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Carbon fibre, or graphite fibre, is a material made from fibres 5–10 micrometres in width that are comprised of carbon particles (Morgan). Carbon fibre has great commercial value for its strength, light weight and its capacity to resist heat. Contemporary cultural economies of carbon fibre are, in part, a late capitalist (Jameson) technology of hegemonic (or dominant) masculinity (Connell, *Masculinities*). As a technology of hegemonic masculinity, carbon fibre extends the surfaces of bodies and produces masculinity on and across surfaces, male and female bodies. This article is concerned with instances in which carbon fibre extends performances of masculinity that are attached to particular kinds of hegemonic male bodies. In examining carbon fibre as a prosthetic form of masculinity, I advance three main arguments. Firstly, carbon fibre can be a site of the supersession of disability that is affected through masculinized technology. Disability can be "overcome" through carbon fibre. Disability is often culturally coded as feminine (Pedersen; Meeuf; Garland-Thompson). Building on this cultural construction of disability as feminine, in and as a technology of masculine homosociality (Sedgwick), carbon fibre reproduced disability as feminine when carbon fibre prosthetic lower legs allowed Oscar Pistorius[1] to compete in the non-disabled Olympic Games. Secondly, I argue that carbon fibre can be a homosocial surface; that is, carbon fibre becomes both a surface extension of the self and a third-party mediator in homosocial relationships, a surface that facilitates intimacy between men in ways that devalue femininity in both male and female bodies. I examine surfaces as material extensions of subjectivity, and carbon fibre surfaces as vectors of the cultural economies of masculine competition to which I refer. Thirdly, the case of Oscar Pistorius is exemplary of the masculinization of carbon fibre, and the associated binding of a psychic attitude of misogyny and power to a form of violent and competitive masculine subjectivity. In this article I explore the affects, economies and surfaces of what I call "carbon fibre masculinity" and discuss Pistorius' use of carbon fibre, homosociality and misogyny as forms of protest masculinity through which he unconsciously attempted to recuperate his gendered identity from emasculating discourses of disability.

To produce carbon fibre, carbon atoms are bonded in crystals that are aligned parallel

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along the axis of the fibre. This crystal alignment gives the fibre a high strength-to-volume ratio, making it exceptionally strong for its size and weight. Several thousand carbon fibres are brought together to form a carbon fibre tow (or line), which is then woven into a mesh or stiff fabric (Morgan). This carbon fibre mesh is used to make vehicles and accessories of many kinds, including formula one cars, spaceships, bicycles, rowing boats, oars and racquets. Harder, faster, stronger and lighter, carbon fibre not only allows men to build more effective machines; it constitutes machines within which men can dominate other men in public forms of mediated intimacy. Carbon fibre also makes prosthetic extensions of the self that transform or extend bodies in ways that make them more competitive. Indeed, as Norman and Moola have noted, through his carbon fibre prosthetic legs, Pistorius, who was popularly known as "blade runner," became a cyborg who traversed culturally constructed, and indeed fictitious, boundaries between human and machine. Pistorius exemplifies the dominant cultural value of carbon fibre and predominant cultural constructions of disability in a way that holds everyday cultures in relief. Carbon fibre is masculinized as a way of dominating space; as a technology of all forms of frontier masculinity it can make vehicles or accessories that allow people to colonize spaces and better others. Indeed, the speed and potential for covering ground attributed to Pistorius' "Cheetah" carbon fibre legs was deemed by Professor Gert-Peter Bruggemann (Norman and Moola 1271) as giving him an unfair advantage over other athletes and in 2007 he was disqualified from competing in the non-disabled Olympics. Carbon fibre was seen as making Pistorius too competitive. This marks an interesting intersection of competitive cultures of masculinity and cultures of disability, as carbon fibre has become part of most performative, competitive cultures of masculinity, whereas people with disabilities are often excluded from such cultures, with the exception of para-athletic competitive sports. Indeed, carbon fibre is part of the fabric of contemporary hegemonic masculinity, but not necessarily part of everyday cultures of disability. Connell explains that

> hegemonic masculinity, [is not just…] "the male role", but [is] […] *a particular variety of masculinity* to which others – among them young and effeminate as well as homosexual men – are subordinated. It is *particular groups of men*, not men in general, who are oppressed within sexual relations, and whose situations are related in different ways to the overall logic of the subordination of women to men. (Connell, *Schools* 86; emphasis added)

In other words, not all men are hegemons and some men fare much more successfully than others in the competitive economy of gender performance that is established through hegemonic masculinity. In late modernity, which is characterized by a focus on material possessions, psycho-sexual economies of hegemonic masculinity extend across material surfaces, which include and indeed are exemplified by carbon fibre surfaces. Within the hierarchy of masculinity characterized above by Connell, disability is arguably one of the most feminizing traits that can be mapped onto a masculine body (Meeuf). While Connell does not discuss disability per se, disability theorists (Garland-Thompson; Meeuf; Emmett and Alant) note and protest the cultural inscription and reproduction of disability as feminine. To put this another way, Connell suggests that culturally dominant (not numerically frequent, but *popular*) forms of masculinity are hegemonic, that such hegemonic masculinity is a way of controlling others. These forms of masculine embodiment are sold within capitalist economies as being desirable. Disability is not usually seen as a way of dominating and controlling others, and this is one of a number of ways in which disability has been feminized.

