acceptance of Mullins's beauty with prostheses brought about a new idea of the body and new bodily aesthetic sensibility. In this sense, we can see that humanness is no longer a necessity ingredient to be a beauty.^{1 4}

Uncanny and Prosthetic Bodies

The aestheticized disabled body with high-tech nonhuman anthropomorphic form prosthesis

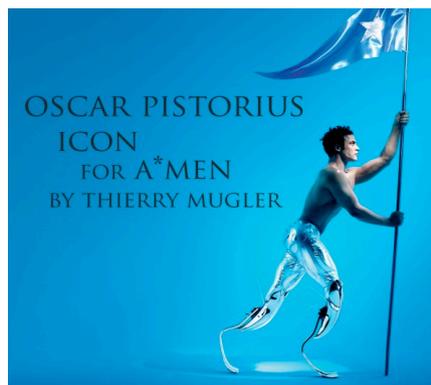
is perceived differently from the sense of aesthetics which operates in cosmetic prosthesis. It would seem that these types of non-human-like prosthesis have become seen as more stylish, and to some extent more sophisticated than conventional cosmetic prosthesis. Our understanding of these types of complex body images could be furthered by the Japanese roboticist Masahiro Mori who proposed an interesting assumption about human perception in 1970: 'uncanny valley theory', which delineates the tendency for negative emotional response and uneasy feelings toward almost exact human-like appearances and movements. In this theory, our familiarity increase when we encounter human-like machines, however, when human-like machines look and act nearly, but not exactly like a human, this subtle imperfection drives our feelings from fondness/familiarity to revulsion/strangeness/the uncanny. Hence, he argues that prostheses should deliberately appear as artificial and non-human looking to avoid falling into 'the uncanny valley'. The uncanny is a well-known concept developed by Sigmund Freud (1919/2003).^{1 5} Quoting E. Jentsch's definition of the uncanny, Freud explains that the essential condition for the emergence of a sense of the uncanny is intellectual uncertainty and it is aroused when we wonder whether something is animate or inanimate, and whether the lifeless bears an excessive likeness to the living (2003:140). The uncanny can, therefore, be perceived as 'something to do with death, dead bodies, revenants, spirits and ghost' (2003:140). Our attitude towards the mechanical doll (automaton) or mannequin in the show windows can help us unpack this psychological reaction towards an object which is clearly not alive, but looks alive. Therefore, it becomes unclear whether it is something real or surreal. This strange feeling and the sense of uncertainty can resonate with our ambivalent feelings toward the following two representations of prosthetic bodies.

Pistorius appeared after 2011 in the advertisements of A*Men by Thierry Mugler Fragrance (photographed by Ali Mahdavi), as super-natural looking, wearing shining silver pants and metallic cheetah legs in a science fiction futuristic setting (see Figures 2 and 3). His representation is intended to create an image of something beyond the human and thus 'in-between' the living human and the lifeless machine. Aimee Mullins was also represented as an old Victorian doll, photographed by Nick Knight in 1999 (see Figure 4). She puts on a crinoline petticoat (see-through born structure without fabric), a suede shirt designed by Alexander McQueen and a fan-shaped short wooden jacket by Givenchy, wearing prosthetic legs which have doll-like human shape with dirt stains. Her expression is frozen and lifeless and her whole body looks stiff. Her performance as a used and forgotten Victorian doll, which is an automaton, helps to present her body a lifeless object.

[Figure 2: Oscar Pistorius, A * Men fragrance by Thierry Mugler Fragrance (2011)
Photographed by Ali Mahdavi]



[Figure 3: Oscar Pistorius, A * Men fragrance by Thierry Mugler Fragrance (2011)
Photographed by Ali Mahdavi]



[Figure 4: Aimee Mullin Victorian Doll (1999) Photographed by Nick Night]



Both Pistorius's machine body and Mullins's doll body create a sense of non-humanness and lifelessness, yet at the same time we know they are living humans. Their constructed representations as media images are heightened by their missing body parts which were replaced by human-made objects. These representations symbolize their in-between status: human and non-human, life and death, the future and the past. These contradictions, uncertainties and confusions are bound to the sense of the uncanny. Hence, the mixed up images of synthetic bodies which conjure 'in-betweenness', multiplicity and not-oneness bring ambivalent feelings which can instill a sense of shock, strangeness but also a sense of curiosity, fascination and attraction.

