ACTA FACULTATIS XYLOLOGIAE ZVOLEN, 63(1): 143−150, 2021
Zvolen, Technická univerzita vo Zvolene
DOI: 10.17423/afx.2021.63.1.13

UNDERSTANDINGS OF DESIGN IN CIRCUMSTANCES OF HUMANITY

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ABSTRACT

We are living in the world where we should accept all sides of human life. That is reflected in daily work of designer. What are basic for such point of view? That is necessary to describe, analyze and convert to a design solution and practice. It is necessary to line-up all known information and giving these weights for understanding role or position in design research and development. The article gives brief orientation in that problem to give designers or similar other view on daily practice. The main goal of the paper is thus to point out the importance of human-centered design. The partial goals are to analyze current state of affairs of humanity in design, analysis of the concept human-centered design and presentation of good practices of human-centered design. The main method used is analysis of literature and design works along with conceptual analysis. Results of given analyses are as follows: there are several terms used for description of concepts related to human-centered design, only minority of contemporary design can be understood as human-centered, there are several good examples of inspiring ideas for the wood using in everyday human needs, despite the predominance of many other types and forms of design.

Key words: design, human-centered, accessibility, diversity, age-friendly.

INTRODUCTION

“We can't work for a company that pays us; we must work for society and create important values for it. In the twenty-first century, we can no longer use humanity to serve technology – we must use technology to serve humanity" Marcel Wanders (FAIRS 2007).

The word-term *human-centered* began to be used in the 1980s in connection with the development variety of interactive systems. Today, human-centered design (HCD) is already a traditional approach, which is applied in various areas such as management, design or in solving general social problems. Its specificity lies in the fact that it consistently brings a human perspective into all steps in the entire problem-solving process.

The renaissance of humanity can be associated with the ambition to direct social development towards a vision of a sustainable (BAĎUROVÁ 2015), ethically and culturally advanced democratic society, based on the human rights model of functioning and on the ideas of social inclusion. In practice, this means, among other things, that the need to ensure equal opportunities for minority groups in relation to the majority, to accept the diversity and individuality of people, to strengthen the rights and active participation of all members of society in economic, social, political and cultural life. In accordance with the application of human rights principles, everyone should be able to exercise their human potential,

regardless of age, gender or permanent or temporary functional limitations (EU2020). Several international, European and national documents have been adopted in support of these principles since the turn of the millennium, which are not only declare rights and freedoms but also guarantee opportunities and oversee the rights of people with different limits. Their implementation into legal regulations, norms and international standards is now somewhat more urgent in modifying the existing frameworks that determine design seriously. In period of creating the environment, products, services, information and communication systems, methods and approaches are used and take into such as account of the diversity of users, as accept the heterogeneity of human needs, demands and abilities.

In this frame context, human-centric creation is a framework (not only) of a design approach to the development of products, services, environments or systems, the aim of which is to make them universally accessible, usable and useful regarding to the requirements and needs of all users. That focus is on man, respecting its individual unique value and its personal human values. The deepening and application of knowledge about human factors - considering ergonomics, information about whole users, their limitations but also possibilities, knowledge, user techniques, etc. – that should deeply contribute to achieving this goal. Important is that basis of all steps on the way to the solution is the consistent application of the human perspective. The benefit is to improve the efficiency and effectiveness of solutions, increase user satisfaction, well-being, accessibility and sustainability, as well as prevent their possible adverse effects on individuals and society as a whole – human health, safety, performance, social incoherence or exclusion (ISO 9241-210 2019).

The aim of this work is focused and presents examples of wood application used in furniture, products & interior same as wood used in combination with other materials in design creation which is based on human needs.

MATERIALS AND METHODS

Human-centric work is often appreciated precisely for its ability to actively solve wide range problems of social inclusion. Today, the term Human-Centered Design (HCD) covers a range of design methods that contribute to the creation of an inclusive / universal environment and products.

After analysis of representative resources oriented on design it is possible to see that in this context, there are more related terms used. For example, like by followings CARLA B. ZOLTOWSKI, WILLIAM C. OAKES, MONICA E. CARDELLA (2013) understand human-centered design like an idea that designers keep in mind the people they are designing for.

Other similar concepts are as follows:

- Universal Design (e.g. STEINFELD, MAISEL 2012)
- Design for all, (e.g. FEO, HURTADO 2008)
- User-friendly design, People-Friendly Design, User Centered Design (e.g. KUANG, FABRICANT 2019; VREDENBURG, MAO, SMITH, CAREY 2002)
- Inclusive Design, (e.g. KEATES, CLARKSON, HARRISON, ROBINSON 2000)
- Design for all ages, Life-span Design, Trans-generation Design, (e.g. STORY, MUELLER, MACE 1998; PIRKL, 1994; PULOS 1994)
- Barrier-free design, Accessible Design, (e.g. STORY, MUELLER, MACE 1998; HOLMES-SIEDLE 1996)

The concepts mentioned above are in listed from the broadest (focusing on everyone) to those focusing on more specific criteria (age, disability). However, all of them carry similar focus on humanity in design also from ethical point of view.

