**Now You See Me, Now You Don’t**

**Medical Design Anthropology, Improvisational Practices and Future Imaginings**

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**ABSTRACT:** The body as an anthropological nexus of sociocultural norms and conventions has been discussed at length in the humanities and social sciences. However, within the worlds of industrial design, an important player influencing an understanding of the body within a design process has been neglected and that is the industrial designer. Our main thesis considers designing as an anthropological, sociocultural and physical praxis, in the midst of which stand person(s) engaging within their material environments. We argue that, as an interdisciplinary dialogue with anthropologists and designers alike, the industrial designer could pursue a broader perspective than the classic techno-practice perspective, which deliberately detaches the social qualities of human action with the aim of changing user behaviour through the use of medical products. Instead, we propose an understanding of industrial design practice(s) that considers the improvisational and interwovenness of peoples and practices and what this means for attuning industrial design practices accordingly.

**KEYWORDS:** anthropology, body, industrial design, medical products, persons

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**Designing Medical Products**

Designers and anthropologists in collaboration have attempted to utilise designed products to influence users’ behaviour (Tromp et al. 2011). However, when faced with the design of medical products that a person wears, carries or attaches to their body, a medical product’s presence can draw attention to the inadequacies of a person’s body. In cases of medical products, stigma or even disquieting gazes will result in the rejection of the designed product. In these cases, designers may choose to create a somewhat subversive and low-key product which the user will feel more comfortable with in a social space. Another strategy could be to design socially responsive products less in the lines of medical products, and more in the lines of extreme or professional sports (smart textiles imbued with colourful, changeable and fashionable patterns), generating an aesthetic with the potential to empower people. In other words, the option to conceal the impairment or to enhance it will either empower the user or help them avoid uneasy situations. That entails, for example, the option to wear whatever they want, regardless of their impairment.

The world of design takes place within environments that undergo ongoing economic and political changes. As such, designers are continuously challenged to rephrase their role in relation to the sociocultural climate within which they work. We posit a notion of medical design anthropology as appealing to a deeper understanding of the sociocultural context in which medical designed products are made. Indeed, this focus offers an important contribution to recent research attending to users’ needs, answered by better-designed medical products. We therefore propose a notion of ‘medical design anthropology’.
This concentrates around the ability of designers to involve aesthetics as a way of enabling patients to cope with their disabilities through physical sensorial engagement with medical designed products. Therefore, in this article we search for the contemporary relation between design practitioners and design anthropology. Specifically, we describe the functions of aesthetics in medical design through a dual tactic of visibility and invisibility.

**Designing for Disabled Bodies**

Contemporarily, the perception of a disabled person has moved from a social burden towards being an equal citizen, striving towards a better life, like other excluded groups in modern society. Instead of leading an unfulfilling, passive and dependent life, disabled persons increasingly involve technology in their daily lives in ways that aim towards enskilment rather than taking skills away (Kilbourn 2011).

Kyle Kilbourn (2011, 2012) accentuates the patient’s active role in the designing of self-care technologies. His main argument gives focus to re-conceptualising the patient as skilled practitioner rather than as a passive consumer of home dialysis machines. In his empirical materials, he shows how dialysis patients administer medicine and conduct analysis on their own bodies at home (after guiding sessions with nurses); a process that he argues can lead to enskilment in health and technology. The design researcher describes the first phase in this acculturation as ‘situated bodily learning’ in which patients follow the nurses’ instructions still in the hospital, as their body remembers their medical process. For the patient to become a skilled practitioner, this is dependent upon what Kilbourn calls an ecology of skill, related to environmental structuring through adapting bodily practices, meaning-making through integrating feeling and knowing, and situated bodily learning through engaging the body (Kilbourn 2011, 2012, 2013). Here Kilbourn (2011) presents an important contribution to design anthropology whereby persons (and not users) engaging with medical products and in response to the ongoing changes within their environments perceive and enact agency. As such, in the world of medical design, people who live with medical products have the potential to become active collaborators within the processes of designing them through their ongoing use.