Body Schema and Body Image

Further insight into this kind of mixed feelings about images of the body can be illuminated through debates in psychoanalytical-phenomenology which provides different ways to comprehend the relationship between the physical/material body and body images. Schilder asserts that the image of the human body is the picture of our own body in our mind and we also immediately experience that there is a sense of unity of the body. (Schilder 1950: 11). He calls it, following Head (1920), bodily schema and remarks: '(t)he body scheme is the tri-dimensional image everybody has about himself. We call it 'body image' (Schilder 1950:11). An interesting point to note here is that Schilder used body schema and body image interchangeably. Gallagher and Meltzoff rightly identified Schilder's conceptual confusion between body schema and body image:

We can characterize the body image as involving perceptions, mental representations,

beliefs, and attitudes where the intentional object of such perceptions, beliefs, etc. (that which they are directed towards or that which they are about) is one's own body. The body schema, in contrast, involves certain motor capacities, abilities, and habits that enable movement and the maintenance of posture (Gallagher and Meltzoff 1996:4).

While they hold a distinction between body image and body schema, these two systems are closely connected and highly integrated in a formation process of bodily sensitivity which could not only encompass intentional behavior or bodily reactions (e.g. bodily motor), but also emotional and sensual bodily reflections. Therefore the body image is comprised of 'a complex set of mental representations of the body' (Gallagher and Meltzoff 1996:5). In this regard, we could use body image to refer to a formation process of emotional reflection with corporeal perception.

Body Movement and Equilibrium as Transient Steadiness

Schilder further considers how the body images/scheme refers to not only body movement, but also the body image at rest (see Schilder 1950:270). Schilder's significant insight is that he believes that the construction process of body images is far more complex and involves not only continuous unstable stages, but also a certain equilibrium moment.

As Weiss (1999:17) elaborates,

That is, the body image has to accommodate a variety of both subtle and dramatic changes in the body/situation (hence, its plasticity), *without losing its stability*. Maintaining the stability of the body image is a necessary condition for a sense of bodily stability --- the stability of the body image is precisely what provides us with a reliable sense of where and how our body is spatially positioned as well as a tacit understanding of what our corporeal possibilities are *at any given point in time*' (added emphases).

Our sense of bodily spatial position can be understood as a proprioceptive awareness which contribute to 'a tacit understanding of what our corporeal possibilities' are; in other words, body schema. This, as Gallagher and Meltzoff (1996:15) define it, 'involves certain motor capacities, abilities, and habits that enable movement and the maintenance of posture'. Hence it can be explained that the temporary stability of proprioceptive awareness contributes to the construction of transient yet stable body images and is necessity for bodily

motor abilities. Following Schilder, Weiss (1999:17) suggests that 'the belief that the body image tends toward a certain equilibrium, but never achieves this equilibrium once and for all'. Yet the temporary equilibrium *at any given point in time* (between a previous body image and a new body image) contribute to the possibility of stable bodily coordination (movement) and 'a relatively unified perceptual experience' (Weiss 1999:18).

Schilder (1950:287) elaborates in more detail on the complexity of bodily equilibrium:

There are tendencies which try to make the body-image complete, but it cannot remain so without a renewed effort. There are opposite tendencies as well. There is a tendency towards the dissolution of the body-image. When we close our eyes and remain as motionless as possible, the body-image tends towards dissolution. The body-image is the result of an effort and cannot be completely maintained when the effort ceases. The body-image is, to put it in a paradoxical way, never complete structure; it is never static: there are always disrupting tendencies.

Schilder's observation that there could be 'opposite tendencies', the dissolution of the body image, but also the effort to maintain a certain equilibrium, suggests that we perceive moving body images through successive static body images. Schilder further elaborated on this aspect, which he sees as changing the process of body scheme (image).