Different terminology and content nuances are related to the cultural-geographical and historical background of their origin in different countries (ČEREŠŇOVÁ, ROLLOVÁ 2015), and the beginning of the evolution towards inclusive design can be traced back to the 1950s (HUMANCENTEREDDESIGN 2020).

In today's understanding of the outlined issues, all these strategies have a common denominator. They accept human diversity and perceive otherness as part of human nature. Through design, they create opportunities for people to function equally, equally, freely and autonomously, thus emphasizing and accepting human dignity in the wider social context – acknowledging the value of the human being and helping to fulfill the human dimension.

The accessibility achieved by applying these design approaches can not only maximize the range of potential users of environments, products, goods, and services. It also has enormous social value, as it increases the proportion of the population that can participate fully and independently in society daily life, which is also linked to the goals of social sustainability as an integral part of sustainable development.

In that context, the importance of the designer's application not only in traditional design processes but also in team interdisciplinary dialogues and participatory design is intensifying and strongly growing, which can lead to more significant processes of social transformation.

On the other hand, it should be noted that, if ideas of social inclusion and social sustainability are a broader framework of humane-centric creation, it should also be borne in mind that in certain cases artificially induced connections of heterogeneous social forms may no longer represent development but may lead to undesirable averaging, loss of originality and individuality too.

And this also applies to design too. Even the design practice itself involves much more than just the aspect of universal applicability or accessibility. The designer must include other important aspects in his creative processes, which requires a deep understanding of the design activity. In any case, the application of any method should not lead to a reduced view of the design. A key factor in using the method is the degree of creativity which is applied in that. After all, the most creative solutions in the history of design often arose from breaking the rules or standards or by ignoring generally accepted practices or customs.

RESULTS AND APPLICATIONS

1/*Project ThisAbles*, 2019, IKEA Israel – Part of IKEA's long-term strategic effort is its commitment to sustainability as well as the immediate support of the communities in which it operates. The company's global vision is to improve the quality of everyday life for as many people as possible. This also applies to people with various types of functional disability or limit, which represent up to 10% of the world's population. As part of this vision, the Israeli IKEA has teamed up with domestic non-profit organizations that focus on creating solutions for people with special needs or disabilities. The ThisAbles project was aimed at enabling these people to enjoy the IKEA product range and improve their quality of life through them. The cooperation resulted in a vision of a new product line that can bridge the gap between existing products and the specific needs of minority groups. As part of the co-design, representatives of the target group - people with a specific form of health restriction – were also involved in the development. "Accessibility" was maximized in all aspects of each project stage – from determining an accessible project location, built and adapted to the needs of disabled people who participated in the project, to the products themselves, made available to the general public in the form of shared documents for 3D printing, including instructional instructions and videos for production, assembly and use. The project website

also became a crowdsourcing platform for the issue. The public can initiate any special problem, but also share their own ideas, which can be integrated into IKEA products and make them available to all those who need it most.

The individual products, designed primarily to help minority groups, ultimately universally expand the range of usability and accessibility for all of us – for children, the elderly or for temporarily functionally indisposed "healthy" people. For example, mirror connectors that can be integrated into storage furniture, which make the contents visible on high shelves, serve people in wheelchairs as well as children or people of short stature (THISABLES 2019).

Watch videos about the *ThisAbles* project by using QR above.

2/*The Alternative Limb Project*, design: Sophie de Oliveira Barata – The author of the project uses a unique medium of prosthetics to create wearable works of art. Her work combines the latest technologies with traditional crafts. She is examining by her design the theme of the appearance of the human body, the possibilities of its modification, evolution, and transhumanism. This project is a support platform for a positive perception of disability at the same time. It celebrates the diversity of the human body, breaking not only physical but also mental, social and cultural barriers. In her original, tailor-made works, she implements current material and technological innovations. In the creation of each product, it participates with experts in the fields of 3D modeling, electronics, and other cutting-edge technologies.

