

Design for disability needs improvement- we can do better.

Analysis into design for disability, societal attitudes and the future for
designers

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In this essay, when the term disabled or person with a disability is used, it will be referring to those who are physically and/or mentally challenged and are unable to complete tasks independently. This will be especially focused on the physical disabilities and people dependent on assistance from others to complete some or all of their daily tasks. I am also focusing on those who are using wheelchairs as their primary mobility aid and method of movement. Other terms will be used/mentioned, but these will be a part of a discussion around society and their views, and not as a method of referral and with the intent to cause offence.

Disability is defined as 'a physical or mental impairment that has a 'substantial' and 'long-term' negative effect on your ability to do normal daily activities.' (UK government, undated). However, some may not view their disability as a negative and instead just provides them with a new way to look at life and a new way of doing things. This definition is most widely used and so will be the definition I use in my essay when I refer to anyone who is disabled.

Although disability can be defined in this way, it can have a much larger impact than just an inability to move in the same way as an able-bodied person. There is both a physical impact, through an inability to move or complete tasks in the same way as able-bodied people; there is also a mental impact to disability as well. However, this can be improved by designers. Designers can help improve this by using their ability to improve the products which are out there in order to make them more accessible.

Being disabled or having a disability is something that has an impact on 22% of people living in the UK (Department of work and pensions, 2021), but designers don't consider these people when creating

new products. Instead of allowing those with disabilities to experience the same designs but instead, new designs have to be created and manufactured. This then means that some design principles are not followed and some areas of design are neglected, which results in products that have a sterile appearance.

‘With design for disability...the dominant culture is one of solving problems’ (Pullin, 2009 p.xv). This statement is true as designers can shape the way in which problems are solved, which can result in the creation of some very innovative and unique solutions to design problems. However, there are still many problems that need to be solved, as some parts of a design are very inaccessible, and so more needs to be done. Designers need to move away from viewing design for disability as something that is sterile and as something that can be fun and inclusive, without looking sterile and overly manufactured.

Designers need to be aware of their potential and also their influence when designing. They have great power as they are able to create more accessible designs and improve the stigma that surrounds those who are disabled. If designers are unaware of their potential impacts, then there is the risk that they will alienate and exclude those they are trying to help.

Design for disability doesn’t seem to follow the conventional rules of design, which will be discussed in this essay. The two main design principles which general designers follow are Dieter Rams’ 10 principles of good design and the Bauhaus principles of design. These rules of design should not always be followed, as it would mean that no new innovation would occur and all designers would be stuck thinking of the same ideas and the same ideals. However, as Rams highlights, there are some principles that can ensure that a design is good and so is successful. If designers don’t follow these when designing then they face the risk of the designs not being well designed at all. By failing to consider

these principles when designing for those who are disabled then designers are failing to create accessible products.

In this essay, I will be exploring the way that designers interact and consider design especially at the current time, but also looking towards the future and the potential for future designers; especially as there is already some difference between companies when they are designing for disability, some such as Schuchmann are already pushing the boundaries of design for disability. I will be exploring the emotional needs with designs, and the impacts these can have on those who are disabled. There will also be an exploration into the potential for designs in the future and the way that designers will be creating in the future.

Chapter 1: Existing designs

A lot of existing products lack accessibility for those who are disabled, resulting in the need for new products to be created and manufactured instead. These new products are designed to be more user friendly for those who are disabled or have limited movement, in order to make it easier for them to use and give back independence and some dignity. However, these products are often seen as ugly and undesirable with a view that they are sterile looking and very practical as opposed to the very diverse range of products available to more able-bodied people.

Design for disability can be seen as having a Bauhaus style, where the form of a product is very much dictated by the function. However, there is still an attempt to style Bauhaus products through the use of 'simple but elegant geometric shapes' (Art,2019). However, design for disability is often left as unstyled and basic looking pieces which are lacking in the traditional styling and design. This lack of design and style around products can result in some disabled users feeling as though they are being neglected and blindsided by designers.

Some designers may argue that design for disability may not look good in terms of aesthetics, but it still meets Dieter Rams' principles of good design; especially the idea that 'good design makes a product useful' (The Design Museum, undated). This can be used to argue that design for disability makes a product useful as it enables those who are disabled to be able to have more freedom and experience life in the same way as an able-bodied person. However, this actually goes against many of his other principles of design, in particular, 'good design is aesthetic' (The Design Museum, undated) and also 'good design makes a product useful' (The Design Museum, undated). These principles are often not as well followed for design for disability, due to the often complex nature of products. Design for disability is often not aesthetic, as it is more often designed to be functional and practical in order to be the most useful to a wide range of people. Furthermore, design for disability is unaesthetic as it has a distinct medical styling, due to the metal frames which are used and also the overall lack of consideration for the design form.