The previous scheme of the postural model remains in the background and upon this previous scheme the new scheme is built up. When we move, we depart from the comparatively rigid primary picture; it seems in some way loosened and partially dissolved till the body returns into one of the primary attitudes. (Schilder 1950:206 - 207)

He affirmed that although 'the optical picture' (Schilder 1950:207) during rapid movement tend to be a multiplication and is not seamless, the continuous constructive process proceeds from one dissolute image to another. In this regard, the body at rest such as in photographs which capture a moment of static body image, can be seen as a moment in the dissolution of the body image.

Although these images are selected and edited by photographers so as to often attempt to express particular mediated messages and invented narratives, the audience's reception of the photographed body images can of course vary widely. This is because their

interpretations of photographs necessarily relate to their own embodied experiences, memories, knowledge, desires, hopes and dreams. Yet, as discussed, we cannot ignore the influence of the mass media which often tends to utilize a more restricted set of narratives and images which seek to guide people's values and moral assumptions in line with those of powerful interests. At the same time, it has often been remarked that contemporary consumer culture is an image saturated society and it is often suggested that the increasing number of photographs of human body in today's mediascape, with its magazines, advertisements and the Internet, could well be encouraging a new corporeal sensitivities. This applies to Pistorius's and Mullins's media images, which circulated widely in the global media.

Morphing and Transforming

If the photograph can be seen as a static body image, a captured moment in the constant dissolution of the body image, we can also find a similar successive process in morphing. In her paper on the structure of the digital morph as a novel form of transformation, Vivian Sobchack borrows an inspirational phrase, 'the still point of the turning world' from the poet T.S. Eliot (1943:15-16, cited in Sobchack 2000:157). She refers to the morphing process in Daniel Reeve's film *Obsessive Becoming* (1995) in which 'the movement is indeed meta-static: at once in constant transformation from one point to another and yet also essentially fixed in time and space' (2000:143). For Eliot, 'at the still point' which is neither arrest nor movement and is not fixed, he sees past and future gathered together. This is the transient steadiness, which can be a similar moment to the emerging meta-stasis body image. This can be a moment as we move from one dissolute image to another.

Sobchack also explains that 'morphing as a particular representation of metamorphosis' (2000: xiv-xv) which can evoke a sense of attraction, curiosity and desire. In a similar way, Kinder (2000) elaborates that metamorphosis is 'a trope which is central to creation myths from many cultures,' (63). She continues,

'[i]t is also a defining formalist feature of dreams and their characteristic tropes of condensation and displacement, where the mere temporal or spatial proximity of two juxtaposed images can, when narrativized, be read as transformative change – a cognitive process that is fundamental to flip books, surrealist jolts, trick films, animation, the basic illusion of cinema, and the visual perception of movement' (Kinder 2000:63-64).

The metamorphosis (the morphing) entails two processes: warping the image into matching shape and colours, then gradually cross-dissolving them (see Wolf 2000: 93). What is fascinating about the morphing is that we can see the whole transition process produced by the 'digital' computation technologies. The previous image gradually transforms, then at the final stage of morphing it becomes totally something different without interruption. This is a novel form of configuration, which Sobchack refers to as 'quick-change' (2000: xv).

Yet, the transformation process of the elite disabled athlete's body, such as a picture of Pistorius in the changing room is seldom exposed to the public. The audience is generally not admitted to back-stage preparation and transformation areas, and rarely able to observe the body without prostheses, as it is in the process of being assembled by human hands and not mediated by digital image technologies. In terms of the audience's viewpoint, we invariably encounter "front-stage" images of Pistorius coupled with his prostheses, the result of the final stage of the transformative work. Yet Oscar's body without prosthesis was on one dramatic occasion exposed in public. The decision to request Oscar to reveal his withered limbs and stumps to the court was an attempt to reveal his 'real' vulnerability as a disabled man, in order to facilitate an 'appropriate' judicial sentence for his Appeal. Here, his super athletic body was uncovered to show a vulnerable material human body, which resulted in a notable palpable disconnection between the usual and expected 'before' and 'after'.