Furthermore, in contrast to common representations of the ‘perfect body’ emerges a different image of the ‘average body’, leading to disabled people demanding functioning, high-end and aesthetic products (Paterson and Hughes 2000). One outcome of this shift is the placement of the disabled body in the realm of the post-human, juxtaposing the biological with the technological (Pasztory 2005). As with any other consumer group, disabled people strive for economic value when investing financial resources not only when dealing with consumer products but also in the case of medical products (Jagger 2000). From the designer’s perspective, this is a challenge, since s/he has to design a functioning, high-tech and low-cost medical product, which will also correlate with consumers’ requirements (Fewell 2003), leading to medical products which combine aesthetic qualities with the functionality of being clinically effective in terms of safety (see West et al. 2014).

Human physiology, social surroundings and technology are embodied in prosthetic limbs and other medical products targeted at enhancing, restoring or modifying the disabled body. Ever-evolving technologies challenge and blur the distinction between people and technology, as well as the relationship between the biological or organic and other materials (metal, plastic, various polymers etc.). These advances in materials science and technological development challenge the very definition of disability, whence technology not only equalises the disabled person but also has the potential to enhance their abilities to surpass that of ‘ordinary’ people. Beyond answering aesthetic and functional needs, these new materials and technologies redefine the boundaries between disabled people and the rest of the population (Shilling 2005). These materials and technologies appear on the surface at least to enable a person to modify, implant, improve and replace parts of their body willingly, hence enhancing self-control. In this vortex of sociocultural, physical and aesthetic meanings, designers (as mediating agents between their clients and the end-users) design medical products which may have the potential to bridge this gap and enhance a person’s daily routines.

Through designing medical products which improve the physical functioning of the user, the designer has potential to enable or dis-enable them to function normally within their social surroundings (Davis 2005). A person’s mobility is one of the central abilities connecting the private and the social. This ability is highly influential in the way the individual engages with his/her societal surroundings. Posture, walking stance and limb gestures and control (Mauss 1973; Vergunst 2008), as well as the person’s physical and a-physical presence in the public sphere, are all key elements in the person’s direct connection with
their environmental surroundings (Ann and Ness 2004). Following this line of thought, we wish to highlight the designer’s potential to influence this arena, to empower and nurture the disabled body through integrating design anthropoloogy, technology, engineering and industrial design. This multi-disciplinary approach is specifically relevant when dealing with the designing of prosthetic limbs, whereby the designer has to develop a product that would fit the person’s bodily functions (personal body), stigma in their immediate surrounding (social body) and other sociopolitical norms and conventions (body politic). A notable example of the precarious balance designers have to achieve between these three bodies can be articulated through visibility and invisibility in design.

**Designing with Difference**

While encountering perceptions of being disabled or different, the person can be subject to social stigma that affects the performance of her daily activities. Furthermore, medical products perceived as an appendage of a person’s body create negative connotations of shame, deficiency, dysfunction or inferiority but also a reminder that others’ perception of their dysfunctional bodily condition is ever-present. In this perceptual-techno-physical junction, designers at best can engage their future imaginings to support and empower the person. On the other hand, such industrial-technological designed medical products can also enhance stigma by creating a disquieting image of cyborgs (Cromby and Standen 1999). Since the disabled person is conscious of their disadvantage and loss, the role of the artificial limb or medical apparatus is to try to forget bodily shortcomings and empower newfound abilities (Rawdon Wilson 1996). Furthermore, the person’s kinetic ability to control their movements enhances the user with a sense of individualisation, self-sufficiency and control in their immediate surroundings (Shilling 2008). As we shall see in the interview material presented in this article, materials, technology and design play a central role in this process, that is the designer attempts to draw upon their design skills and technological abilities to ameliorate the disabled person’s social surroundings, rather than enhance her alienation.

The subject of how person–technology–environment are interrelated has been researched by anthropologists (Ingold 2000, 2011), yet only very few researchers have focused on the potentials of the aesthetic relation in industrial design as a tool of empowerment of physical improvement (see, for example, Clarkson et al. 2003; Ventura and Bichard 2016). Apart from viewing the body as a material site of consumer culture (Baudrillard 2005; Edgley 2006; Featherstone 1991; Lury 2001 [1996]), it can examine the positive effects of how aesthetic-technological attributes afforded by medical products mediate between the sociocultural environments and technological in a way consumer culture theories lack (Gibson 1986).