Hegemonic masculinity is a type of body and personhood, a quality of a man's power relations with others: a way of effecting subordination. Hegemonic men subordinate others through their capacity to perform intellectually and physically, a capacity to perform that carbon

fibre has become famous for enhancing. As Connell also suggests:

> in the case of men, the crucial division is between hegemonic masculinity and various subordinated masculinities […] It is […] a question of how particular groups of men inhabit positions of power and wealth, and how they legitimate and reproduce the social relationships that generate their dominance. (*Schools* 90–92)

Hegemonic masculinity, then, is a descriptor of a psycho-social and material power relationship that produces one class of masculinity within a typology of genders. Carbon fibre is hegemonic in a number of respects, and these include its capacity to effect Oscar Pistorius' movement from a subordinated "class" of masculinity into the hegemonic area of non-disabled Olympic competition. This intersection is also a fault line in my argument that I think has value. I am broadly critical of global technologies of masculinity that articulate across surfaces as, after Sheller, I agree that these surfaces are part of a very particular economy and exploitative ecology of late capitalist relations, which Sheller so astutely characterizes in terms of valuing speed and lightness. As this article goes on to show, while the case of Pistorius exemplifies the misogynist nature of hegemonic masculinity and carbon fibre's capacity to enhance this, the potential for carbon fibre to bring new possibilities to the lives of people with disabilities more broadly is of value and can open out cultures of speed and lightness in new ways.

heterosexual hierarchies

The cultural politics that are part of the process of performing hegemonic masculinity entail the domination of women through a kind of heterosexuality that attaches very limited value to the female body. Heterosexual economies of misogyny that perform the socio-sexual dynamic that Judith Butler (*Gender Trouble*; *Bodies That Matter* 127, 239–40) calls "the heterosexual matrix" articulate across surfaces of carbon fibre. In *Gender Trouble* Butler argues that in order for bodies to cohere and make sense socially there must be a "stable" sex expressed as a stable gender (89, 90). This stability is popularly understood as expressing sexual desire for the opposite gender. This desire is sexually oppositional and hierarchically produced because of the cultural dominance of heterosexuality. Butler characterizes this oppositional desire as the heterosexual matrix, through explaining that

> femininity becomes a mask that dominates/resolves a masculine identification, for a masculine identification would, within the presumed heterosexual matrix of desire, produce a desire for the female object […] hence the donning of femininity as a mask may reveal a refusal of female homosexuality and, at the same time, the hyperbolic incorporation of the other as the one who is refused. (68)

For the most part, femininity becomes taught and learnt as the repression of sexual desire for women through incorporating and performing "woman," and masculinity becomes taught as the sexual desire for women through learning and performing "masculinity." In other words, we become what we are not allowed to have. Taking the concept of the heterosexual matrix as a dominant cultural fiction which we are called to negotiate daily, I agree that popular technologies of gender that articulate through psychosocial dynamics are most often developed to support heterosexual hierarchies (Rubin). One such popular technology of gender is homosociality, or a form of intimacy between men that disavows the possibility of homosexual desire and channels such desire through feminized conduits such as shared sexual partners, cars, bikes, or other carbon fibre objects. It is to this masculinist and mediated intimacy I now turn and I will show how carbon fibre surfaces mediate homosocial intimacy in ways framed by heterosexual hierarchies.

carbon bonding

Published in 1985, Eve Sedgwick's book *Between Men: English Literature and Male*

Homosocial Desire has provided one of the most useful concepts in attempting to understand the particular ways in which heterosexual men in Western culture value their social ties with women and other men. Sedgwick asks how men, individually and as a category, exercise power over women, and for and against other men. She considers how desire for social interaction and intimacy is coded through and across gender. Sedgwick's work is a literary study of how forms of sociality between men are imagined and represented. Her theorization of homosociality looks at a specific historical literary period. While the cultural dynamics that Sedgwick articulates are identifiable in contemporary contexts, the precise nature of homosociality today, as well as where and how it gets produced and represented, is quite different from the world that Sedgwick analyses.

This being the case, read alongside the cultural value of surfaces of carbon fibre, Sedgwick's work shows how intimacy between men is facilitated across human–carbon-fibre-composite assemblages. Sedgwick explains:

> "Homosocial" is a word occasionally used in history and the social sciences, where it describes social bonds between persons of the same sex. It is a neologism, obviously formed by analogy with homosexual, and just as obviously meant to be distinguished from homosexual. (1)

To be clear, a homosocial relationship is an intimate friendship between two (or more) men, which is misogynist and which is based on the disavowal of the possibility of their sexual desire for one another. The men may or may not reject homosexual desire *cognitively* as a possibility, but rejection alone does not make homosexual desire impossible. Desire remains as something which is unconsciously possible, and which constantly requires some kind of negotiation. This notion of an impossible repression links to Butler's (*Gender Trouble*; *Bodies That Matter*) work on the heterosexual matrix as a social form of repression, as homosociality also suggests that some kinds of heterosexuality are about repression. I think that carbon fibre materially extends homosocial technologies of masculinity as a way of mediating sexual intimacy between men and devaluing culturally feminized performances.