In contrast, the computer-graphic digital morphing process can be seen as constituted of meta-static points, they all are 'narrativized' to create an analogical relation between them to provide a 'strangely natural' (Sobchack 2000:135) continuity between before and after. Thus, digital morphing, as Sobchack points out, both turns us 'backward' towards mythology and magic and the related quick transformations in theatre and trick films; but also 'outward' towards our current belief in the potential to achieve body "artifice" (e.g. cosmetic surgery, which could include prosthesis.) (see Sobchack 2000:xv).

Transformation and Mixed Feelings

The belief in the potential to achieve body artifice can be also analyzed from a psychoanalytical viewpoint. In this view, Schilder considers our *motives* for transforming our body. He asserts that in contemporary societies we inevitably modify our own bodies in order to resist a stable body image. We can find evidence for this in the ways we decorate

our body with clothes, jewelry, cosmetic surgery, tattoos and so on. This motivation for transformation can also generate a degree of fascination, pleasure and curiosity to watch transformed bodies. He observes that the contortionist's gymnastic body can be an example that illustrates how it evokes a complex sensation for the viewers.

The contortionist pushes to extremes this play with his own body, and the pleasure we get out of watching his performance is based upon our wish to break through the borderlines of our own body. It is mixed with awe and disgust. We desire the integrity and totality of our own body; we are afraid of every change, which may take away a part of this body,... but we are still continually experimenting with it (Schilder 1950:206).

He also suggests that a body with an increased number of limbs like Indian gods and goddess is part of 'our delight imagining beings' (Schilder 1950:206). Hence, our resistance to a stable body image always already generates fascination with transformed body images. Weiss follows his observation and explains that Schilder considers we have 'vicarious pleasure' in 'observing such metamorphosis in others' who have an exciting/disturbing expansion of the body's physiological capacities (see Weiss 1999:20). Observing others' bodies is also a fundamental incentive for us. When he touched on Freud's discussion of exhibitionism, Schilder argued this is because our desire to be seen is as inborn as the desire to see. This is also evidence of the 'deep community between one's own body-image and the body-image of others --- the body image that should be known to ourselves and to others (Schilder 1950:217). Hence, he asserts that 'the body image is a social phenomenon' (Schilder 1950: 217).^{1 6}

Given that the body image entails continuous mutual interaction with others, we can now further consider how confronting a radically transformed body could influence our own body image. The radically transformed body can be found in a range of modified bodies, including bodies with major cosmetic surgery, body-builders, the tattooed body, anorexic body and deformed bodies which transgress socio-cultural normative bodies, including neurological disturbance/disordered bodies, amputees, and bodies with prostheses, such as Paralympian bodies.

Here we need to consider 'the vicarious pleasure' we may gain from observing such metamorphoses in others (who are gymnasts)' (Weiss 1999:19-20). The vicarious pleasure can also evoke a mixture feeling of excitement and horror, awe and disgust and fascination and abjection. Julia Kristeva argues that abjection 'disturbs identity, system, order,' it 'does

not respect borders, positions, rules.' This is 'the in-between, the ambiguous, the composite' (1982: 4). Therefore, the abject can be seen as a threat, but at the same time it opens up the exploration of a new type of body image. Elizabeth Grosz observes, '(A)bjection involves the paradoxically necessary but impossible desire to transcend corporeality. It is a refusal of the defiling, impure, uncontrollable materiality of the subject's embodied existence' (Grosz 1989:72 cited in Weiss 1999: 90). Hence, abjection continuously threatens to disrupt the stability of the body image and 'haunts' a unified body image. This is because, as Kristeva suggests, we need to know what is not incorporated into the body image in order to know what consists of a coherent established body image (see Weiss 1999:89-90). In this way, prosthetic bodies challenge our sense of body integrity and stable body image. Therefore, they always create psychologically unstable and ambivalent feelings.