A disabled person is very often self-conscious about her/his body (Charmaz and Rosenfeld 2006), hence this can lead designers along paths that reduce or camouflage her disabilities towards the goal of acquiring an image of ‘the correct body’. Designers, such as those working at the Innovation Design studio discussed later, attempt to involve aesthetics and technology, making possible for the people they are designing with the necessity to ‘play’ or ‘act’ the part of the healthy ‘normal’ person (Goffman 1959, 1963, 2001 [1967]). Furthermore, aesthetics and technology can allow for, in some instances, extensions of the disabled person’s body, enabling relational practices within their social environments (Shilling 2005). Similar to the approaches of Anne Balsamo (1996), Thomas Csordas (1994) and Chris Shilling (2005), our research suggests that the ‘end user’s’ body in the cases we present is a product of sociocultural and historic processes. However, contrary to anthropological, sociological or cultural studies dealing mainly with the sociocultural dimensions of the body, we wish to turn the gaze to aspects of aesthetics, technology, design and the designer’s potential influence on a person’s body. As we show in the article, a person’s body becomes, during a process of designing, a field on which various players assert their will (for example designers, engineers, marketing experts, manufacturers and medical professionals). Within this highly populated and politicised landscape of multiple stakeholders and medical product design lie not only an increasing range of human-centred approaches to design (e.g. participatory, co-, human- or user-centred; see Ventura and Bichard 2016) but also another player that is design anthropology. We argue that there lies a potential for anthropologists involved in design anthropology as a process of research inquiry drawing upon medical anthropological theory as well as practice-oriented design methods to contribute to the actual designing of medical products.

**Designers and the Social: Research Outline**

Throughout this article, we highlight the designers’ responses in dealing with issues of aesthetics and tech-
technology and their consideration of the disabled person's body during their design practices. Specifically, how these designers draw upon design aesthetics to accentuate visibility or invisibility of the person's disablements, according to her social environment.

In order to support our argument, we draw on the findings of Ventura's doctoral research (2009–2012), and his ongoing post-doctoral research (2013–2014), which focused on the social roles of industrial designers and the social practices of designing. Due to the scope of this article, we will present findings from his research within two of the studios. The studios included a staff of at least ten designers, winning international awards or gaining international appreciation and expertise in a defined design field.

The fieldwork took place over a period of approximately eighteen months and included one full day every week at each studio, which involved participant observation: watching the designers work and asking informal questions. We also investigated virtual objects using 'The 3D Text': a method created in order to better understand objects that have not yet been physically created, using 3D imagery software, usually SolidWorks. We also asked the designers to talk about their CAD (computer-aided design) files containing completed design projects and explain their design decisions (concerning shape, materials, lines, plains, aesthetics etc.). Interviews gave focus to asking subject-oriented questions and general/personal questions dealing with the designers' design practices.

Visibility and Invisibility in Medical Design

As Marcel Mauss said (1973), the ways in which human beings control, use and conduct their body attests to their sociocultural norms, learned and implemented from infancy. In the same way, Goffman (1963) stressed the public sphere's influence on norms and conventions as well as our movements and practices of relating. Following Mauss' footsteps, Mary Douglas (2003) accentuated the inherent nature of social norms, which are embedded in our bodies and manifested through our everyday actions and experiences (what Bourdieu [1977] termed habitus). Marketing professionals, as well as designers, attend to contemporary consumers' desire of individual products, and how these products differ from mass-produced goods sold in millions of identical copies (Diaz 2009). Global brands (such as Coca-Cola, Dell, Nike and many more) invest millions of dollars in trying to decipher consumers' subjective desires in their quest for uniqueness. Among these continuously shifting sands of global marketing, industrial designers have to take into account the intricate relationship between the designed product and the person's body. Among these challenges are ergonomic considerations, the person's social surroundings, responses to the use of the medical product and social stigma. Within this intricate landscape, one of the difficulties facing designers is how to relate to the individual person (most often categorised as a user) within their processes and practices of designing. Yogev, the head of Innovation Design, describes a process in which the designer delves into the daily reality of 'the user':

Jonathan: You put yourself in the user's place?
Yogev: I don't switch places, since I am not the user; however, I expose myself to the maximum of authentic information. I pay attention to the users' feedback, as well as clinicians and other opinionated professionals [...] when I studied for my Masters at the U.S., I worked with elderly users and I didn't understand them at all. And then, in another project, I was faced with a young person's perspective on life and their future. Both projects completely different, but I tried [to understand].