Homosociality is triangular; the routing of male homosocial desire and power occurs through the bodies of women, bikes, cars, prostheses. In the triangle's three points, men occupy two and a woman/cars/bikes/carbon fibre legs the third, but the sides of the triangle are weighted with greater emphasis on the line that forms the relationship between the two men. Specifically, Sedgwick states:

> In any erotic rivalry, the bond that links the two rivals is as intense and potent as the bond that links either of the rivals to the beloved […] the bonds of "rivalry" and "love", differently as they are experienced, are equally powerful and in many senses equivalent. (21)

This leads Sedgwick to conclude that, in homosocial relationships, what is important about a man's relationship with a woman, what is subjectively valued by men, is the opportunity it affords men to enter the world of real, socially coded and sanctioned masculine relationships. In his research on car cultures Fuller contextualizes men's mediation of intimacy and the use of homosociality to gain status amongst other men. Fuller shows that cars, amongst other things, are a technology of homosociality:

> modified-car culture […] [is] a homosocial institution [that affects, or modulates] […] difference[s] between affective relations and affects experienced in the enthusiast body […] The motor vehicle and other attendant technologies within the system of automobility together serve as the basis of an explicit homosocial institution. The charismatic enthusiast relation of modified-car culture between car and enthusiast mediates and sometimes even eclipses other important affective relationships amongst masculine enthusiasts. (50)

Just as cars give some men a way of being intimately involved with each other, carbon fibre was the material means through which the athlete Oscar Pistorius took to the world stage in the Olympic Games and performed the

homosocial libidinal desire to compete with, and better, some other "non-disabled" men ("Oscar Pistorius").

In addition to being notable for his athletic success, Pistorius has been the site of much legal debate. As I noted above, he was ruled ineligible to compete at the 2008 Beijing Olympic Games because his carbon fibre prosthetic lower legs gave him a supposedly unfair advantage over other runners. Pistorius successfully contested this ruling and was allowed to compete at the 2008 Games ("Oscar Pistorius"). More recently, Pistorius was also involved in a court case over the death of his girlfriend Reeva Steenkamp, a process that elicited media reportage of text message conversations between the couple that illustrated what seemed to be misogynist and controlling behaviour. By policing the actions of his female partner, Pistorius produced himself as a controlling masculine subject. For example, in 2014 *The Independent* newspaper reported text message exchanges between Pistorius and Reeva Steenkamp as follows:

> In a Whatsapp conversation sent on 27 January 2013, Ms Steenkamp wrote: "I'm scared of you sometimes and how you snap at me." The model also wrote she felt "picked on" and "attacked" by the one person she "deserved protection from" – referring to the athlete – and was upset by his jealous tantrums. Ms Steenkamp also wrote she was trying "her best" to make him happy but felt he "didn't treat her like a lady" and recalled an incident where he "criticised" her so "loudly everyone" could hear it. The model and law graduate said she tried to make him "proud" and present herself "well" while he was busy chatting to friends and fans at social events. ("Oscar Pistorius Trial")

If this exchange has been reported correctly, Pistorius' concept of himself as visible to others and his emphasis on how others see him both appear to be valued above the feelings of his female partner who is treated as an accessory. This example of the male gaze having a competitive and productive power and being misogynist is core to the operation of homosociality.

Sedgwick argues that homosocial masculinity involves entering into social relationships that are based on nuanced codes of interaction. Being a man involves learning appropriate ways to exercise social, economic and cultural power. Pistorius' attempts to re-machine his masculinity through controlling his partner with mediated expressions of his power, and adding to his bodily performance of speed with carbon fibre, can be seen as a further testimony to the economies of homosociality articulating across surfaces. Pistorius also suggests power operates across an entangled series of relationships between humans and non-flesh materials that are productive of power relations.

Relationships between men are intensified through the use of carbon fibre and the ways in which carbon fibre is produced. As I have suggested, for Sedgwick, homosocial relations between men don't automatically confer power on men. The homosocial relationship has to be exercised competitively to confer power. Subtle variations, nuances, slight but important differences in the nature of men's homosocial relations have political significances that need to be catalogued and considered. The substance of homosocial relations varies, as homosociality is a kind of power which produces men who fit – and some who don't fit – within a particular cultural context. For example, owning a carbon fibre bike does not make a person hegemonic or homosocial. Riding a carbon fibre bike competitively with other men and valuing this competition above other intensive relationships does make a man homosocial. Surfaces of carbon fibre need to be mobilized and acted upon in competitive ways to make homosocial subjects. An example of another homosocial deployment of carbon fibre can be found in the use of carbon fibre frames for competitive road bike racing. Obviously, and as I state above, owing a carbon fibre bike does not make a person homosocial, but cultural economies of masculine competition that articulate through carbon fibre can explicitly position it as an extension of masculinity.