Yet, ambivalent feelings, particularly abjection, cannot only be understood in terms of psychological analysis, but also are influenced by the dominant social and cultural value system.

Kristeva remarks that,

Abjection is coextensive with social and symbolic order, on the individual as well as on the collective level. By virtue of this, abjection, just like prohibition of incest, is a universal phenomenon; one encounters it as soon as the symbolic and/or social dimension of man is constituted and this throughout the course of civilization. But abjection assumes specific shapes and different codings according to the various "symbolic systems," (Kristeva 1982:68 cited in Weiss 1999:95)

This view resonates with Butler's critical point against Schilder's assertion, that 'the body image is a "social" phenomenon'. Whereas Schilder's 'social' means the inter-relationship between one's own body and the others in terms of a psychoanalytical approach, Kristeva and Butler's emphasis is on the 'social', in terms of the field of the political and cultural symbolic value system. For Butler (1989) the materiality of the body image could always be constituted by normative cultural standards and established symbolic systems (e.g. the dominant normative gender image or class distinction). If we follow Butler's argument about body image, we can assume that the coverage of Paralympian's prosthetic bodies tend to represent an attractive spectacular body which is never neutral and is always constructed to produce a certain reception and interpretation. This is the way in which Pistorius' heroic body and Mullins's new form of beautiful body were produced, as discussed earlier. Hence,

the Paralympian's prosthetic body cannot only be understood in its materiality which is the very existing entity, but also in its immateriality, which is the imagined/discursive entity with an invented assemblage of information, knowledge and narratives.

Prosthetic Aesthetics

On the one hand, in terms of psychoanalytic theory, we can see that a desire to transform and resist the stable body image invokes emotional fascination and excitement; at the same time, the destabilizing body images threaten the unity of the body and create psychological uneasiness, disgust and abjection. On the other hand, in terms of 'a radical theatrical remaking of the body' (Butler 1994:32), the socially and culturally dominant narratives and a well-established symbolic value system, invokes seductive fascination and creates socially acceptable or even celebrated bodies. Hence, it is evident that the human body cannot only be perceived as a corporeal material and biological entity, but also as the product of the discourses and narratives, which are subject to the dominant culture and politics.¹⁷ Similarly, the body image cannot only be contextualized by psychoanalytical-phenomenological elaboration, but also by the way in which it is bound to cultural embodiment, dominant power and invented discourses in society.

Turning now to the issue of the Paralympian body image, it could be ventured that: A good deal of narrativised photographic and moving images of Paralympians with technological advanced prostheses, such as Pistorius and Mullins, could induce an emotional impulse that merges with our normative corporeal perception – the body image. The observation of photographic and moving images of a Paralympian's body-with-prosthesis could also induce dramatic changes in proprioceptive awareness and a new sensitivity to the body – prosthetic aesthetics.

At this moment, we dissolve the moving body image at any given point in time in order to keep bodily equilibrium and try to make a complete/stable body image. Although the complete/stable body image is never established, since it continuously changes and always is in a process of the formation, this provides a transitional stability for the body image which allows us to comprehend a new proprioceptive awareness and to reflect on our own body image. The wish to resist a rigid body image is also involved in this process and can provide us with a feeling of vicarious pleasure. We are haunted by observing the Paralympians body-with-prosthesis which can disturb and threaten our established body image, but at the same time we are thrilled by the possibility of breaking through the boundaries of our

accustomed body image.

Accordingly, prosthetic aesthetics can generate two contradictory sensitivities: On the one hand, it can evoke fascination, attractive and positive sensitivities in the context of commercialized Paralympic culture, the promotion of Paralympism, contemporary neoliberal society, the nation-state hierarchal competition and increasing global media with development of information technologies. On the other hand, it can also stimulate excitement in the uncanny, abject and haunted feelings in the context of the challenging psychology of human bodily perception. Prosthetic aesthetics then is constantly oscillating between fascination and abjection.