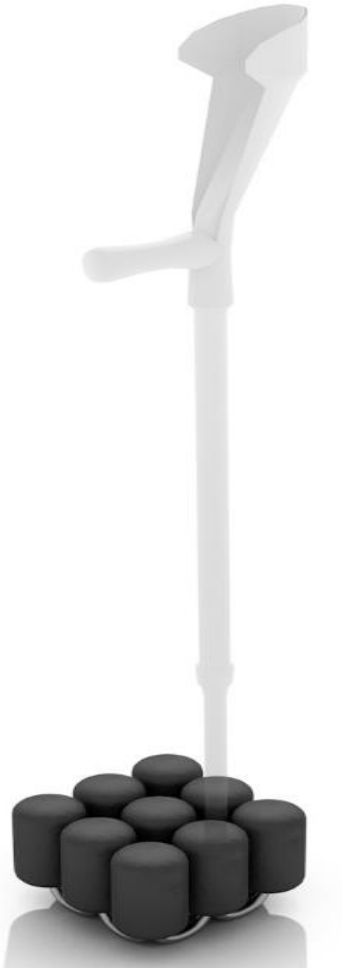
One of solutions, which has been created in frame of Alternative Limb Project mentioned before, was named as MATERIALISE (2017). That design dedicated for Kelly Knox has two parts. The underside is a realistic representation of the hand, which represents Kelly's physical body and is made of silicone skin indistinguishable from human. The upper half is designed with interchangeable parts, each of which represents different elements reflecting its emotional and spiritual selves. The limb was created by a combination of 3D printing, CNC milling, hand carving and sculpture, using steel, rock, earth, wood, moss, oil, cork, wool, bronze, rhodium and gold. The two halves of one forearm form a strong visual connection between the physical and the metaphysical (THEALTERNATIVELIMBPROJECT 2020).

3/*Innovation from Matell* – a step towards equality. In recent years, the manufacturer of the iconic doll has brought a multidimensional view of beauty and fashion and in its own way has reflected on the current social issues of social inclusion. Through atypical toys, it turned its attention to the adoption of various forms of human "otherness" and thus implemented issues of social diversity into the education of the youngest generation. The 2016 collection first changed the ideal of the stylized white beauty Barbie presented for many years - her new slender, fluffy, and racial mutations were introduced. In 2019, the company went even further, responding to customer requests to bring toys closer to real life. It launched several genders-neutral dolls and other atypical ones appeared, with aesthetic flaws or disabilities (ITV 2020).

4/*Artro chair*, 2018, design: Ondrej Bukovec, Technical University in Zvolen – Design creativity applied in marginal user groups. That wooden chair is

typologically designed for interiors where a larger number of people with limited lower limb function is expected to stay. The solution reduces physical exertion – it helps to get up and promotes self-sufficiency. Seating in the sense of "senior-friendly design" integrates requirements aimed at maintaining independence and mobility. Awareness of the value of the humanitarian message is characteristic of the solution. A detail with a hint of subtle nostalgia or retro memories can be as good a support for the user's soul as a physical barrel for its body (BUKOVEC 2018).

5/*Transgenerational furniture*, 2014, design: Ondrej Bukovec, Technical University in Zvolen – Furniture system is supporting the development of interpersonal relationships from birth to adulthood. With a simple modification, the cot becomes a dynamic or static seat and then the application of a part that raises the legs of the furniture can also be used as a table. The design accepts the life changes that the individual undergoes during the life of human life as well as the individual developmental stages of family life (ARCHIVE 2014).



6/*Wait*, 2018, design: Ivan Jedinák, Technical University in Zvolen – The concept of a sticks stand for the Elderly House in Sliač solves the problem of storing orthopedic crutches (ARCHIVE 2018).

7/*Interior of the Ľ. Štúr library in Zvolen* – department for children and youth, 2019, design: Karolína Štefániková, Technical University in Zvolen – The project respects the essence of the children's world, while the individual functional zones of the children's department of the library are sensitively conceived regarding the peculiarities of the growth periods of young people (ARCHIVE 2019).

DISCUSSION AND CONCLUSIONS

HCD is part of design thinking and taking problem. That sequence is very important to accept, it should be included naturally in designer practice. HCD must be strongly connected with designer education, technical education as well. That should make interface to a daily research, development, creation, production. That human way of combining technical, environmental, social, artistic, economical and many other views related to a production of a new design is necessary for correct and socially responsible future and development trends in 21st century.

For some design products, the ambiguity of identifying the target group for which the products are intended is also felt. In many cases, designers address them in general, but as the results of real-life mapping suggest, users do not perceive similar products as necessary or useful. Based on this, it then appears that the target group of products are the designers themselves, or the design community or sometimes the media. Another observed phenomenon may be related to the aesthetic trend and publicity – although the formal features of similar products as the materials used and the modest to poor aesthetics suggest that it should be a low-cost product, in many cases it is a cost-effective product, which it can also affect the resulting interest or lack of interest of the target group, especially for example in seniors.

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