

Article

On Footwear and Disability: A Dance of Animacy?

Patrick Devlieger * and Jori De Coster

Anthropology, University of Leuven, 3000 Leuven, Belgium; jori.decoester@kuleuven.be

* Correspondence: patrick.devlieger@kuleuven.be; Tel.: +32-16-326047

Received: 21 February 2017; Accepted: 14 June 2017; Published: 20 June 2017

Abstract: In order to explore what an anthropological material culture approach to disability would comprise, we take Tim Ingold's morphogenetic approach to life as continuously unfolding, a result of things engaged in a dance of animacy, and in processes of 'making' as our central point of departure. This approach allows for a continued understanding of disability's constructed nature; however, this approach is one that has a material, and not a discursive, point of view. We will focus on footwear and explore its material and evolutionary history, and how it has been shaped throughout different historical periods and in different parts of the world. Our central understanding of a material approach to disability is one that concerns how body-objects, such as shoes, are to be remembered. Therefore, we start with research in an archive of human material culture, namely a collection of clothing and footwear, situated in North America. We will then focus on recent contemporary African and Asian engagement with prosthetic shoes for physically disabled people. These examples are then confronted with a well-known case from the Chinese cultural repertoire; namely, that of bound feet and lotus shoes. By examining many examples from across the globe, we intend to illustrate the many ways in which the body, shoes, and the ground, all correspond to each other in a dance of animacy. Disability is sometimes an instigator, and, in many cases, either a mediator or an accelerator, within this correspondence. Materially, the making and use of footwear is a central component to one being classified as a synaesthetic sentient being in the world. Shoes for disabled people are designed with the feet in mind, and their construction is a more labor-intense process than it would be for those who have lesser degrees of disability. It appears that disability is not a matter of either/or, but is instead a matter of degrees of vulnerability. The bodily function of walking, as well as shoes themselves, are articulated in space and time. Theoretically, we ask whether disability might also advance our understanding of humans beyond thinking in terms of normative standards and of the modern, given that the areas examined here involve processes of making, correspondence, and ultimately life itself. We claim that the human is to be found in the dance of animacy, shoes–feet–ground, and that disability is felt and articulated in materiality. We also claim that the posthuman, as observed in the human–machine connection, may have always existed after all. Finally, we will explain how the human and the modern can be found in the materially-made nature of disability, and we suggest that it might be better to orient future research from a transmodern perspective that contextualizes disability in multiple ways in which one might be considered to be modern.

Keywords: disability; shoes; feet; human

1. Bringing Disability into the Flow of Life

Disability may be seen, in the views of many people, as something passive and, therefore, negative, despite the now-common academic discussions that it is a social construction. However, for people who experience disability, it is quite clear that disability is an active process that involves intense engagement with the most basic bodily functions, including walking, sleeping, eating, and sex, all of which are experienced in different ways, and that it involves paradoxical engagements [1]. Bodily functions involve the use of the body and, by extension, tools, thereby emphasizing life's material basis.

While Mauss [2] emphasized the cultural nature of bodily functions, we would extend the argument by claiming that bodily functions involve a materiality that necessitates the interaction of materials, as well as of tools and prosthetics. This is an argument that we wish to make through the example of the bodily function of walking and its extensions, and the use of shoes that mediate this bodily function. Disability is usually seen as something that challenges the performance and maintenance of active bodily functions; however, it is also possible to see its role in the particular unfolding of that bodily function and resorting to alternatives. While scholars in the social sciences and humanities have emphasized disability as stigmatizing [3] and as the principal source of human disqualification [4], we wish instead to attune to disability as impairment, both in its material unfoldings and in its transformational potential.

We have engaged in a scholarly inquiry that presents disability as one of life's active processes, which involves an engagement in the bodily function of walking, a particular knowing from the inside, as well as an active engagement in making disability a process that involves the materiality of being, much in line with the writings of Tim Ingold [5–7]. According to Ingold, practitioners and materials correspond to each other in processes of 'making'. Ingold emphasizes the link between 'thinking' and 'making', which instigates processes of growth. Ingold also understands an organism (such as a human being) to be involved in movement and, therefore, 'animate'. 'Animacy' refers to a movement of opening up towards our environment, whereas 'embodiment' stands for closure. In this dance between our environment and ourselves, things are in the making.