Conclusion

The focus of this paper has been on body images, particularly images of the body with hi-tech prosthetic devices, which have drawn a good deal of public attention and evoked new aesthetic sensitivities towards the human body. The paper has discussed how we could attempt to understand, recognize and perceive the 'new' disabled body with sophisticated sport technology and its design, by drawing on a number of the complex debates across the socio-cultural, psychological and phenomenological domains. It has been argued that hi-tech prostheses can be viewed as a mixed material, emotional and symbolical entity which opens up the opportunity for the exploration of new cultural sensitivities. The prosthetic body image can be seen as an unstable product of psychological processes and socially constructed discourse.

The paper has endeavored to illustrate the historical discourse of prosthesis and the emergence of the 'New Man' in order to show the ways in which the meaning and significance of prosthetic devices has shifted from trying to mimic the human form in order to camouflage, disguise and replace, exhibited symbolic entities which look like machines and evoke a sci-fi futuristic multiplicity of human and post-human bodily imaginaries. Taking up the case of Oscar Pistorius and Aimee Mullins, a similar tendency can be found in the media discourse of Paralympian cyborgs and is also taken up in the performances of contemporary art and the fashion industries with their love of the propensity to shock, and problematise the distinctions between ordinariness and non-ordinariness. For many people, Oscar and Aimee open up new cultural sensibilities for the human body image. This suggests the emergence of a new type of body aesthetic sensibility – prosthetic aesthetics.

The discussion of Oscar Pistorius's super-natural looking metallic Cheetah legs for the advertisement and Aimee Mullins's photograph as an old Victorian doll, provided an opportunity to examine the uncanny in relation to 'uncanny valley theory' and Freud's concept of the uncanny. Focusing on the ambivalent feelings about prosthetic bodies drawing on theorizations of abjection, the sense of uncanny, pleasure and fascination, the paper draws on the phenomenology of the body, and related psychoanalytical approaches. The paper also analyses the invented images of the prosthetic body in the media, drawing on approaches from socio-cultural analysis. In the case of Pistorius, this angle is particularly important, given that he became a murderer, after his success as an elite disabled athlete. In a similar manner to the widespread interest in the Paralympic games, the judicial processes of his court case were also widely featured and debated in the international media (e.g. ITV 'Oscar Pistorius: The Interview,' 24 June 2016). The mass media enjoyed Pistorius's discomfort and the ensuing human drama produced a new impression of him for the public. When his body without prosthetic legs appeared in the media, he was exposed to be no longer as a super athlete, but no more than a disabled man (see *The Guardian* 15 June 2016). Hence, his trajectory alternated between different body images: the fascinating heroic body with prosthetic legs and the vulnerable flesh of a criminal body without prosthetic.

More to the point, the key question for consideration is the extent to which the socio-cultural knowledge, experiences, information and narratives, which includes media discourse (e.g. Pistorius heroic image and his vulnerable criminal body or Mullins's aestheticized prosthetic body) plays a key role in creating new cultural sensitivities to the body images, and the extent to which the psychoanalytical-phenomenological and socio-cultural analyses can also help to re-articulate a complex formation process of emotional reaction and corporeal perception which generate ambivalent feelings. In this context, prosthesis could be seen to work in two paradoxical ways: it can be an obvious sign of impairment (the visibility of disability), but at the same time, it can also conceal one's image of the disability (the *invisibility* of disability). Pistorius case could be seen as a good example here. When he was a successful Paralympian athlete, he was identified and promoted as a great athlete, rather than a disabled person in the 2012 Paralympic Game. (e.g. Channel 4 never referred to Pistorius as the double amputee and he was always described as 'a man'. see Smith 2015; 403). He was the man who could run in the Olympics and the Paralympics. Yet, the nature of prosthesis was most palpably revealed, when Pistorius exposed his disabled body in the courtroom. This hiding and disguising capacity is inherent in the prosthesis and can therefore help to create new images which are often changeable and unstable.

The paper has sought to explore the above debate in order to better understand the ambivalent feelings of both fascination and disgust, the prosthetic synthetic body can generate. It should also be emphasized that these paradoxical emotional responses toward the prosthetic body never become polarized. This is because the body image necessarily reemerges to fit or adjust to new experiences, information and knowledge and thus memories and perceptions of the body image are often revised and reinterpreted. This is why aesthetic sensibilities are always challenged by the ever-shifting context of the lived world.