For example, the advertising image selling bicycle helmets (Fig. 1) literally positions the bicycle as the penis/phallus, the man

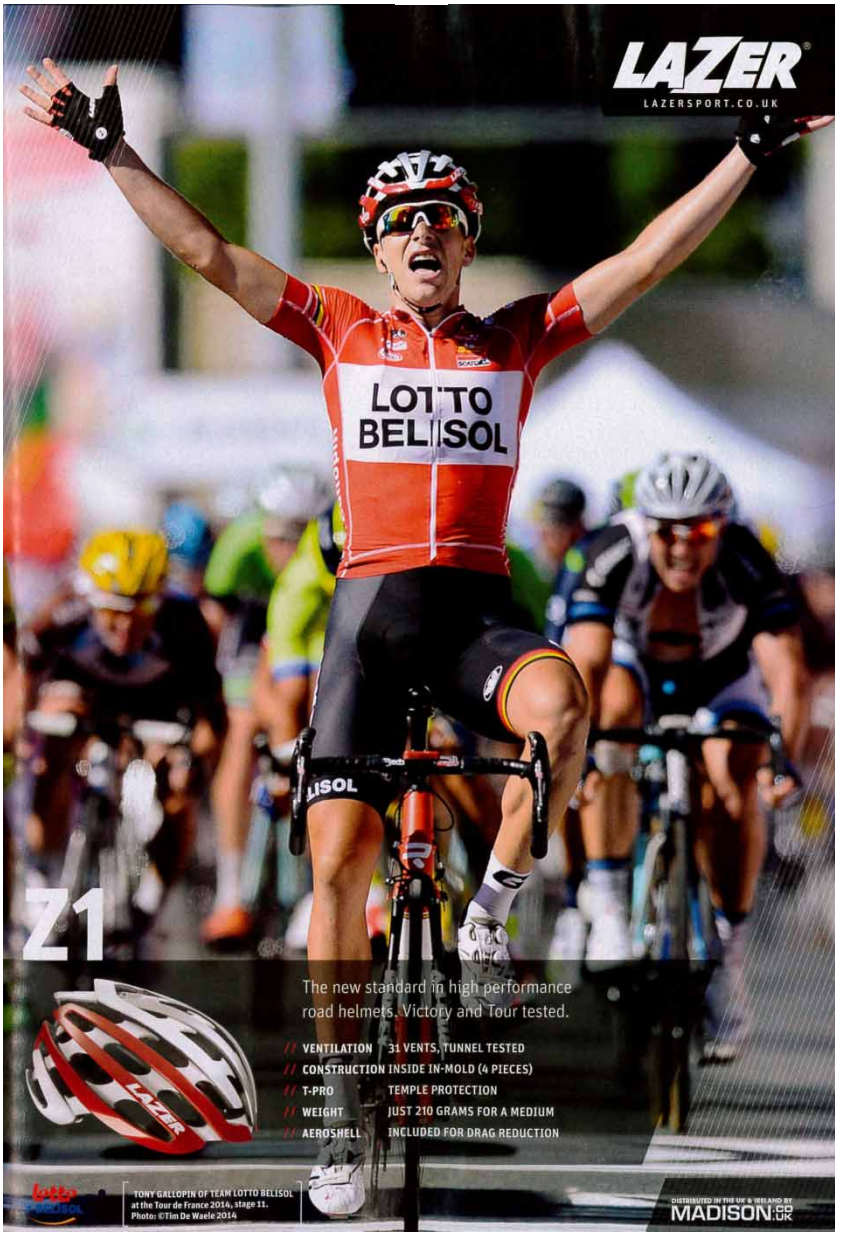

Fig. 1. Advertisement for the Lazer road helmet. Reproduced by kind permission of Madison.

triumphantly holding his hands in the air, framing the object between his legs as the centre of his own and others' attention. The man pictured is producing himself around the object in between his legs. The semiotics of the image suggests that the bike (like the man's penis?) is to be celebrated for helping him dominate other men. This is a clear example of power being produced by matter (the light, fast nature of the carbon fibre) and by bodies (the winning man) and through competitive intimacy between men. Homosociality, then, can be seen as way of inscribing power on and across bodies, a practice which might

be considered in relation to power as produced by bodies but also as that which produces bodies in certain ways. We all learn to live while being watched and learning that we are also all watchers. Masculinity is taught and learnt as a performance and an art of critical, competitive spectatorship and performance.

The idea that we are always both looker and looked at is frequently used by advertisers hoping to stoke a consumer desire in men, and as a way of extending homosocial surfaces of carbon fibre into visual semiotic cultures. Such visual cultures of homosociality are exemplified in Fig. 1. The same forms of visual semiotics can be seen in many advertisements selling products relating to cars and alcohol. Often the act of "looking on" is presented as something enabling. For men, having male friends looking at you is depicted as something that facilitates mateship, heterosexuality and voyeuristic pleasure. Homosocial mateship, then, involves a specular code: a code of looking and being looked at.

The visual image of the advert encodes and rejoices in a particular kind of "power," a homosocial power of men communicating to other men, which extends beyond material surfaces of masculinity and carbon fibre into the visual semiotics of advertising and cultural economies of masculine performance. Carrying on these cultural economies of homosocial masculine performance, Pistorius' athletic success and his seemingly misogynist treatment of his female partner show the multiple investments that Pistorius carries with him as a combination of jingoistic national hero, misogynistic partner, technologized body, and disabled athlete.