We have, however, also nuanced Ingold's approaches, specifically by considering disability's role in making processes, thereby extending Ingold's morphogenetic approach, which views life as continuously unfolding and seeking its own direction, without the need for a hylomorphic model, which implies that an idea precedes a form. According to the morphogenetic process, disability or, perhaps more accurately, imperfection, is an inherent part of life and of making. Imperfection is both the instigator and the result of making processes. While modern ideals have brought along new models of perfection, imperfection has continued to challenge the ways in which life is being lived.

In this article, we questioned the role that disability plays in this unfolding of life, and consider the possibility of this role being a major one, as an instigator of a different direction in the unfolding of life, or as a mediator, or an accelerator. This material approach to disability helps with understanding life and with theorizing by addressing humans in a capacity beyond the normative, and by addressing the modern, beyond understandings of the modern which are typically reserved for the West. The aforementioned approaches have been advanced in posthuman approaches, particularly in the way that they critically review the concept of the normative as it has developed in the West [8,9]. This has also been a mainstay of transmodern approaches that posit that the notion of the modern should not be reserved to the West, nor that the West should be equaled to 'the centre', given that there have been so many shifting centres and peripheries throughout history [10]. We seek to bring disability to life through the possibilities presented by cultural and material innovation, while not neglecting cultural traditions, by building on Ingold's approach, enhanced with ideas from posthumanism and transmodernism. In bringing forward the discussion of disability as life, and through a strict focus on shoes, we will show that imperfection or disability is a motor for both development and an enhancement, but also that shoes continue this imperfection, even causing it, with the lotus shoe being one such extreme example.

The methodological approach in this paper started with an investigation of 'The Clothing Collection' at the University of Alberta of artifacts that indicate that the wearer had a disability. However, only a few of these items, out of a total of 40,000 artifacts, were identified; this led the first author to consider research on shoes as artifacts. Researchers who are engaged with archival materials must assume a certain distance from their subject, given that the object of study is usually limited to the artifacts themselves, which can be examined and photographed, as well as descriptions that may include the historical and geographic context of the artifact. Such an investigation also allows the researcher to identify the maker of the orthotic artifact, and to situate this in the context of Canadian

society at large. While the first item was collected in the context of an archive, the other artifacts were collected during ethnographic research in DR Congo, India, and China. However, the ethnographic context was somewhat reduced for the first item, and somewhat similar questions were asked of these items. These included: “What are the material components?”, “What do we know about the contexts of the user or of the maker?”, and “What is known about the reason for its preservation?”. This leads to a reduced presentation of the artifact, but perhaps also enhances possibilities for comparison. In the case of the last example of the lotus shoe and of the practice of Chinese bound feet, the purpose here is to push the investigation further than one that views shoes merely as artifacts that reduce disability and enhance capacity, which could be called the prosthetic function of the shoe, but also to consider the function of shoes in the context of a given cultural repertoire, even if this also means that it causes disability, destroys one’s normal gait, and thus preserves and maintains disability for aesthetic reasons.

The archival material approach allowed the artifact, ‘shoes’, to be linked to the body and to its functions, namely walking, and to physical impairments. This investigation differs from investigations that consider disability to be a social construction or in terms of discursive historical formations, by instead delving into how the artifacts relate to the body and to its environment. This approach encourages researchers to maintain distance, both with regards to the material and from engaging in comparison. The examination follows the in-habitat position of Tim Ingold in that it accounts for how both mind and matter play their respective roles, and does not provide an account of mind over matter, something which is characteristic of the hylomorphic model. Our approach is critical of design as an idea of an immaterial form to be imposed upon a material substance via a ‘God’s eye view’. Our approach equally allows for disability/imperfection to play a dynamic and transformational role in life as it unfolds morphogenetically.

This article is structured in three parts. First, we briefly discuss an anthropological approach that we would like to describe as anthropography; anthropological writing that is aimed at understanding through history, description, comparison, and contextualization. In this approach, we have started with the material nature of disability, namely shoes as prosthetics, and then moved to its implications for the body part most affected, the feet, for its bodily function, namely walking. Examples are taken from around the world. They are derived from archives, the private collection of the first author of shoes collected throughout the course of fieldwork, and also from the literature. The last example in particular will allow us to expand our understanding of shoes as prosthetics, better balance the scales of the functional and the cultural, and develop our understanding of disability as something to be eliminated or to be caused/preserved. Furthermore, we wished to address the theoretical implications associated with the study of these artifacts in particular with regard to the status of disability in the realm of the human. Finally, we have explored the implications of our understanding of disability in the context of the normative, given that it can be found in the modern. We argue that disability remains a very modern notion indeed, but we also suggest that future research might apply a transmodern perspective to better assert how modernity works itself out. This will yield a better understanding of disability in different regions in the world, and aims to show how both the modern and the indigenous may co-exist in a constant movement back and forth between the two.