Hence, the body image is never stable (although there can be some temporary stability to maintain a temporary equilibrium), as it can be understood as a mirror or projection of our desire and fear, excitement and disgust, fascination and the uncanny. All these impulses are continuously destroyed and re-constructed in the environments we are experiencing in the lived society. In this sense, as Schilder argues, we can possess an infinite number of body images, since there is a never-ending of change body perception and body schema in the constitution process of body images. Thus he concludes 'every body contains in itself a phantom (perhaps body itself is a phantom)' (Schilder 1950:297).^{1 8}

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¹ Furthermore, London 2012 was the first truly social media and online Games. Throughout the course of the Games there were 1.3 million tweets mentioning 'Paralympic', 25 million people visited the London 2012.com website and over 5.8 million people downloaded the London 2012 Paralympic App. In addition, 'nearly 2 million people visited www.paralympic.org - which broadcast over 780 hours of live action. There were more than 5.1 million downloads of videos on-demand during the Games from the official IPC YouTube channel, www.youtube.com/paralympicsporttv' (IPC, 2012b).

² It should also be added that we should not forget there are still many disabled people who are not able to access high-tech prosthesis and still suffering from discrimination in the context of everyday life. Paralympians are indeed exclusive in many ways. The technological empowerment of the disabled body can increase the gap between those who can take advantage of technological developments and those who cannot – in this sense, the celebration of the cyborgification of the disabled athlete can only work to create further hierarchal status differences within the disabled community.

³ It is hard to find official records for the number of disabled athletes who competed in the Paralympics and Olympics, but it seems that there were at least eleven disabled athletes who competed in both games (see *Wired* magazine, 2012).

⁴ Smith's article provides an exhaustive analysis of the complete NBC and Channel 4 footage of the London 2012 Olympics and Paralympics. The data analysis of the various words and phrases used to describe disabled athletes in live race coverage plus live and pre-recorded interviews, shows that an unexpectedly high proportion of commentary was solely focused on Pistorius.

⁵ The meaning of prosthesis can cover the broader sense of adding something. In the early stage of medicine, prosthesis refers to 'an artificial device used to replace a missing body part, such as a limb or a heart valve'. The origin of prosthesis can be found in the 16th century Late Latin and Greek term taken up in the 16th century, *prostithenai*, which means 'addition'. (Dictionary.com. *Collins English Dictionary - Complete & Unabridged 10th Edition*. HarperCollins Publishers. <http://dictionary.reference.com/browse/prosthetic>) (accessed: August 23, 2015).

⁶ Japanese industrial designer, Shunji Yamanaka developed highly sophisticated carbon fibre prosthetic lower-limbs for Paralympian athletes. He was deeply inspired by observing Pistorius in the Beijing Paralympics and become dedicated to develop a carbon fibre prosthesis as an aesthetic product which is un-like the human leg, but is able to evoke a sense of beauty. See

Yamanaka (2012: 8 onward).

⁷ The term, 'the prosthetic aesthetic' was coined for the special issue entitled 'The Prosthetic Aesthetic', *New Formations* 46 (2001). The term encompasses the editors' approach of questioning prosthesis (in general) in relation to aesthetics (in particular). The issues examine 'the confluence of the body, technology and prosthetics in an aesthetic and visual form' (Smith and Morra 2001:5) and so covers issues includes 'consciousness, compositing, the organic versus the machinic, the post-human, autobiography, indexicality, desire, the Other, the phenomenon of the phantom limb, deficiency, puppetry and gestation' (Smith and Morra 2001:5) in visual culture. Yet, in this paper, the term is employed in a more specific way to refer to a new cultural sensitivity of prosthetic body image, which evokes two contradictory sensitivities.