Stepping outside the emasculating position of being a disabled athlete through competing in the non-disabled Olympics with carbon fibre prosthetic legs, Oscar Pistorius' performance of masculinity with and across carbon fibre offers an example of how hegemonic, homosocial cultures extend across surfaces. It also shows us that carbon fibre is a gendered surface. In mobilizing and developing the concept of the surface, I build on Deleuze's work in *The Logic of Sense* in which he conceives surfaces as agentive extensions of subjectivity. The surface is the site where sense is made, sense as feeling and sense as logic (266). Deleuze explains this critique of representation through stating: "The surface is the locus of *sense*: signs remain deprived of sense as long as they do not enter into the surface organization" (ibid.). Events on the surface of life are the results of mixtures made by bodies and objects (8), a reading of the making of matter with meaning that has parallels with Judith Butler's thesis that the way in which bodies come to matter, cohere and make sense is inherently political and which I discuss above.

Deleuze also conceives surfaces as being sexualized. For example, *The Logic of Sense* is interwoven with discussions of phallic surfaces, the creation of the phallus through projecting images of the phallus on surfaces (236, 237). As suggested by the bicycle helmet advert, carbon fibre surfaces surely mirror or project the phallus in many instances. Surfaces are extensions of subjectivity and surfaces of carbon fibre are late modern masculinist or phallic surfaces. These surfaces are part of what Sheller refers to as "global energy cultures of speed and lightness", cultures that are masculinist, and are becoming hegemonic.

hegemonic matter(s)

The properties of carbon fibres, such as high stiffness, workable strength, low weight, high chemical resistance, high temperature tolerance and low thermal expansion (Zheng and Feldman), make the material very popular for building spacecraft, military equipment, and motorsports/formula one cars, civil engineering construction and accessories for competition sports. Carbon fibre is lauded for its lightness and strength in competition sports. As a late modern phallic signifier, carbon fibre offers a material extension of the global competitive sporting industry and engineering cultures of performance. Indeed, the reason why carbon fibre seems to be valued is that it helps men move further, faster and bonds them in cultures of performance across the globe. Oscar Pistorius is connected to hegemonic cultures of sporting masculinity through his athletic acts and his

carbon fibre prostheses, a surface extension of masculinity and a late capitalist technology of masculinity.

Like the many other signifiers of the phallus and the successful realization of male libido that occupy the global capitalist cultural imaginary and shape economies of relation in late capitalism, carbon fibre is the masculine prosthesis of the decade. Oscar Pistorius' biography extends the surface of carbon fibre masculinity beyond hegemony, into technology of homosociality and misogyny. The Pistorius–carbon-fibre assemblage overcame the feminizing position of Pistorius being a "disabled" athlete. With carbon fibre, Pistorius was able to dominate non-disabled male athletes and recuperate the feminized position of being a "disabled" athlete. The text message exchanges with his then girlfriend, Reeva Steenkamp, which I quote above, suggest that in an aggressive performance of homosocial relations Pistorius may be keen to dominate women. Carbon fibre is thus the homosocial technology that propelled Pistorius beyond the socio-cultural politics of disability (Rodan, Ellis, and Lebeck) and the surface that connects him to global assemblages of sporting masculinity.

exploiting (for) the surface

Late capitalism is a term used by Jameson to refer to capitalism from 1945 onwards, with the implication that it is a historically limited stage rather than an eternal feature of all future human society. This period includes the era termed the golden age of capitalism (Jameson). Jameson argues that postmodernity involves an emergence of a cultural dominant, or mode of cultural production, which differs markedly in its various manifestations (developments in literature, film, fine art, video, social theory) from those of its predecessor, referred to collectively and broadly as modernism, particularly in its treatment of subject position, temporality and narrative. For Jameson

> every position on postmodernism today – whether apologia or stigmatization – is also […] *necessarily* an implicitly or explicitly political stance on the nature of multinational capitalism […] (16)

Carbon fibre technologies articulate this thesis as they are mined and manufactured by multinational corporations. They retail at expensive prices, allowing men to materially extend dominant masculine subject positions and modes of cultural performance.

In our capitalist context, certain differences come to matter more than others in contemporary life. These hierarchies are performances of historical connections in a culture's prevailing knowledges, because they are pertinent to the struggle for hegemony. Gender, race, sexuality and disability are perhaps the most pertinent ways in which difference has been made meaningful in the history of capitalism, and often they coincide – that is, disability and gender and race coagulate or are co-constructed (Puar). What it means to be a woman or a man, how we name male and female – and the distinctions between them – are sites of struggle because these namings can be, and have been, used to justify, legitimize, theorize, and explain away the contradictions on which capitalist relations of production rely.