2. Results

Anthropography: Anthropological Writing Aimed at Understanding

In an evolutionary context, we have evidence from the Laetoli footprints 3.4 million years ago that human bipedalism was fully developed by that time. We also know that bipedalism came prior to the expansion of the volume of the brain. Walking was very similar to what it is today, in terms of placing the heel first and exerting most of the pressure there. From archaeological research, we know that shoes have been made and worn for about 40,000 years, as evidenced from the weakening of small toe bones which points to the habitual wearing of shoes [11]. Furthermore, there is evidence that even the oldest known shoe, labeled as Areni-1, found in well-preserved condition, and which dates back

to the 4th millennium BC, was used for reasons of functionality, such as protection and the ability to walk longer distances [12], and likely for the purposes of style too [13]. The making process of this ancient shoe consisted of a single piece of tanned leather, laced together with a string, and cushioned with hay [13]. Such a shoe was not designed for either the left foot or the right foot specifically, but it was found that it was a left shoe as a result of use. It is also unclear whether it was a shoe worn by a man or a woman. In a contemporary context, research has pointed to the restrictive nature of footwear, even pointing to its pathological impact on the feet, which has recently led to interest in indigenous footwear such as the Kolhapuri sandal [14]. Moreover, in certain cases, such as in long distance running, there are arguments for going barefoot because of the different styles of running adopted; namely, landing on the forefoot rather than the heel, which causes less impact on the body and is, thus, considered to be healthier [15].

In this first part, we have chosen examples derived from archives, fieldwork, and one example from literature that show how shoes, walking, and feet, are all interconnected in a dance of animacy, meaning that ‘things’, in themselves, are opening up to other ‘things’—to their environment. In our approach, we started with archives. Archives are locations in which the past has been preserved, but also direct how the future might look. In a way, archives help with the way in which the future can be fabricated [16], and allow for the materiality, articulation, and various styles of making to be reconstructed. In the parts that follow, we have delved into the history of the first author’s professional and academic work, to explore the making of orthotics and prosthetics in African contexts for people with physical disabilities due to leprosy and polio. Furthermore, we will extend the study to consider the making of orthotic and prosthetic shoes in the context of leprosy in China. These examples allow us to extend and to deepen this anthropographic study into the making of shoes and the understanding of disability, particularly given that this intersects with gender. We end with an extreme example of a cultural repertoire in which disability intersects with gender; namely, we examine the phenomenon of the bound feet of women in China.

We have not limited ourselves to either the functional or the prosthetic use of shoes, in which shoes are necessarily understood in the modern sense as having a beneficial impact, and reducing imperfection or disability. Through the examples we have chosen, we imply that shoes adopt both characteristics; namely, that they are beneficial and pathological. We wish to strike a balance between functional and cultural characteristics, thereby stressing that the cultural does not necessarily concern just the past, but also includes the present and the future. One fitting example involves the twelve pairs of legs that double-amputee model Aimee Mullins used to explain how disability is transformational. She walked the catwalk with carved wooden legs and, as a runner, she used blades [17].

Example 1

Figure 1 is a photograph of a pair of women’s shoes worn in Canada. They are shoes for the summer time, colorful and shiny, they express elegance, and they allude to the ‘pop culture’ of the 1970s. They were fitted with an adjustment allowing for a difference in the two legs’ length in order to increase comfort without interfering with how the shoe is viewed when worn. The adaptation was intended to increase comfort, which can be understood as the pleasant connection between the shoe and the body, thereby making the shoe a thing that corresponds with other things—with both the physical and cultural environment. In so doing, the material of the shoe and its adaptations ‘allow matter its due as an active participant of the world’s becoming’ [18]. This is what can be referred to as articulation, given that the shoe and the body are an assembly into a larger totality that allows for walking to take place in a cultural context. We can reason, with Ingold, that articulate knowledge is not the same as sentience. We surmise, however, that the woman who was wearing these shoes developed a personal knowledge that grew from wearing these shoes. Her walking with the adapted shoes is a matter of “telling as a practice of correspondence” [7], meaning that she knows by feeling the shoes; thus, it is a matter of synthaestic sentience.



Figure 1. Woman's adapted shoes, from the Clothing Collection, University of Alberta, Edmonton, Canada, in 2012. The first picture shows the shoes and the fact that the right shoe has been enhanced. The second picture shows the same enhancement from above.

