

Understanding Design
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Module - 03
Start of Section 4
Lecture - 15
Knowledge and access

Designers often speak of creating objects to meet society's needs, but it seems to me that a need could be a luxury or it could be a necessity. So, how would we look at need?

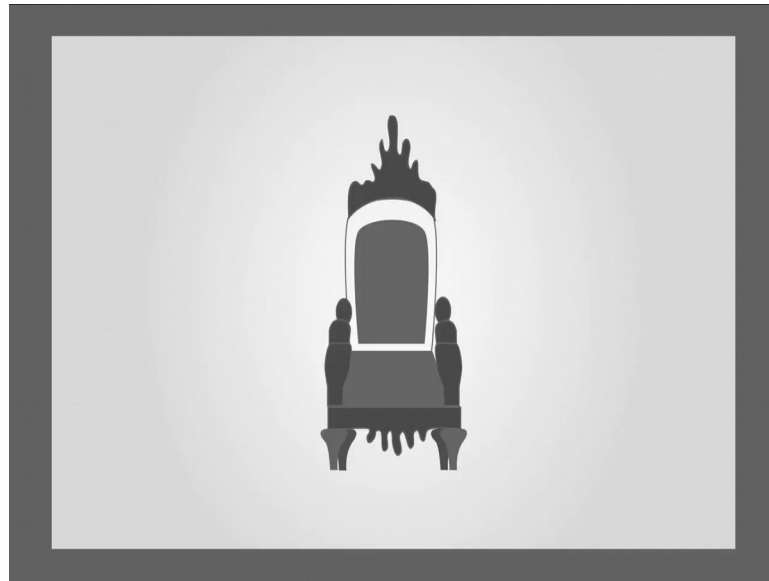
Yes, let us look at need more closely, take the chair as an object that has become a necessity today for most people.

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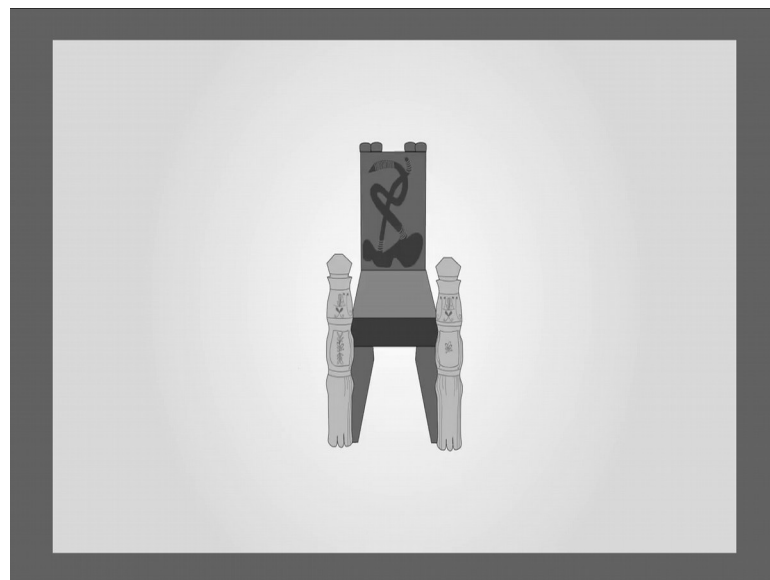
The earliest historical evidence of a chair comes to us from Egypt around 7000 years ago. Later innumerable chairs are found across centuries and cultures everywhere, it became a common everyday object by the 16th century in Europe.