These principles are often not followed as design for disability is often lacking in aesthetics, and many users feel as though they are being seen as a commodity rather than a human. This is as a result of a combination of several features. In order to be suitable for a range of disabilities and people with complex needs, the material has some very specific requirements, which may mean that it is more difficult to create products that suit everyone's needs.

However, there are some companies that defy the standards for design for disability and are actively looking to make their products and design less obvious but still as effective. This can be seen in the work of both Schuchmann, who design products and Care and Independence, who supply and manufacture parts.



Figure 1: Madita-fun by Schuchmann (Mitchell, C, 24/11/2021)

As seen in the above image, Schuchmann uses their ability and influence to change the way that products are used. Schuchmann has a very clear view on design for disability, with their goal for their designs, which 'fulfil the maximum demands on functionality, design and safety' (Schuchmann, 2020). This shows that there is an awareness from designers that they can create a better design for disabilities. These ideas are reflected in their products as they don't look like products that are designed for people who are disabled, and instead for more into Rams's principles of good design. In particular, the idea that 'good design is aesthetic' (The Design Museum, undated), as all of the products that are created by this company would not look out of place within many more modern homes. These products are also aesthetic, as when compared to many of the existing materials which are used. Especially as many of the products which are designed for those who are disabled are more often manufactured from treated steel or aluminium as these materials are more durable and lightweight, which is often easier for those who need to move the equipment, either Occupational Therapists, Carers or the disabled individual themselves (Care and independence, 2021). Schuchmann takes this and changes the idea that every design needs to be made out of metal and instead makes their products from a more diverse range of materials, fitting into the idea that good design is aesthetic.

Furthermore, the designs created by Schuchmann also follow the idea that 'good design is unobtrusive' (Design Museum, undated). As seen in figure 1, their products are not overly designed in a way that makes it clear that these products are to be used by those who are disabled or require extra support. This shows that it is possible for designers to create designs that are not overly engineered and are able to fit into any environment, instead of being intrusive and imposing pieces that often take up a large amount of room in the users house. Considering the size of these pieces and the visibility of them in the general environment, there is a lack of design stylings, however, Schuchmann are working to overturn this lack of designing and are instead working to make sure that every piece they design is well designed and aesthetic.

In addition to Schuchmann and their designers, Care and Independence are also working in order to ensure that they are creating more accessible products throughout their supply. Their products also follow the principles of good design, where the design is aesthetic, and also useful (Design museum, undated). Their products are still more obviously designed for disabilities as their primary focus is within hoists and slings. However, the products which they create are still well-considered and have greater amounts of user feedback than other companies which ensures that there is more consideration within the designs. Furthermore, this extensive research means that their products can be the most considered as they are able to give more 'considerations given to material, comfort, practicality, cost and viability (Care and independence, 2021). This consideration and client consultation mean that their products are able to be more user centred and so can be more aesthetic. In addition, this means that their products can be more designed than others and are able to encompass a wider range of needs and users.

As a whole, there are a few products that are truly designed for both disabled and able-bodied users. Products which are created for those which disabilities are not as aesthetic and also lack the overall design that many other products have. Although, companies such as Schuchmann and Care and

Independence are working towards making design for disability more aesthetic and less obvious as design for disability. These companies are working to ensure that the products are not as sterile looking, and are more inclusive to those who need additional support and help. Design for disability is slowly improved, but there needs to be more done to ensure better adaptability and inclusivity happens in the future.

Chapter 2: Society, environment and accessibility

As with most things in life, as there have been developments, not just in terms of technology and our manufacturing experience, but also peoples attitudes have changed as there has been a rise of education, which then furthers the understanding of the more complex needs of those who are disabled and the additional support which they may require; instead of just viewing them as incapable people who have no autonomy. Although, there are still gaps in understanding and areas where there is a need to improve the attitude towards disability, including making improvements to buildings to create accessibility.

Societal attitudes have changed towards disability, however, there is still some stigma and negativity surrounding those who are disabled. In the Middle Ages, 'there was a great deal of harshness for those termed 'crippled'' (Striker, H-J, 2019 pviii). As disabled voices have been amplified and we have learnt to listen to them, there has been a move away from the term crippled, as it was seen to be extremely derogatory and rude to those who are disabled. Use it the word cripple has been falling out of favour and 'Since the mid-1900s they have become increasingly uncommon and are now regarded as insulting' (dictionary.com, undated). This shows that there has been a change of attitudes and an understanding that there needs to be a change in society and the way we view people who are disabled. Furthermore, the fact that we have been able to remove the word cripple

from our dialect shows that we as a society are willing and able to change the way we think about disability, so why have we not changed the way that we design for disability?