The shoe, and the note attached thereto, reveal other aspects of the relationship, including:

The accession number: 1996.38.1.a, b

Manufacturer: "Amano", USA

Place of Use: North America: Canada, Alberta, Edmonton

Materials: leather, plastic, vinyl

Physical description: Open toe wedge heel sandals. Wedge is red, yellow, and green. Clear plastic over foot has red, yellow, green, and blue dots sewn on. Right shoe 'b' has Dr. Scholl's heel cushion.

Provenance Notes: Donated by the Estate of Norma Grover. Worn by Norma Grover, who had a degenerative hip all her life. Norma was a retired Edmonton Public School teacher.

From this entry, we understand that the materials of leather, plastic, and vinyl were assembled to make this shoe. However, there is more, as the shoe leaves the toes exposed to the air, and the wedge dictates both a particular position, and a particular way of walking. The aesthetics of walking are further enhanced by colors in the form of stripes and dots. The adaptation to the right shoe, with Dr. Scholl's heel cushion, opens a completely different area of consideration, namely that of Dr. William Scholl himself, who pioneered in the area of foot care and founded Dr. Scholl's, a brand of foot care products [19]. The entry further elaborates that Norma Grover had a degenerative hip and was a retired teacher, indicating that disability neither prevented Ms. Grover from developing a professional career, nor did it prohibit her aesthetic expression in a particular way of walking, as indicated by the shoes that she chose to wear and to adapt. Apparently, the shoes, the woman who was wearing them, and the society and times in which they were worn, all evoke a picture of a modern way of being disabled without the necessity for an aesthetic compromise. It suggests that the shoe can fully play its role as a prosthetic. Furthermore, this example appears to strike a balance between functionality and culture in a modern realm.

Example 2

In the 1980s, international humanitarian aid between Belgium and DR Congo in the area of the rehabilitation of physically disabled children took on the activity of producing local footwear, as part of an extension of missionary and medical collaboration. This was influenced by the Jaccard Brothers, two Catholic priests from France, who were also doctors, and assisted people with leprosy in West Africa. They produced a shoe, as an orthopaedic device, made from locally available materials: wood, leather, roofing metal, construction iron, laces, and straps (Figure 2). The device could hardly be called indigenous, given that the traditional method for assisting in difficult locomotion was the use of a stick [20], even though it is still being claimed as local and authentic to contemporary Congolese people. The model has also long been surpassed, especially in terms of functionality, but also in terms of the materials used.



Figure 2. The Jaccard orthopaedic device for children with polio, produced as a model in Kabinda, DR Congo, in 1985.

The activity of fitting children with the device was thought to be humanizing, given that it enabled children to adopt an upright position in their mobility, replacing a mobility that hugs the ground (often mediated by hand and/or knee aids). Crawling rather than walking was seen as dehumanizing, both by the missionaries and also by the Congolese people themselves who compared this kind of mobility to that of the snake. The aesthetics of moving with a Jaccard orthotic device is rigid since the device does not allow for the articulation of the knees or the ankles. The device did not allow for independent movement without the use of crutches. Thus, the device enables the feet and legs to be articulated with the rest of the body in an upright position, but fails to allow for comfortable or elegant movement.

Example 3

At Anandwan, near the city of Nagpur, in the province of Maharashtra, India, there is a large leprosy settlement in which some 5000 people reside. The site was founded by Baba Amte, a follower of Mahatma Ghandhi, who was a believer in people resolving their own problems through active engagement. Shoes here are made from leather and rubber, and are more like sandals in the form of slippers, which are well-suited to the warm climate. These sandals are made on the base of a fitted sole, onto which the upper leather part is glued. It requires that the big toe can hold the sandal (Figure 3). The Anandwan environment is not hilly or slippery. The sandals are easily put on or taken off, depending on the need. The sandal tends to force the wearer to have more impact on the front of the foot, and to adopt a more relaxed gait.



Figure 3. Sandal made locally and individually for people with leprosy, produced at Anandwan, India, in 2010.

Example 4

The fourth example concerns the mass production and distribution of shoes for people with leprosy in China. These shoes were designed to enable a firm grip on rocky, hilly or slippery terrain (see Figure 4), and they are made with a cloth upper side. They are generic and, therefore, avoid being singled out as ‘special shoes’ that could be identified as ‘leper shoes’, resulting in stigmatization.



Figure 4. Mass-produced shoes for people with leprosy from China in 2015.