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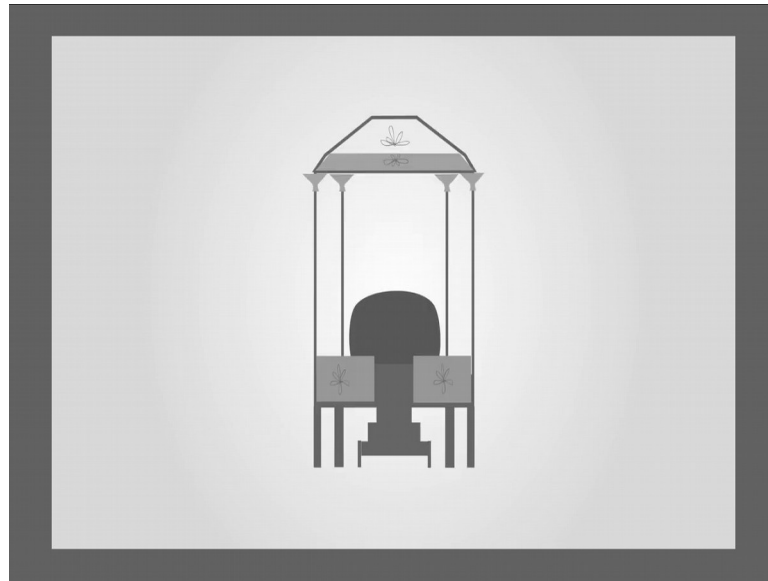


Let us think about how this single functional object made by people in different times and cultures traveled and got transformed in different societies.

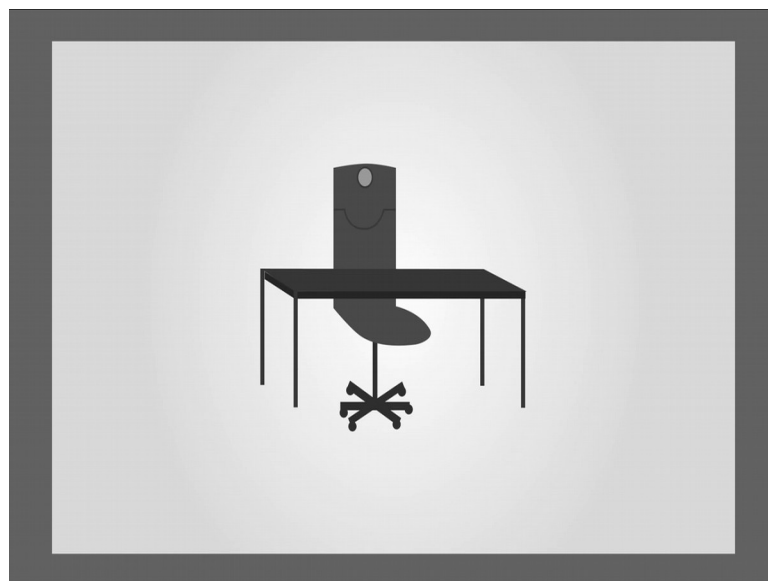
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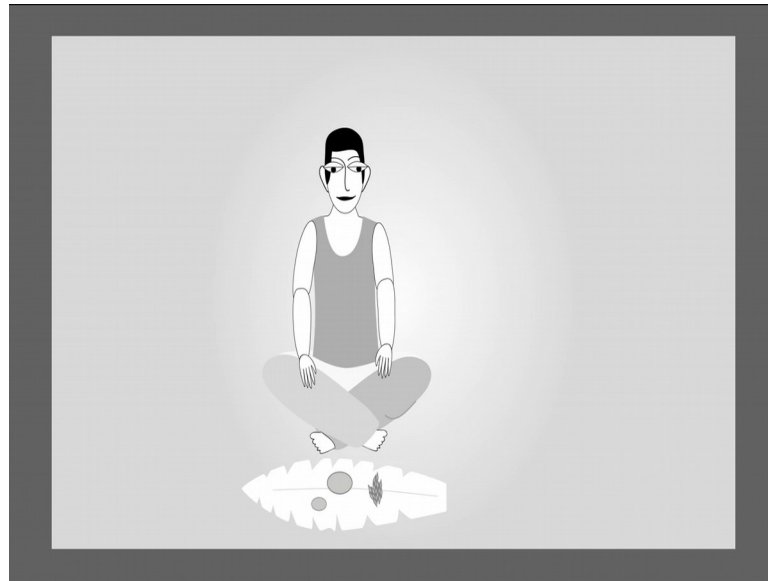