As we can see, Yogev describes a process in which designers try to understand the disabled person's ontological perspective from the positioning of a 'user', both young and old. The first 'trick', according to Yogev, is empathy, much as Geertz's *einfühlen* (1973), as well as the designer's need to facilitate the user's intricate daily activities. The designer, in this case, conducts a sort of mixing or juggling, or bricolage in Lévi-Strauss's terms (1962), in order to interpret the disabled person's present and future lived experiences. The designer reflects upon her own interpretation of specific situations and combines these with observations of users' experiences and forms this into an aesthetically and ergonomically designed medical product. How exactly does s/he do this?

As discussed previously, the designed product's visibility or invisibility reflects directly on issues of politics, gender, status, race, power-relations, social exclusion and other conventions (Wallace 2004). Our society assesses our health, physical as well as mental condition according to our physical and external attributes (Charmaz and Rosenfeld 2006). The disabled person will try to camouflage, conceal or hide her physical disability and where possible find ways of communicating within her surrounding that everything is ok. Scheff (2005) claims that the disabled person's interpretive ability is hindered by the lack
of immediate feedback from his social surrounding. Furthermore, the disabled person faces hindrances and obstacles irrelevant to healthy persons (Brooks et al. 2006). In this gap of inequality, a number of designers suggest sociotechnological and aesthetic solutions. Moreover, the binary gap between visibility and invisibility derives from the active choice of accentuation as a manifestation of aesthetic, fashionable and socially acquired taste (Bourdieu 1984), in contrast to assimilating the medical product in the form of an appendage attached to the user’s peripheral parts of her body. However, going a bit further than this classic theory of distinction, we suggest that designers use their ability to harness aesthetics to a broader sociocultural function – to help bring back the element of choice to the patient. This element of choice can empower the patient in her daily routine.

Since the body reflects a person’s self-esteem and identity creation, the medical product’s visibility or invisibility is of great importance to designers as well as to the people who have to live with these products as part of their daily lives. The designers we refer to in this article combine technology and aesthetics to blur or accentuate the disabled limb according to their understanding of the user’s practical necessity and relational practices within her social environment. A crucial dilemma within this process is, naturally, whether the designed product should conceal or accentuate the person’s dysfunctional body. Yogev, the head of the studio, explained his view on how designing medical products is different from designing consumer goods:

The goal is to highlight an inferior or disadvantaged situation and elevate and even empower the user. For example, by taking professional athletes or extreme sports as an innovative inspiration, we can lift and elevate the injured or disabled user, […] which is the process concisely. Since we are not psychologists, what can we actually do, apart from creating a top-of-the-line product? We can create a small elevation of the user’s spirit and self-esteem. It is not the plastic, silicon, high-tech textiles or polymers, but the modest elevation you create in the user’s daily activities.

Instead of trying to hide the user’s disability under a ‘proper’ medical designed product, Yogev’s team found inspiration in the world of extreme and professional sports in order to accentuate and elevate the user’s unique situation. This transfiguration, according to the designer, upped the users’ self-esteem and boosted their morale. Furthermore, when asked, ‘what is a successful medical product?’ Yogev explained that the product’s success depends on a number of different factors including the user’s compliance:

Yogev: Firstly, a successful medical product is not proven in the studio, but rather by its users. For me, this product [a paramedic product targeted at muscle diseases in limbs] is successful, because after four–five years, I still see the users still wearing a filthy product on their leg and conclude they do not take it off.

Jonathan: So, when the user uses a product unquestionably for long periods of time it is a sign of success. What role does aesthetics play here?