Walking in these shoes follows on from a contextualization of production and distribution mechanisms, based on the establishment of production, government control, and informal (and sometimes underground) networks. While the make-up of materials appears to clearly respond to the challenges of the body and those of the physical environment, the wearing of these shoes serves to maintain village economies of leprosy via clustering, subsidization, and through social control.

Example 5

In China, an interesting comparison can be made between the practice of foot binding, the production of shoes for women with so-called ‘lotus feet’, and the aesthetics of female walking in traditional China; this practice has, for the most part, been framed as one of denouncement, both by Chinese reformers and by observers from outside of China, and particularly by those in the Chinese diaspora. The practice certainly produced disability, and this practice was deemed to be inconsistent with the making of a modern China. The end of the practice was associated with the making of the first republic in 1911, with the last case of foot binding being reported in 1957, and with the closure of the last mass-producing factory of lotus shoes in 1999. However, some revisionist history has also appeared. Ko has argued that the study of the material culture, regarding foot binding, indicates that women whose feet were bound were not immobilized, given that shoes for outdoor walking were mass-produced. They participated in weaving cloth for the foot binding, and in the home-production of shoes [21]. Producing shoes was generally considered to be an extension of women’s activities. Moreover, the aesthetic and sensual connotations that are associated with foot binding may have had some permanent consequences. First, the gait of women whose feet were bound was described as duck-like; it required them to walk on their heels, produced a waggling gait, and required proceeding with great care to keep one’s balance. Women with this characteristic gait were said to have better chances in the marriage market. Second, it has been argued that the practice of foot binding was largely introduced when it was economically feasible that women could work with their hands exclusively [22], thus suggesting that the shaping of the feet is not unrelated to those of the hands [23]. Third, it can be argued that women with bound feet had to develop greater muscle strength in their upper legs, as well as strengthen muscles used during sexual activity (David Ma, personal communication, December 2015). The latter indicates that the feet are not just connected to the hands, but to other parts of the body too, and indeed, as the previous example has also shown, to human enhancement. Nevertheless, the latter example forces us to reconsider the prosthetic use of shoes, given that the lotus shoe is related to something that destroys one’s normal gait. This example

further allows us to see the transformative nature of disability as occurring in two directions, both eliminating imperfection and causing it. Both directions appear to characterize the impact of footwear.

3. Theoretical Implications: Claiming the Human

We can derive several conclusions from the material presented in this article. First, we can argue, with Tim Ingold, that the feet are in correspondence with the hands, and with other parts of the body [23]. We can argue that they are specialized in the same way hands are. They are imbued with knowledge, which is an everyday sort of knowledge that relates to the terrain, to one's occupation, and results from education. They make walking one of modern life's meaningful activities, whether this walking is engaged in shopping, cleaning the house, or jogging, oftentimes in adapted shoe-wear. While the hands may be the locus of human activity, a conclusion that Ingold arrives at with reference to the work of archaeologist Leroi-Gourhan [7] is that the feet are human too. This humanity can be argued precisely through the multiple and varied ways in which shoes are worn and in the triad shoe-walking-feet, given that it is articulated in different ways. This articulation is a dance of animacy. In the examination of ancient shoes, it appears that pressure was exerted in the very same way as it is now. This is clear from the impression on the leather of the shoes in the oldest leather shoes ever found.

The dance of animacy [7] appears to be articulated in the various examples examined differently. According to Ingold, the dance of animacy can be understood as a threesome; namely, as taking place between a skilled person's body, an object, and a material. The activity takes place as the result of a correspondence. Thus, the activity of walking implies a correspondence between body and shoes, and it is made possible by the resistance offered by the ground. Walking brings the shoes to life. It involves transduction, pressure exerted by the feet on the shoes, and the response by the shoes, which leaves an impression. The material, leather, is particularly suited for shoes as it is able to incorporate such an impression. Walking also involves perdurance, as long as the dance of animacy between the body, the shoes, and the ground goes on. The process of walking is understood bodily through synaesthesia, the awareness of walking as understood by the sensorium. In this perspective, life is unfolding in a very particular material way, and the quality of being alive can be attributed to the shoes that are being worn. From Ingold's perspective, there is no need to refer to agency in order to understand life. Of interest to us here, however, is how this dance of animacy can be understood through disability.