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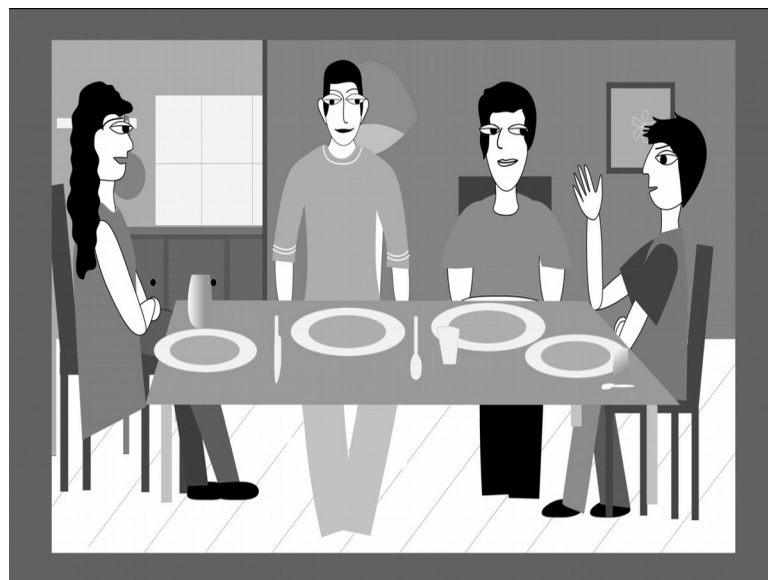
The coming of the chair altered even the spaces in people's homes. In cultures like ours where people sat on the ground to eat.

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Most ordinary folk ate off banana or saal leaves in the kitchen or just outside it, the distance between the person and the food was convenient.

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When the table came in instead of the ground people had to sit on chairs; meanwhile the banana leaf was replaced by the plate and with the plate came cutlery. Slowly sitting at the table and eating became common for most people and for that we needed a special room and so, came the dining room. Gradually, a postures got altered and today most ur-

ban adults find it very difficult to sit on the floor for long. These only some of the many ways in which changes come about when we adopt designed objects into our lives.

So, in this way the chair and the table got absorbed into our lives, that one chair brought about changes in personal and social behaviour in everyday habits, body movements even changes and rituals associated with food.

It may seem that designing and producing a chair is just a simple act, but to design something is to go beyond the immediate task and object, it is to see a series of connections.

What sort of connections would come into play while designing a chair?

Well, let us examine the concerns of a designer around both the act of conceiving and then of building a chair. The first act that of conceiving the chair urges us to look at how ideas of power position and physical abilities are vested in an object who gets to sit on the chair and for what purpose and so, what kind of a chair must it be, what should it look like what ideas does it need to convey.

All those chairs we saw conveyed specific ideas of social order, status, function maybe affordability, but what about access? Is there any specific kind of chair that you would like to look at?

Yes. I would like to take a closer look at the wheelchair.

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The most important thing about it is that it facilitates mobility which is a primary requirement for all humans beyond mobility wheel chairs can bring self esteem to special needs groups.