‘In a heartbeat anyone can become #disabled. Then it becomes more obvious that houses are #inaccessible, restaurants are up steps, the new outdoor patios are built without ramps, most parks are not accessible and so much more’ (Moss, T. 2020). Moss has highlighted how inaccessible life can be as someone who is in a wheelchair. As stated, when someone has first hand experience of being disabled, the full extent of inaccessibility is revealed. Despite there being awareness of how to improve accessibility, there is still a lack of progress in creating accessibility. In part this is due to a large number of historic buildings, with there being ‘400,000 listed building entries in England’ (Historic England, 2021); there are also many buildings which aren’t listed, but are just old and would take more to adjust them to create accessible buildings.

Accessibility can be defined as ‘able to be easily got or used’ (Cambridge Dictionary, undated) although this is not always applicable for design. When accessibility is thought of in design, it is more often used to describe a ‘design process in which the needs of people with disabilities are specifically considered’ (Disabilities, opportunities, interworking and technology, 2021). Despite this being the definition of accessibility that is associated with design, most designers rarely consider the disabled users when they are creating their products. In addition, many historic buildings lack accessibility due to the historic attitudes towards disability. Despite this, there are ways we can change this inaccessibility and improve buildings to ensure they meet a more up to date standard of accessibility in design.

Retrofitting is the easiest way to transform older buildings into more accessible spaces. It is also one of the most necessary ways to improve the accessibility of buildings; as there are often ‘steps at the entrances, bathrooms that are too small, doors that are too narrow, kitchenettes with unreachable

sinks, no elevators' (MTDC facilities toolbox, 2013). Designers are able to work with both those who are disabled and also occupational therapists in order to design more accessible spaces which allow for those with disabilities to be included without feeling alienated at the same time. If designers work with occupational therapists, they are able to make homes more accessible, which then means that there is a 'reduced care need and more independence' (Walker, M. 2021). In addition, this would mean that there is less of a need to retrofit buildings, as they are already suitable for people with disabilities. This shows that retrofitting buildings can make a large difference to those who are disabled in order to give greater independence and dignity to individuals. In order to give back independence, retrofitting is one of the best ways to improve accessibility and give disabled individuals more independence. However, there are still some issues with this, as it is often a costly process to undertake, which means that businesses in buildings that need retrofitting are less likely to undertake this improvement. This then means that places are inaccessible to those with disabilities, so they then don't attend places, which then causes businesses to not recognise the need to retrofit; ultimately creating a cycle of failing to recognise the need for better accessibility.

Even though changes have been made through time, there is still more work that needs to be done, even as recently as November 2021. Recent events have shown that there is still a lack of accessibility, even within organisations and groups which are working towards accessibility and human rights. During the COP26 summit issues around accessibility have been highlighted for wheelchair users. Karine Elharrar, an Israeli minister was unable to attend the summit due to it not being wheelchair accessible. (BBC News, 2021). This is an example of how general life is inaccessible to those who are disabled and how the general population doesn't understand the different needs and requirements for those who are disabled. This is another example of the lack of understanding and shows that there is still the need to improve the way which people with disabilities are treated. There should be less emphasis put on the disabled individual to make others aware of their needs and adaptations, and instead, the general able-bodied population should create a more accessible

Societal attitudes towards disability have changed and improved, as there has been a greater understanding of the needs of those with disabilities. This improved attitude means that there have been implements in accessibility into many places for those who are disabled. However, there are still major challenges for those who are disabled, these have especially been highlighted recently with the COP26 summit, where an Israeli minister was unable to attend due to a lack of accessibility into the building. Situations like this show that there is still progress to be made and designers, as well as the general population still have a lot to learn in order to create a truly accessible and welcoming environment for those with disabilities.

Chapter 3: Future designs, what has been learnt

I believe that design in the future will be vastly different to where it is right now; although it is unclear exactly which direction it will head in. This is because designers will be more aware of their impacts when designing and also more aware of the ways in which their designs can be improved through both a greater understanding of the individual needs of a user, but also of the ways in which technology can also be used in order to enhance the way that users and products can work together in order to create more accessible products.

At this current point in time, design for disability needs improvement, which has been discussed in the previous chapter. However, as there is a change happening within design companies and designers. These changes are happening in many different ways, some companies are changing creating new products which have improved technology in and some companies are rethinking their design process and principles. Future designs for disability will incorporate more technology in the products as we are able to develop and improve the technology available in order to help those with disabilities.