Yogev: Yes, it is very important for the users to feel their product is beautiful […] for me, if I had to choose between a slightly better product or a beautiful one – I would choose the beautiful product. Since we are working very hard to design the best object we can, we have to work extra hard to make it beautiful as well. That is my job.

We can see that Yogev’s explanation of the design success of medical products for the disabled user lies in a product’s ongoing use (the layer of dirt attesting to it being used frequently). Furthermore, Yogev’s descriptions of the importance of creating a beautiful object stems from the designers’ practices of integrating the user’s disabled body within its immediate social surrounding. Following this rationale, a beautiful product, reminiscent of professional athletes’ bodily equipment can minimise the antagonising affects of a ‘classic’ medical product (prosthetic) apparatus.

Hila, a designer also working at the Innovation Design Studio, describes the issue of concealing or accentuating a product’s design as extremely important:

Hila: We begin by deciding which parts of the product we wish to accentuate or conceal. Moreover, we test the products on ourselves to test how comfortable they are, and to see how people might react in the first instance [to our designed prototypes].

Apart from choosing various attributes to accentuate or conceal in each product, Hila tries to find ways in her working practices of imagining herself as one of the future users. In the same way, Nadav, a designer from Carpe Diem Studio, addresses the issue of visibility or invisibility through the ‘imaging glasses’ project. Since this product will be worn on the user’s face, the issue of visibility is crucial:

Jonathan: Is there always a gap between visibility and invisibility? I mean, do you consider how your design will affect the user’s interaction with their surroundings?
Nadav: Yes, that is right. This product has to accommodate the broadest audience possible. It has to be generic enough that a Japanese businessperson and a Swedish designer would wear it. It has to look as normal as a high-tech gadget/lifestyle apparatus can. It is like a Toyota, it does not create a stir, it does not stand out, but it works perfectly. In a way, I do not think we defined it precisely, but we knew that in order to look normal you have to be consciously low key; you cannot be extravagant, but you cannot be over-generic, since this could result in a very ordinary and even banal product. In all our products we try to design a unique and yet iconic angle that would stick in your [bodily] memory.

Nadav explains the binary aspect of these glasses, between the correct-banal, not causing a stir, and the innovative-iconic expected from Carpe Diem products, which result in a clear, crisp, unequivocal, unique and clearly a different kind of product. As we have seen, in the designing and reception of this product, the issue of visibility–invisibility was crucial and dealt with in a sensitive way of mediating between uniqueness and the mundane. One of the main methods for designers to choose between visibility and invisibility lies in a creative choice-making process, regarding materials and colours:

Nadav: Ninety-nine per cent of people have an opinion regarding the product’s appearance, i.e. we all care about aesthetics [...] colour is an important tool with which we can broadcast our message, whether it is a colourful teapot resembling a Lego toy or other products joyfully coloured [...] When designing medical products, regardless of your own good intentions, you cannot relay an atmosphere of fun and games, but rather stability and trust. The user wants to possess a product that is trustworthy, since she will use it every day, and since high-end products are very expensive [...] The same goes for materials. We choose expensive high-tech textiles that resonate luxury, investment and excellent detailing. In this end, you have to design a medical product people will enjoy using, even subconsciously, but they have to know their product was built in the best possible way.

Nadav’s description of designing medical products brings us back to the designer’s basic dilemma regarding visible and invisible aesthetic features of the product. On the one hand, medical products have to be opaque and unobtrusive, but on the other hand, people want to be proud of their new bodily extension, rather than being stigmatised by their dependency on medical products. Therefore, designers have to balance between exuberant and highly colourful and more elegant and low-key designs. A key point in these descriptions is that the aesthetic beauty of the medical product depicts not only a potential to enhance practices of relating to others within a given social environment, but also an appreciation of meticulous artisanship and a high volume of investment by both the designers and manufacturers. This is essential, according to Nadav, to design a medical product, which will become ‘an extension of the user’s body’, rather than an appendage.

Zachi, an Innovation Design Studio engineer, describes fine-tuning the visible and invisible elements of medical products:

The user is situated betwixt the manufacturer and between the designers. Either she knows what she wants or you tell her, there are various psychological aspects to this. For example, initially, the sterile image of medical products scare the users, so we, as designers, have to involve aesthetics to surpass this fear and at the same time convince the user she is getting her money’s worth.