The first example, of the shoes found in the Canadian archive, provides insight into the particular gendered popular culture of Canada. We take it for granted that shoes are in a pair, and are differently designed as a right and a left shoe. The adaptation/enhancement can be found on only one of the shoes. The product requires an understanding of the history of the North-American capitalist production and manufacturing processes. In the African example, the prosthetic is not gendered and is hardly articulated as belonging to either right or left. Its purpose is to support the upright position and weakened muscles. Its composition is of wood, leather, and construction iron, and allows for the dance of animacy to be articulated very differently, and requires that we see that walking extends to the legs and to the entire body. It is also clear that this example requires the contextualization of international relations, both colonial and postcolonial. The examples from India and China appear to be an extension of the former argument, as well as providing new information about production. This too relies on both international and local knowledge, as well as information about production. Its relation to the environment is slightly different, and the use of different materials accounts for a different sentence. One could say that the African gait, with the Jaccard prosthetic device, expresses the correspondence between the body and the shoe through the wood, iron, and leather in an awkward, but upright, way of walking; the Indian gait, on the other hand, requires a different correspondence of the feet with the sandal, striding along; and the mass-produced Chinese shoes for people with leprosy enforce a gait that allows for one to have a good grip on the ground, but also to disappear into the crowd. Finally, the example from China's cultural repertoire, concerning the bound feet, shows a totally different engagement with materials, gender, and aesthetics. The former example is of a different nature because disability is being introduced, resulting in a different aesthetic in gait. The lotus shoe appears to have

both a material and a strong aesthetic purpose. In these examples, the dance of animacy, in which shoes are embedded, is similar, but the disability aspect plays out in different ways.

Disability appears as a set of alternative ways in which this triad, body–shoe–ground, is articulated, and is an inherent part of the humanization of humans. In the anthropology of disability, the focus of attention has been on defining the tension between the phenomenology of experience and global discourses [24,25], which has benefited greatly from both philosophical and historical perspectives. Many of these have framed disability as a body of knowledge, firmly grounded in the West, that is steeped in discourses of empowerment and advocacy [26].

This article has pointed to the materiality of the body and to the material environment. Disability is the challenger, and also the enhancer, of such materiality in the body and the environment. This provides a scholarly vantage point that points to (de-)evolution, the (extra-)ordinary, and the modern-normal. Disability connects the pre-modern with the modern, thus providing a chance to exchange across different tensions between the ordinary and the extra-ordinary, between different parts of the body in a cultural and historical context, and between different locations. This approach is transmodern in nature, given that it proposes accepting the modern, the continuation of tradition, and the possibility of transformation, particularly through scholarship. The knowledge that results from such work is both applied and theoretical, and attends to both the discursive and the material.

Walking on two legs is understood as a human characteristic, and as the result of evolution. However, this evolution has come at a price: an evolution of the hands, and a devolution of the feet. Ingold [7] has convincingly shown that, when comparing humans with primates, primates are more competent in the overall functional use of their hands and feet. Thus, human evolution is one of gain; namely, fine-tuned movements with thumb–finger coordination being at the apex, but also one of loss; namely, the feet being disciplined and degraded to ‘walking machines’, and no longer having multi-functional uses, including gripping, which can be used in climbing, eating, and other bodily functions. In the context of modern life, walking may, then, have become a varied cultural activity that can be adapted to be congruent with meaningful activities. Additionally, walking may have become an activity that can be adapted to be congruent with the freedom that comes with modern life, as Walter Benjamin has argued with his figure of the ‘flâneur’, whose freewheeling walking and thinking in the context of the 19th century cultured city streets of Paris became possible [27].

It is in this context that we need to focus more on the feet than on the hands to (re)claim the human nature of the feet. In a world of increased mobility and disability, the feet (and by extension the prosthetics that facilitate such mobility) attract greater attention. Scholars have, in the past, paid a great deal of attention to the wheelchair, to the tricycle, and to the motorcycle, to explain mobility and its intersection with modernity, but in this article, we aimed to take a step back to the most basic of prosthetics: shoes. We believe that by addressing how the triad, feet–shoe–walking has been addressed in different cultures, by people with differing bodies, including those that can be defined as disabled, humans can be viewed as having an active involvement with this triad in all different directions. Shoes work on feet, but the inverse is also true—feet interact with shoes. The culture of walking appears to have a sufficient basis in the play between materials in historical, political, and economic contexts. The posthuman, understood as a notion which is beyond the figure of the human, emphasizes the problematic nature of the relationship between humans and machines, and, in so doing, adds to our understanding of the framework of a critique of modern ideals. However, the posthuman does not seem to be able to dismiss the ongoing struggle for the felt-need to assert the existence of the human. In this article, we have instead emphasized that disability, and parts of the human body which are often dismissed, remain strong foundations for claiming the human.