One of the companies which are using technology to improve its products is Possum. They are using technology to create assistive technology which aids and improves the lives of those with disabilities. Many of their products enable the user to keep their independence as they either age or lose their independence through disability, as they 'allow clients to monitor the well being of clients whether inside a residential or care facility or within their own home' (Possum, 2021). These products, in particular, the Bed and Chair Control use existing products, but with additional technology inside in order to allow for easier control. This and many of their other products can be found online, which has a wide range of accessible products, all of which allow for users to gain more independence. These products also provide more peace of mind to the family of the user, as they are able to monitor them better.

The technology used in this product and all products from Possum allows the user greater independence. This is seen as either the user or a carer is able to remotely control and monitor the overall feedback given and then make remote adjustments to the product that is being used. This gives disabled individuals greater independence as although there may be a carer monitoring them, it is not necessary for there to be a carer with them constantly to make all the adjustments that would normally be required to be made in person. By allowing these adjustments to be made remotely the disabled individual can feel that they are not constantly under supervision from someone else, and instead, have some independence back.

Design for disability in the future is also going to be impacted by the way that we think about designing in collaboration with other individuals. As discussed previously, there have been changes in the way which we think about disabled people; society has developed to understand their needs, they are becoming more included in general life. This increased inclusion in turn means that they are

getting more involved with the design which affects them; this then furthers the usability and inclusivity.

As well as changes in societal attitudes, education is also going to impact the future of design for disabilities. This will impact the future of design as at this moment, most designers 'don't always take the variety of bodies into account' (Allen,2021). This idea is true from most designs, although, education is raising awareness of this and is working to change this. Through greater education, designers of the future will be able to understand the disabled individuals needs and will be better at communicating the requirements that are met within their design as well. Education will be an invaluable part of the design for the future as it will give designers more of a focus and direction, as designers will not just be focused on the legislation which they have to meet; although this is still important to consider and think about as it maintains product safety and ensures that it meets all the requirements. This further education will mean that designers have more of an understanding of the importance of their products when designing for those who are disabled, especially when it comes to giving back independence and dignity. Overall, education will be a key part of design in the future, as designers are both being educated by other designers on the principles that need to be included, in order to improve their products. But, more importantly, designers will be educated by disabled individuals who will be using their products in order to get a truly accurate reflection on the needs and wants of the users, who are the key focus of the product as they are the ones who will be using it.

As disabled individuals are involved more within designing, then there are going to be more changes towards designing. This is because disabled individuals involved with designing will be able to create more accessible products which will then have better user focus. This will then mean that the products are more accessible and so will be more effective for the disabled users. This is a positive

change for design for disability as it means that the design and the designers are more suited to work with the disabled community.

The future of design for disability is still unknown; although there are still many possible directions that design can go in. However, the main takeaway for the future of design is that there will be an increase of technology included in designs which will result in more assistive technology being created and used. Furthermore, there should be an increase in involvement from disabled individuals in order to ensure that designs are more accessible and also are the most efficient and effective for the disabled individual to use.

Conclusion

Design for disability has always been around, although it hasn't always been a prevalent part of society and design thinking. Throughout history, we have seen many changes in the way that these designs are created and improved, as social attitudes towards disability also change and improve. Designers are gaining more of an understanding of the needs for the design for disability, especially at this current point in time.

Some designers are already aware of design for disability and the ways that it is lacking and needs to be improved. However, these designers only make up a small portion of those who are actively designing for those who are disabled to ensure that the products that they create are fully accessible and meet all the clients needs. Many designers are creating products for disabilities, although the products often lack the same design and finesse which is given to products that are designed for those who are able-bodied.

Although this is where design for disability is currently, it is a constantly evolving and changing field of study. No one can fully predict where design for disability will be heading in the future, although it is advancing and evolving constantly. There is a lot of future potentials, within this area and it is going to be interesting to see where designers take this in the future, as there is a growing number of opportunities for designers to explore this growing field.

As more technology is available to use, there is more that designers can do to ensure that design for disability is improved. By incorporating technology into products, there are more opportunities to give disabled individuals independence by either having a career remotely operate the product, or the disabled individual being able to make the necessary adjustments themselves. Whichever system is used, the disabled individual has greater independence as they are able to make changes themselves.

Ultimately, designers are reaching a turning point for the future. The decision needs to be made on which direction they are going to take in order to improve the design for disability. There is the potential to have greater use of technology in their designs in order to ensure that they are more accessible for those with disabilities, but are also usable for able-bodied people as well; or do designers work on ensuring that their products look less like those designed for disabled users by ensuring that Rams' principles are met. Whatever choice is made, designers need to remember that client and user feedback should be considered in every design, as things cannot progress if there is no proper consultation between the two groups.

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Figures:

Figure 1: Mitchell, C. (24/11,2021) *Madita-fun by Schuchmann* [photograph] (private collection)

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