Despite the rationalizing of social inequities provided by hegemonic ideology, people persistently make sense of their social relations through cultural meanings that contest and resist prevailing gender norms. Sense making occurs across material surfaces that become encoded with cultural values. Disability is one set of discourses through which the human capacity for sensation and affect and the human need for social intercourse has historically been organized (Snyder and Mitchell). My contention that the hegemonic form of disability under capitalism is a culturally feminized subject position is supported by the fact that cultural meanings of disability have been secured incrementally across modernity, through discourses and social practices – institutions, asylums, medical knowledges, that have been variously organized (Harwood) and articulated depending on dominant modes of social formation that materially separate disabled from non-disabled men.

In the case of Oscar Pistorius, carbon fibre intervenes in this late capitalist structure of meaning, but in so doing brings another damaging ecology and economy of relations to the fore. Compared with steel and aluminium, the production of carbon fibre is slow, requiring huge amounts of energy, and costs and wastage are high. The component sections of each fabricated part are cut from a roll of fibre, and even with computerized optimization, the most economical layout wastage of around 30 per cent is expected. These offcuts are in, fact the, largest source of carbon fibre waste. Following production, wastage due to imperfections is typically 6 per cent, compared to a figure many thousand times smaller with steel or aluminium (Richerson and Urmil). Conversely, costs can be ten times as much when compared to pressed steel.

Carbon fibres are thus relatively expensive when compared to similar fibres, such as glass fibres or plastic fibres (ibid.). Strongest demands come from aircraft and aerospace, wind energy, as well as from the automotive industry. Carbon fibre is a homosocial technology for Pistorius in the respect that it allows him competitive intimacy with other men, but it is also a homosocial technology of late capitalism that exploits feminized "natural" resources in inefficient and abusive ways. It is a toxic surface.

beyond disability as a crisis of masculinity

Ideologies surrounding the notion of disability are dualistic, as they invoke a mind/body binary and they appear to originate from medicalized social and cultural meanings. Elsewhere (*Unimaginable Bodies*) I have identified these "codings" of bodies as "products of despotic, authoritarian assemblages of power" (13), and argued that disability theory needs to move away from "terms grounded in binary power relations" (42) implied by the dualism between ability and disability. In some respects, it seems to me that the binary power system of dis/ability aligns closely with the dualism that informs Connell's premise of hegemonic masculinity (Connell, *Gender Trouble*), and the marginalised "other" forms of masculinity that hegemonic masculinity necessarily subordinates. Both dis/ability and hegemonic masculinity are binary codes that require subordination in order to hold. I suggest that at the point where these two ideologies of dis/ability and hegemonic masculinity interconnect we find the catalyst for an alternative discourse, and I will explore this further in the section on gendered surfaces.

If we are to flatten and connect the polarities that shape our definition of able bodied and disabled, masculine and feminine, we see that these categories are produced and inscribed and rely on each other. If we deconstruct the dis/abled binary that is informed by the Cartesian premise of the body (vehicle for self) split from the mind (self) we see that this imaginary binary is shaped profoundly by our performative reiteration of intersections of gender and power. However, what is expected of the hegemonic male, and how those expectations are embodied, shift dramatically when the male subject proves to be only a physical representation of the concept of masculine dominance. If this same corporeal ideal is unable to respond in the assumed psychology of patriarchal power, the performativity of his gender and his identity as a "man" are brought into question. Disability, expressed psychologically, physically and intellectually, is often a fault line running through performances of hegemonic masculine subjectivity. This destabilization can be, and is, popularly read as a crisis in masculinity (Wilson 120), but more than this it is a materialist problematization and deconstruction of how masculine gender and power come to matter together.

Scholarship on masculinities (Archer; Robinson) and popular media discourses of masculinity both regularly suggest that men are in "crisis" – globalization is causing crisis for farming men because free trade agreements mean they can't compete with cheap international imports, boys are in crisis because they don't have enough male role models, working men are in crisis because women are

taking their jobs (Kenway, Kraak, and Hickey-Moody). But these narratives are not new, as scholarship on masculinities shows us it has been "in crisis" since it has been studied and, as such, masculinity can be seen as somewhat synonymous with crisis (Connell, *Masculinities* 84).

In late modern contexts, performances of masculinity are not necessarily expected to be attached to bodies that are sex marked as male. There are lots more ways to be a man – to "do" masculinity as Butler might say – than there were forty years ago. The same can be said for disability – expressions and representations of disability have diversified and have a public visibility that is small but is, arguably, expanding. At the same time, I think we can also say that masculinity remains linked to themes of power and privilege – both in the public sphere (government and business) and privately (men are still thought of as romantic pursuers, as providers, as family figureheads). Disability also remains culturally constructed as emasculating, and as a deficit, if not as completely undesirable. A popularly accepted example of the devaluation of disability can be found in Peter Singer's contentions that capitalist economies cannot carry the cost of disability. A case in point is the fact that Singer advocates the killing of infants with disabilities. The criteria he proposes for deciding which infants may be killed centre on a range of hereditary physical conditions that he characterizes as disabilities. In his book *Should the Baby Live?*, written with Helga Kuhse, he argues: "We think that some infants with severe disabilities should be killed" (1).