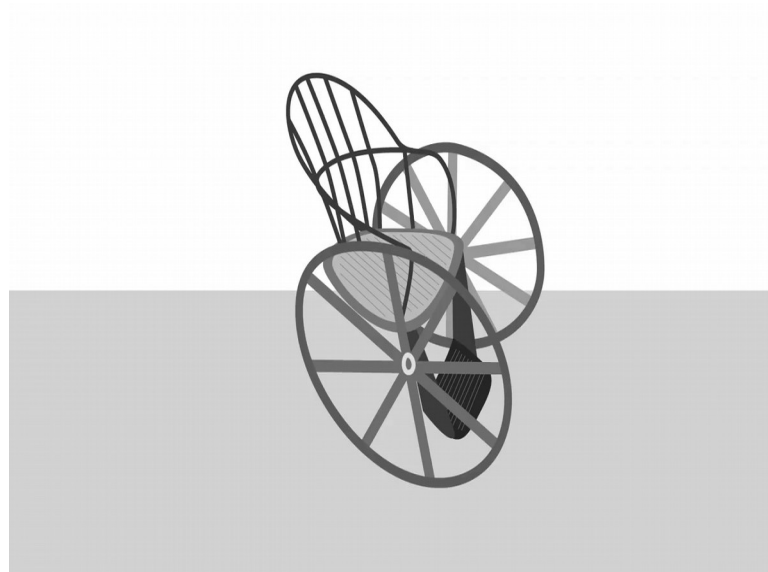
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This is very important in the context of illness injury or disability; it not only changes the quality of life of the individual user, but most significantly it helps to enhance the sensitivity of the larger society across all age groups and social classes.

Was this always so?

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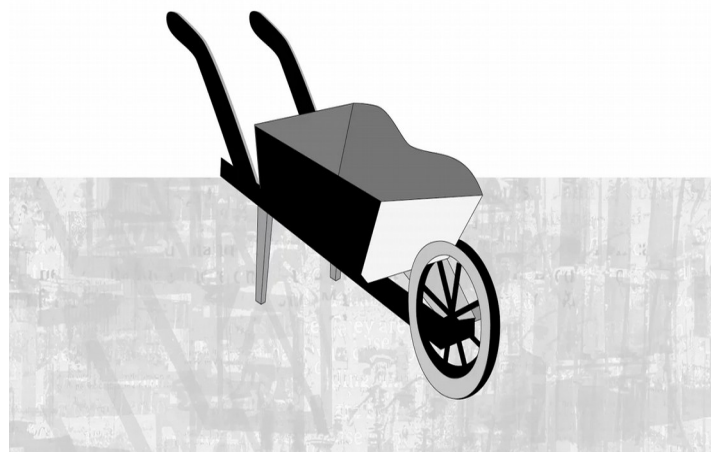
The first wheelchair as we know it was designed in the 18th century, but there is historical evidence of wheelchairs from the 5th century.

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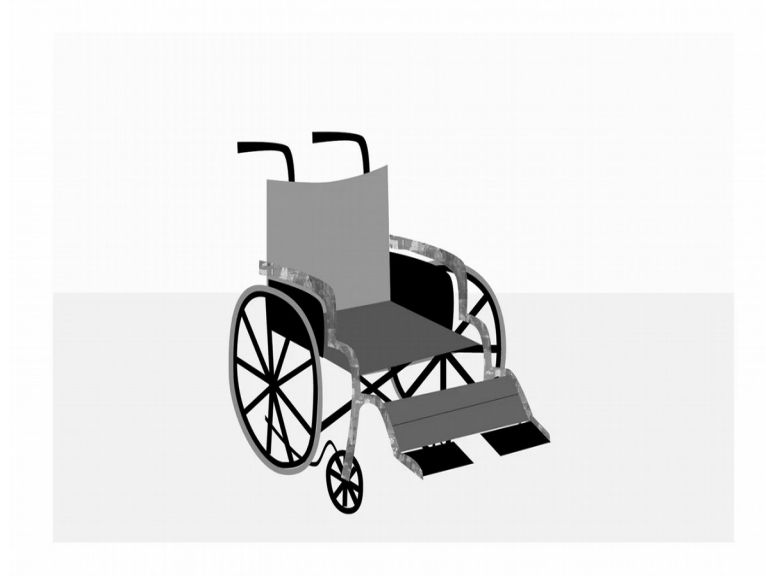
Which tells us that the need for such a product existed for a very long time. There have been several kinds of chairs with wheels in the past.