4. Conclusions: From the Modern to the Transmodern

Current understandings of disability and rehabilitation originated in the modern context of the United States [26], spreading a modernist discourse from there that evolved into national and international human rights legislation. In the postmodern context, disability has evolved within the

possibility of empowerment and development, thus reversing the trend that it could only be seen as a negative component of the modern, as the perfect, rational, efficient outcome of a political and economic system, one whose point of departure creates its own political economy; in other words, disability as a business [28].

Transmodern disability is perhaps one way to reconcile the fact that even if the world abides by modern standards, it has not given up on its indigenous forms of knowledge. Craftsmanship is perhaps the go-between, given that it allows the modern and the pre-modern to be reconciled, to deal with legacies, and to engage in heritage. Through craftsmanship, the relationship with the world is being shaped and material exchange is made possible. Craftsmanship also engages in centre–periphery entanglements, evolutions, and reversals.

Shoes can become objects when they are discarded, but they become alive when they are being made, used, mended, and augmented. Materials such as leather, rubber, sometimes wood, iron, and plastic are assembled. Cobblers are, in most societies, professionals, but shoe-making was part of homemaking in some societies, such as China [29]. Shoemaking was seen as one of the first income-generating activities that could be exercised by disabled people and indigenous humanitarians, such as Jairos Jiri, who organized courses in shoe-making as part of self-help in which disabled people could engage in colonial Zimbabwe [30].

The ecology of shoes must be seen in the context of activity, climate, and terrain. It involves an ecology of materials—both human flesh and bone in contact with leather, rubber, wood, and/or plastic. It requires strapping, to keep the fit among materials both comfortable and affordable, and to engage in standing, walking, squatting, skating, jogging, and many other activities.

In such an ecology, disability becomes a thing that corresponds, fashions, and, in some cases, speeds up or slows down this activity. It certainly increases the cultural variety with which things can be done. It also questions the status of the human and its interface with the non-human. It enhances interaction and calls upon a broadening of the understanding of what it is to be human. Rather than (d)evolution, it would make more sense to speak of the constant challenging of boundaries, shaping and reaffirming those boundaries, and crossing-over and re-establishing them. This certainly pushes us into the area of ‘trans’, in which the boundaries also suggest that they can be crossed, and where what ‘is’ requires an affirmation. Disability as a fluid reality is constantly bound by this conundrum, and is, therefore, not merely a modern thing, but also transmodern; it recognizes its birth because of modern life, but is in continuous dynamic development—a living thing. Disability is, then, not only a thing of human disqualification, but also of human enhancement. It requires a relationship with the machine, as an extension of the tool, and therefore pushes what is thinkable of the posthuman. However, disability also necessitates the existence of pendular motion, between tradition and the future.

Acknowledgments: The first author would like to acknowledge the contributions of Tim Ingold during a doctoral seminar in Leuven in 2013 and discussing disability with anthropology students in Leuven and Kunming. The authors equally thank Megan Strickfaden for the many collaborations on the material culture of disability and two anonymous reviewers for editorial and critical comments.

Author Contributions: Patrick Devlieger and Jori De Coster conceived and designed the article. Patrick Devlieger delivered the examples from previous fieldwork and literature review, and wrote the first draft. Jori De Coster contributed with theoretical contributions and significant editorial comments.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Albrecht, G.L.; Devlieger, P.J. The Disability Paradox: High Quality of Life against All Odds. *Soc. Sci. Med.* **1999**, *48*, 977–988. [[CrossRef](#)]
2. Mauss, M. *Les Techniques Du Corps*. In *Sociologie et Anthropologie*; PUF: Paris, France, 1966.
3. Goffman, E. *Stigma: Notes on the Management of Spoiled Identity*, Reissue ed.; Simon & Schuster: New York, NY, USA, 1986.