The reason why Singer supports infanticide in such cases is not to put an end to the newborn's suffering; rather, *it is because such children take away resources from what Singer calls "normal" children*. Disabled children could be seen as offering a machining, or subjective processing, of the world that makes quite divergent realities, a way of making and illustrating the differences all people manifest. Disabled children prompt dominant cultural forms to see and shift limits in understandings of culture and being. But Singer does not suggest any such value; rather, he advocates killing "disabled" infants and replacing them with "normal" ones. The terminology of "replacement" is Singer's own; in his words his philosophy "treats infants as replaceable" (*Practical Ethics* 186). While it seems to me that Singer's eugenic call for the removal of infants with disabilities is rather extreme, in late modern society disability is also often being re-made or reproduced through the construction of disabling technologies. This is ironic, as the case of Pistorius shows us, because technology can offer more (rather than fewer) possibilities. However, instances in which technology is assistive to people with disabilities are particular, rather than constituting the "norm" of a framework for inclusive technological design.

This problem of technology as disabling is explored by Annable, Goggin, and Stienstra (145) who ponder the challenge posed by the fact that technologies that could be so productive for people with disabilities are often still designed in ways that are disabling. Goggin and Newell extend this discussion further by considering the power relations of disability within broader cultural contexts. They argue that "people with disabilities still face a long struggle to be accepted in society, as equal members of their national communities and cultures" (166). Eight years later, this statement still rings true. My life in London, and indeed my previous life in Sydney, attests to the fact that catching public transport or attending university, let alone participating in public culture, remains the exception, rather than the rule, for people with disabilities living in global capitals. One of the reasons why Pistorius' participation in the "able-bodied" Olympics was important is because it constitutes an instance in which a body that might be characterized by discourses of disability is framed in quite different terms of reference. Pistorius was positioned as *too* good, *too* specialized, to compete with mere humans. While, as Haraway and others have shown us, humans are already cyborgs, the fact that disability is an opportunity for maximizing humans' cyborg nature is not often viewed as a competitive threat to "non-disabled"

humans. There are echoes here of Singer's call to kill disabled infants because they compete for resources needed by non-disabled infants. Pistorius was competing for a medal that was available for people without disability and this boundary crossing incited fear. Indeed, disability issues are not always considered in debates about public culture, and when they are they are too often thought of in terms of competition between disabled and non-disabled people or through human rights discourses rather than as posing a threat to some possibly "pure," or non-cyborg, human form.

Pistorius shows us that disability is not always synonymous with a crisis in masculinity; indeed, it can be an agent for the development of an extremely hegemonic, homosocial masculinity. More than this, the change in this popular construction of the gendered nature of disability and the threat that this change is seen as posing show us that disability, gender and indeed *humanness* are constructions, performances and inscriptions on surfaces. Humanness and ideas of human rights are implicitly problematized by this shifting ground.

Furthering this point, human rights discourses can give rise to resistance from those who understand themselves in terms of reference that are constructed outside performative identity-based movements. Such a response is evident from postings to Abrahams' (see "Second Life Class Action") accessibility blog in response to his proposal that "the equivalent of a class action" should be set up within the virtual world of Second Life to make the environment more accessible for users with disabilities (par. 7, and on Second Life and disability activism see also Stein, "Online Avatars"). While Abrahams (see "Second Life is Now Too Important") later reported that his proposed class action was "tongue in cheek," and was designed to raise awareness of the importance of accessibility issues, the discussion is interesting because of the ways in which discursive frames of reference specific to a human rights discourse are taken up as the only available mechanism for discussing disability issues.

This example highlights the lack of frameworks that can be drawn on in order to unpack the complexities of technologies in relation to issues of disability and the ways in which they are gendered and intersect with the production of power. Human rights discourses do not need to be the only vehicle through which discussions pertaining to disability are advanced (Tremain). While this point has been made in scholarship elsewhere (Stein and Waterstone), Deleuze's work on surfaces can be used to show us that some disability-friendly technologies create surfaces that change what it means to be a gendered body with a disability.

gendered surfaces

As a way of thinking about the produced nature of humanness and the binary divisions of gender, power and dis/ability that humanness entails, I want to think through surfaces as extensions of our subjectivity. For Deleuze, the

> surface is neither active nor passive, it is the product of the actions and passions of mixed bodies […] being a receptacle of monomolecular layers, it guarantees the internal and external continuity or lateral cohesion of the two layers without thickness. (142)

Surfaces bring things together, they cohere mixtures in the world around them. They are residues, amalgamations of their actual and virtual surroundings, the frontier between meaning and matter, materiality and possibility (see also Barad). Deleuze's work offers an approach that is conceptually different from a human rights perspective and can be taken up to think about "disability" as something that is inscribed on a surface, rather than a subjective or objective truth. Indeed, disability is a word that is always attached to different mixtures, mixtures that have qualitatively different relationships to gender and power. As the example of Oscar Pistorius shows us, these qualitative differences matter and they make matter have meaning in different ways (Barad; Van der Tuin). There is not space made for

the understanding and accommodation of such differences in how disability comes to matter in a human rights framework. For example, article 1 of the Universal Declaration of Human Rights reads:

> All human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood. (Universal Declaration of Human Rights, 1948)

A Deleuzian rendition of such a statement might read:

> All human beings are born different. In becoming more "themselves" as they act upon one another, human beings become different from their (former) selves. Change, difference, or differentiation is the ground on which humans come to be and come to know themselves and others.