According to Hila, when designing medical products, the user wants not only to attain a perfectly designed product but through involving this product in their daily lives they want a sense of joy and pride as well. To achieve this end, designers use bright colours to bring the user more attention, or low-key colours (greys, light greens and light blues) to take away unwanted attention and conceal the use of the product. Hila gives an example of such a dilemma:

Figure 1: The L300 Small, a walking rehabilitation product, designed by Hila and her team
Jonathan: Who creates your colour palate? The clients? The FDA [US Food and Drug Administration]?

Hila: No, it is not the FDA. In most cases, it is a feeling of what our users will feel comfortable using. People like what they know, so in some cases, innovation can be problematic, since it may result in attracting unwanted attention from the user's immediate social environment. Our users, in most cases, are elderly persons who do not like bright colours, so taking inspiration from fashion or extreme sports can be problematic. We prefer a subtler, modest and introvert approach [...] you have to remember we design medical products, not fashion or consumer goods. Therefore, our products are bought primarily not for their aesthetic value, but rather for their function and trustworthiness [...] there are some elements of fashion in these products, when changing from light grey to light violet or blue, from 'hospital green' to a more fashionable mauve, but that's about it.

Hila explains that while consumer goods are judged, among other things, by their sophisticated colour scheme, medical products present a different agenda. The disabled person wants the product she bought to create an aura of reliability and capacity for her as an individual engaged within a social environment. Hila continues:

For many years, we have tried to introduce a bright orange. For example, defibrillators are in some cases legitimately designed in bright colours to broadcast an element of danger, crisis or emergency. You can find, in these cases, splashes of red, green, yellow, LEDs or colourful buttons, but it usually stays strictly in these products. We acknowledge our users' need to stay in the shadow and not stand out in the crowd while using our products [...] for example, we have a product that is designed to be worn under your trousers or skirt. We designed it in such a manner that the users themselves can decide whether to wear it underneath or above their clothes. It is designed as beautifully as we can, leaving the choice of visibility or invisibility to the users.

The medical product, existing in close proximity to and immediate relationship with the user's disabled body, stands at the centre of daily social interactions and thus practices of relating to others within both situated and ongoing changing environments. Medical product design, therefore, is influenced by the way the disabled person perceives and enacts her ongoing relation with the medical product within a social environment. Apart from implants, which are obviously not visible, most of these medical products need to be attached to the disabled body. This can lead to bulges in her clothes that may lead to unpleasant responses from surrounding people. The choice of colours, textures and materials, then, help designers to address this complex issue while concealing or accentuating the existence of the medical product. As we have seen from the interviews with Hila, the addition of splashes of colour and texture, in addition to a subversive and elegant design, may empower the disabled person while at the same time providing a choice, whether to lean towards visibility or invisibility of the product. For example, one product was designed to stimulate injured muscles to work more efficiently. This product is worn on the leg or the hand of the person. Innovation Design's smart strategy was to design this product in such a manner that people will be able to choose whether to place it over or under their clothes (see fig. 1). Importantly, the product integrated an aesthetic relation in the medical product design enough to be worn openly without any feeling of discomfort or shame.

Medical Design Anthropology and Collaborative Roles

A process of design thus is not to impose closure but to allow for everyday life to carry on (Gunn and Donovan 2012: 1).

As we have seen in this article, taking into account the visibility and invisibility of the medical product in terms of a broader understanding of it as related to sensorial knowledge and as belonging to social practice can lead to better-situated and more socially sensitive products (Baumgarten 2007 [1750]; Gunn forthcoming). So then, what is the role of the anthropologist during this process? In turn, naturally, we have to ask what is the role of the designer in contemporary design practice? Anthropology of the body has dealt in length with various attributes of the sociopolitical and private body (for example, Lock 1993). From Lock’s positioning, an anthropological understanding presents the body’s complexities through the distinction between three archetypal bodies (Scheper-Hughes and Lock 1987): the individual body (the person's identity), the social body (society’s norms and conventions) and the political body (a combination of the other bodies and issues of power and politics). As we have seen, in the interview materials presented in this article referring to designing with and for disabled persons, human-centred approaches to design take into account not only (physical) ergonomics but also sociopolitical ergonomics. While classic ergonomics focused on the private body, designers, through applied anthropol-
ogy, tackle the deeper venues of the social body and body politic.