⁸ One of the early indications of cyborgs was suggested by Manfred Clynes and Nathan Kline in "*Cyborgs and Space*" (1960) and intensively discussed and suggested by Donna Haraway in *Simians, Cyborgs, and Women: The Reinvention of nature* (Haraway 1991).

⁹ He produced a series of extraordinary sporting records: 2004 Athens Paralympic Games, 200m, 2008 Beijing Paralympic Game, 100m, 200m, and 400m.

¹⁰ The International Association of Athletic Federations determined that Pistorius was ineligible for competition based on the policy which prohibits 'any technical device that incorporates springs, wheels or any other elements that provides the user with an advantage over another athlete not using such a device' (cited in Cole 2009:3).

¹¹ Braidotti argues that 'advanced capitalism is spinning machine that actively produces differences for sake of commodification' and 'it is a multiplier of deterritorialization differences, which are packaged and marketed under the labels of "new, dynamic and negotiable identities"'(Braidotti, 2013: 58). Before the tragic incident, his media constructed 'super hero' image was used in sports marketing and more importantly, as a representative of his nation, South Africa. This is because, his body is deterritorialized to be not just commodified in commercialized Paralympic culture, but also 'nationalized' in the hierarchal competition of the nations.

¹² She run with her prosthetic legs designed by Van Phillips and made a Paralympic records in 1996 (Vainshtein 2012:149).

¹³ Aimee has twelve pairs of prosthetic legs, including Cheetah legs, highly decorative legs, and natural looking legs with hair follicles and freckles (see Vainshtein 2012:152). She chooses a pair of legs depending on the clothes she wants to wear, or on particular occasion. For her, prosthetics legs are 'a functional device as well as fashion accessories' (Vainshtein 2012:154).

¹⁴ The prosthetic aesthetic is not only found in the body image of the cyborg athletes in the

Paralympic Games, but also in other fields of the public: in contemporary art, performance art (dancers) and the fashion business (Debenams ads & fashion shows). For example, Mario Gala who is a one-leg male model with a prosthetic limb appeared at Michalsky's show in 2010. His prosthetic leg instantly drew attention from the public and attracted people 'as a result, Michalsky's collection became the hit of the fashion week' (Vainshtein 2012:161).

¹⁵ Freud investigated the semantic content of the German word *unheimlich* and its etymological connection to English word, *unhomely*. *Unhomely* is 'whatever it is about persons and things, sense impressions, experiences and situations, that evokes in us a sense of the uncanny and then go on to infer its hidden nature from what all these have in common'. He also explained that 'the uncanny is that species of the frightening that goes back to what was once well know and had long been familiar' (1919/2003:124). He continued the factor which creates the uncanny is 'unintended repetition' in particular 'something that has been repressed and now returns' (2003: 147).

¹⁶ Interestingly, this flexible and ever-changing body image could also be made sense of via the discovery of the brain's plasticity in neuroscience. This opens up the possibilities of re-constructing or re-mapping the body image through mutual exchange between our own body image and that of others. This notion of plasticity is one of the strongest and most influential concepts in neuroscience today and describes 'the brain as at once an unprecedented dynamic, structure and organization' (Malabou 2008: 4). Similarly, Schilder also recognizes that there is multi-referential relationship between perception of our own body and that of the other. He states that 'the difficulty in the perception of our own body precedes the difficulty in the perception of the bodies of others' (Schilder 1950 : 44) and that this points to 'the principle of the connection between body-images' (Schilder 1950:48).

¹⁷ We can also see this view in history. There is evidence of a socially constructed understanding of disability 'as opposite to a well-established aesthetic/functional norm, which is linked with industrialization, the development of natural science, and the growing of statistics as a political device in late 18th and 19th century.' (see Silva and Howe, 2012:177).

¹⁸ The term phantom used here does not attempt to capture the widely discussed debates such as those revolving around phantom pain or a phantom limb, which have been developed in a variety of disciplinary and interdisciplinary ways by neuroscientists, sociologists, psychologists and phenomenologists; rather, it is used to attempt to encompass, the variability of what Schilder claims to be, 'the phantom character of one's own body' (Schilder 1950:297).