With this ontology of differentiation and surfaces in mind I read the carbon fibre surface extension of Oscar Pistorius' embodied subjectivity as a material transformation of his self and his body, his ways of connecting with others and specifically the way he produces his gender as a power relationship with others.

Through carbon fibre, Pistorius shared the same surfaces as, and indeed became conceptually sutured to, non-disabled male athletes as his prosthetic limb ran alongside their fleshy feet on the surface of the Olympic track. Homosocial intimacy was mediated across the track and the carbon fibre blades:

> a surface energy without even being of the surface, is due to every surface formation; and from it a fictitious surface tension arises as a force exerting itself on the plane of the surface. Attributed to this force is the labour spent in order to increase this surface. (Deleuze 142)

While the act of running binds Pistorius to athletic homosocial economies, the act of producing carbon fibre surfaces binds late capitalist economies to a broader materialist politics of homosociality in a bid to increase frontiers available for masculine domination. As

> [e]ven the frontier is not a separation, but rather the element of an articulation, so that sense is presented as what happens to bodies and that which insists in propositions. We must therefore maintain that sense is a doubling up. (Ibid.)

Sense is a doubling of the *possibility* of being faster with the act of *being faster*, or of the proposition that a prosthetic limb might extend your masculinity with the act of enjoying mediated intimacy between men. Propositions that are doubled are made to matter. While Pistorius is important because he is one of a few examples of technology markedly extending the experiences and lives of people with a disability, he also shows that carbon fibre is part of a broader misogynist, homosocial cultural economy.

conclusion

In *The Logic of Sense* Deleuze gives us a theoretical framework for reading surfaces as assemblages of different wholes that articulate together as a surface that makes "sense," and that makes sex in a redistribution of libidinal desire. This model for reading the surfaces through which bodies are connected and through which they are made to matter connects to the position advanced in his shared works with Guattari, that bodies, objects, images, sensations, become together – subjects are dividuals of broader assemblages through which they articulate. Deleuze suggests that "The sexual surface is an intermediary between physical depth and metaphysical surface" (54). Carbon fibre is a masculinized surface that is sexualized in the sense it redistributes libidinal intensities across competitive scapes of frontier masculinity.

In her work on the *Becoming of Bodies* Rebecca Coleman notes that if we are to take seriously the proposition that bodies become through things, then our task must be "to account for […] [what bodies] limit or extend […]" (163). Carbon fibre extends heterosexual

economies of misogyny that articulate the heterosexual matrix (Butler, *Gender Trouble*). Pistorius' biography extends the surface of carbon fibre masculinity as technology of homosociality and misogyny, not just hegemonic masculinity. Carbon fibre is the technology that propelled Pistorius beyond the socio-cultural politics of disability; it is the surface that connects him to global assemblages of sporting masculinity.

Before closing, there are two points I would like to make. The first pertains to surfaces. The cultural production of surfaces is a sexed and gendered politic that is naturalized and is a way of extending, or growing, sexism. Secondly, I want to gesture towards a relationship between Butler's thesis in *Bodies That Matter*, that the way bodies come to matter is a sexual politic, and Deleuze's contention in *The Logic of Sense* that surfaces can be sexed. Firstly, as I have shown, as extensions of subjectivity, surfaces are sexed and gendered and this empirical meaning needs to be accounted for in cultural theory. Secondly, Deleuze argues that surfaces can articulate redistributed libido, or, as he puts it, bodies can produce certain surfaces as a way of maintaining control of their sexual power; the de-sexualization or the sexualization of surfaces is a way in "which the sexual object is maintained" (Deleuze 274). This maintenance of the homosocial hegemonic male subject is naturalized and maintained across surfaces of carbon fibre.

This is a paper about Oscar Pistorius, disability and masculinity then, but analytically it is also a paper about surfaces as extensions of sexed and gendered subjectivity. The case of Pistorius shows us that bodies, and the gendered nature of bodies and materialities, are more than human and that *humanness is constructed*. Through Pistorius we see that disability is socially produced and can be "overcome" through carbon fibre. Pistorius exemplifies the fact that carbon fibre can be a homosocial surface; that is, carbon fibre becomes both a surface extension of the self and a third-party mediator in homosocial relationships, a surface that facilitates intimacy between men in ways that devalue femininity. Pistorius is exemplary of the masculinization of carbon fibre, and associated attitudes of misogyny. Running on and with carbon fibre blades brings Pistorius into non-disabled athletic homosocial economies; the act of producing carbon fibre surfaces ties late capitalist economies to a broader materialist politics of homosociality, and in so doing increases frontiers available for (and methods of) achieving masculine domination.

notes

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1 Oscar Pistorius is a South African sprint runner who runs with artificial limbs from his knees down. His legs were amputated below the knee at eleven years of age ("Oscar Pistorius"). A Paralympics sprint champion, at the 2011 World Championship in Athletics, held in South Korea, Pistorius became the first amputee to receive a silver medal for participating in the 4 × 400 metre relay, representing South Africa ("Oscar Pistorius").

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