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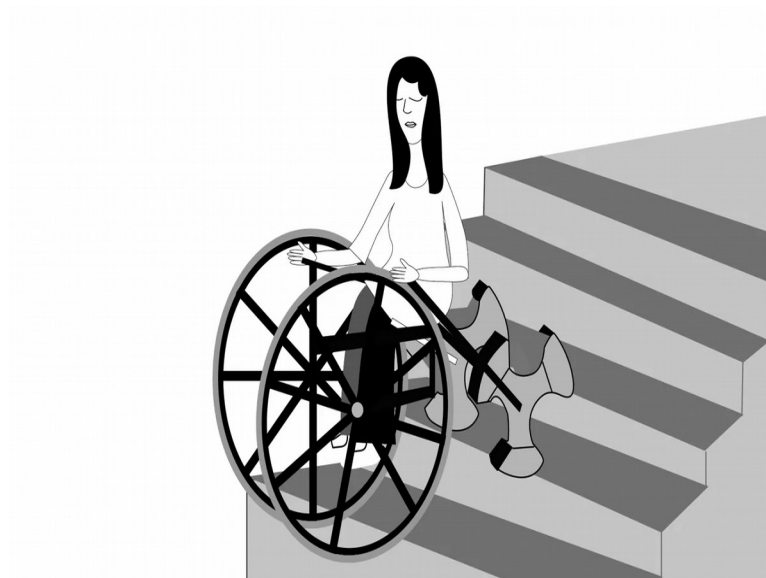
The most rudimentary one might have been a wheelbarrow that also transported goods.

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From then till now technology has made it possible to design tremendously flexible wheelchairs.

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They can not only climb stairs like this one designed by a student at IIT Kanpur. But are electronically and mechanically power to performs complex function.

So, what was the designer consider when creating something like a wheelchair or any-way such product for the special needs group?

It is a whole set of complex and demanding concerns; the designer has to collaborate with the experts from other disciplines to gain an understanding of human behavioural aspects and health aspects.

Of course.

And then the designer must study the qualities of different materials, they must consider the weight of the chair the energies of the user and much more because if these factors are not taken into account properly, the chair might result in a faulty design that actually causes harm. We do not want to cause wear and tear on the users joints and spine or cause injury to the tendons or reduce flexibility or increase fatigue. The purpose of the wheelchairs to facilitate independence not to limit it.

In the previous module we saw how design and technology come together with ergonomics to create comfortable products for everyday things. Wheelchairs are a good example, but let me ask you all bodies and disabilities are not the same is there a choice of wheelchair models in the market?

Yes of course, the different needs of diverse individuals are best met when there are a variety of features to choose from beyond this an existing design or model can be further customized for specific users that is creating the possibility of greater inclusion. It is not just about improving the quality of a person's life it is about also every person's right to a life with dignity living a life with dignity is a constitutional right and all the stakeholders need to work together with the same understanding.

Apart from the special needs group who else are the stakeholders and what do they need to ensure?

Well while the object in this case the wheelchair is primarily developed for the person who will use it, a designer must also address issues of convenience efficiency and safety for the caregivers involved and passersby who would interact with the wheelchair user. In the case of wheelchairs a complete ecosystem needs to be mapped out for people of all age groups with varied illnesses and injuries and degrees of disability this means creating an environment that is non discriminatory and providing equal and full accessibility for all.

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Would not the government have a role to play in this?

Yes, in making such products available and at affordable costs to all, including the poorest and those living in remote areas.

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This means disability activists and organisations need to build a greater awareness, so that decision makers learn about their concerns and respond to them favourably.

Let us ask our students look around is your own context compliant with wheelchair users; the buildings, shops, streets, parks, public transport systems railway stations think about it where is the environment suitable and designed to be inclusive and in what ways does it become problematic and non inclusive for the differently abled; can you try to imagine what the ideal environment would look like?

I would like to share with you the experiences of Hugh Herr an American mountaineer, who had an accident in his youth that got him thinking and experimenting. Today he is an engineer and bio physicist, whose work explores what he calls the interplay between biology and design. His mission is to create prosthetic devices that aim to change as he says disability to ability.

Let us pause and go to the next tab for more on this come back to us after you have seen it.