4. Mitchell, D.T.; Snyder, S.L. *Narrative Prosthesis: Disability and the Dependencies of Discourse*; University of Michigan Press: Ann Arbor, MI, USA, 2001.
5. Ingold, T. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*, Reissue ed.; Routledge: London, UK, 2000.
6. Ingold, T. *Being Alive: Essays on Movement, Knowledge and Description*; Routledge: London, UK, 2011.
7. Ingold, T. *Making: Anthropology, Archaeology, Art and Architecture*, 1st ed.; Routledge: London, UK, 2013.
8. Devlieger, P.; Galarza-Miranda, B.; Brown, S.; Strickfaden, M. *Rethinking Disability: World Perspectives in Culture and Society*, 2nd ed.; Garant: Antwerp, Belgium, 2016.
9. Braidotti, R. *The Posthuman*; Polity Press: Cambridge, UK, 2013.
10. Dussel, E. *Ethics of Liberation: In the Age of Globalization and Exclusion*; Vallega, A.A., Ed.; Mendieta, E.; Bustillo, C.P.; Angulo, Y.; Maldonado-Torres, N., Translators; Duke University Press: Durham, NC, USA, 2013.
11. Trinkaus, E.; Shang, H. Anatomical evidence for the antiquity of human footwear: Tianyuan and Sunghir. *J. Archaeol. Sci.* **2008**, *35*, 1928–1933. [CrossRef]
12. Pinhasi, R.; Gasparian, B.; Areshian, G.; Zardaryan, D.; Smith, A.; Bar-Oz, G.; Higham, T. First Direct Evidence of Chalcolithic Footwear from the Near Eastern Highlands. *PLoS ONE* **2010**, *6*. [CrossRef] [PubMed]
13. Ravilious, K. World's Oldest Leather Shoe Found—Stunningly Preserved “Astonishingly modern” shoe preserved by sheep dung and dryness. 2010. Available online: <http://news.nationalgeographic.com/news/2010/06/100609-worlds-oldest-leather-shoe-armenia-science/> (accessed on 13 February 2017).
14. Willems, C.; Stassijns, G.; Cornelis, W.; D'Août, K. Biomechanical Implications of Walking with Indigenous Footwear. *Am. J. Phys. Anthropol.* **2017**, *162*, 782–793. [CrossRef] [PubMed]
15. Lieberman, D.E.; Venkadesan, M.; Werbel, W.A.; Daoud, A.I.; D'Andrea, S.; Davis, I.S.; Mang'Eni, R.O.; Pitsiladis, Y. Foot Strike Patterns and Collision Forces in Habitually Barefoot versus Shod Runners. *Nature* **2010**, *463*, 531–536. [CrossRef] [PubMed]
16. Zeitlyn, D. Anthropology in and of the Archives: Possible Futures and Contingent Pasts. Archives as Anthropological Surrogates. *Ann. Rev. Anthropol.* **2012**, *41*, 461–480. [CrossRef]
17. Mullins, A. It's Not Fair Having 12 Pairs of Legs. TED Talk. 2009. Available online: <https://www.youtube.com/watch?v=JQ0iMulicgg> (accessed on 4 April 2017).
18. Barad, K. Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter. *Signs* **2003**, *28*, 801–831. [CrossRef]
19. Scholl, W.H. *Foot Doctor to the World*; Lutterworth Press: London, UK, 2006.
20. Devlieger, P.; Nieme, L.; Lasay' Abar, L. *Handicap et Société Africaine: Cultures et Pratiques*; L'Harmattan: Paris, France, 2011.
21. Ko, D. *Cinderella's Sisters: A Revisionist History of Footbinding*; University of California Press: Berkeley, CA, USA, 2007.
22. Bossen, L. *Chinese Women and Rural Development: Sixty Years of Change in Lu Village, Yunnan*; Rowman & Littlefield Publishers: Lanham, MD, USA, 2002.
23. Ingold, T. Culture on the Ground The World Perceived Through the Feet. *J. Mater. Cult.* **2004**, *9*, 315–340. [CrossRef]
24. Ingstad, B.; Reynolds-Whyte, S. *Disability and Culture*; University of California Press: Berkeley, CA, USA, 1995.
25. Ingstad, B.; Reynolds-Whyte, S. *Disability in Local and Global Worlds*; University of California Press: Berkeley, CA, USA, 2007.
26. Stiker, H.-J. *A History of Disability*; University of Michigan Press: Ann Arbor, MI, USA, 2000.
27. Benjamin, W. *Illuminations: Essays And Reflections*; Schocken Books: New York, NY, USA, 2007.
28. Albrecht, G.L. *The Disability Business: Rehabilitation in America*; Sage: Newbury Park, CA, USA, 1992.
29. Chang, J. *Wild Swans: Three Daughters of China*; Touchstone: New York, NY, USA, 1991.
30. Devlieger, P.J. From Self-Help to Charity in Disability Service: The Jairos Jiri Association in Zimbabwe. *Disabil. Soc.* **1995**, *10*, 39–48. [CrossRef]