In a consumer-driven society, our body is often considered a machine reacting to input and executing predetermined goals. Changing or improving body parts is the norm (Fortunati 2003). Following advances in materials science and technological development, the body is often represented as an object or a platform for the latest fashion, innovative gadgets and/or trend. Giuseppe Longo (2003) claims, our body holds a paradoxical stance: on the one hand, it is conceived as a strong and wholesome entity, while on the other hand, our body is seen as a weak and replaceable platform, easily improved by new technologies. We argue, then, that drawing on medical design anthropology as an approach involving participatory observation, shadowing, anthropological methodology and design as a process of inquiry towards designing medical products will enable both the designer and the people who the design team is working alongside to define and articulate the situational nature of designing with persons towards designing better medical products (Gunn and Løgstrup 2014). These will involve generating appropriate collaborative forms related to the skilled, sensorial, perceptual and relational practices of human beings, as well as the aesthetics of the everyday.

Here research on improvisation is central. As Hallam and Ingold (2007) have previously argued, people never quite use designed products as designers expect. Designers and anthropologists can learn from improvisations of persons living with medical products in terms of generative, relational, temporal and interwovenness of everyday ‘performative engagements with the materials around us’ (ibid.: 3). Enabling practices of relational building between designing and using in this way has the potential to deal with issues not only of the power-relations between the designer and the user, designer and anthropologist, but rather a more holistic approach towards understanding the sociocultural dimensions of how medical products could be made differently. Following this thought we clearly understand the role of the designer vis-à-vis technological innovation and production methods should change profoundly.

In many cases, designers have limited time to conduct research. In Ventura’s interview materials, many designers mentioned the need for a holistic reflexive process, allowing for them to go over their project after its culmination and to learn from their mistakes. As an inherent part of its practice, medical design anthropology can instigate both reflection and reflexive practice(s) as an integral part of the design process – before action, on action, in action and importantly towards future actions, offering the potential to transform the understanding of human–technology relationships and refocus attention on persons, instead of users, and what that actually means within the practices and processes of designing medical products. Following this thought, we wish to articulate the role of the anthropologist within the design studio, not to replace designers or to advocate for short-term research input. Rather, we stress for anthropologists engaged in medical design anthropology in collaboration with designers to take an active and inherent part in the design team and throughout the design process rather than being the supplier of qualitative knowledge about the user at the beginning of a design project. However, design anthropologists are not mere suppliers of qualitative research methodologies but rather agents of change and mediators of social design. By that we mean a broad perspective including in-depth sociocultural understanding of the design participants’ needs and constraints, as well as a deep understanding of the sociocultural design context.

It is traditionally accepted to view aesthetics and consumer culture as dangerous and somewhat ‘evil’ tactics used by designers and other material-culture agents to encourage consumption. However, when seen as a functional tool, targeted at empowering and broadening users’ choices, these tactics can and should become socioculturally embedded. It is our suggestion that design anthropologists could benefit the design team in exactly these instances. When focusing on the binary choice of visibility–invisibility, design anthropologists imbue the design process with another layer of understanding. As a part of shifting the role of the designer from a problem-solver to a sociocultural agent, anthropology holds an important part in this much-needed global change.

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Notes

1. For example, this project’s target was manufacturing a prosthetic knee at the cost of $80; http://www.ted.com/talks/krista_donaldson_the_80_prosthetic_knee_that_s_changing_lives
3. The studios included: Carpe Diem Design – a studio designing mainly consumer products, yet excelling in a myriad array of products, from cleaning-pool robots to flash drives; Innovation Design – a studio designing mainly medical products, from products designed to enhance muscle activity to syringes based on high-frequency waves instead of needles.
4. A project clad in industrial secrecy, which resembles in some way the ‘Google Glasses’ project.
5. Although the design studio is situated in Israel, its clients produce medical products for the global market. Therefore, the American FDA’s approval means a wider distribution.

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