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Guest Editor: Chair Prof Dr. Cigdem Kaya,
Industrial Design Department,
Istanbul Technical University,
Turkey

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Guest Editor

Prof Dr. Cigdem Kaya ***is chair of department and professor of design at Istanbul Technical University (ITU), Department of Industrial Design. She has been the vice director of Science and Society Research Center (2014-2017) and Industrial Design Graduate Programs Coordinator at ITU (2014-2017). She has been part of I-D team of Learning Lab by Relais Culture Europe, Paris; where she co-develops content and methodology in the field of cultural innovation since 2019.***

Cigdem Kaya received Bachelor of Industrial Design from Istanbul Technical University (ITU) in 2003, Masters of Fine Arts in New Genres from San Francisco Art Institute (SFAI) in 2006 and Ph.D. in Industrial Design from ITU in 2011 with co-supervision at Art and Design Center at Sheffield Hallam University (SHU) where she closely studied with Chris Rust. Kaya's research has been funded by Fulbright and Marie Curie programs. She has published many peer-reviewed articles in best design research journals. She supervised 3 PhD thesis about craft, critical making, use-share systems, all of which aim at social innovation and sustainability.

In 2020, she has been awarded with one of the most prestigious national research awards: scientific encouragement award by Middle

Eastern Technical University Prof.Dr. Mustafa N.Parlar Education and Research Foundation in 2020 for her research on social innovation and sustainability

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Guest Editorial

Prof Dr. Cigdem Kaya

As the chair of industrial design department at Istanbul Technical University (ITU), I am delighted to have the opportunity to edit the November 2022 Vol-17 No-11 issue of Design for All. Design for all has been an excellentre source for designers who think on the idea of "all".

At ITU, since the foundation the master's, PhD and undergraduate programs in the 90's, human-centered design has been a core quality that has been highly valued and taught by the design faculty and this signature quality has not changed until today. In the 2000s, universal design and inclusive design have been adopted into design studios and in the last decade research and teaching on social innovation, environmental, economical and social sustainability and service design have enriched ITU industrial design programs research and teaching landscape.

The November 2022 Vol-17 No-11 issue of Design for All aims at portraying an up-to-date perspective of inclusive design focusing on how to be even more inclusive with technology and digitalization. Hence, the articles explore the concept of inclusive design in artificial reality, sustainability and ontology of practice as well as traditional industrial design.

It would not be wrong to say that in the past decade inclusive design has been widely adopted by both designers and industry. Yet, this is an indispensable debate of philosophy of design. In this article, the readers will see concerete evidence of how each author has integrated inclusive design into their reflective practice. These ideas provide a platform of discussion to the design community about inclusive design.

The deep empathy designers grow during their education and practice start swith tiny steps in their research and projects and it grows into larger bodies that can form what Timothy Morton call as "hyperobjects". How to discuss inclusive design as a hyperobject after Morton?

While, as designer we follow guidelines and use various research methods to be inclusive in our design projects in means of ergonomics, accessibility, mindfulness, meaningfulness and respect to material use, we also include character traits more more. In the years to come, it would not be surprising to see more inclusive products in the market.

Another question that needs to be explored is the adoption of inclusive design with breathlessly advancing technology. While today products are smarter and lighter, can users interact with them easily or do they feel inadequate in the face of rapidly advancing technology because of lack of user inclusion through poor attention to human factors? Here, the question is two fold: through technology use rsreach an easier everyday life, yet many people struggle to

have access to technology for several reasons such as cognitive struggles andsocio-economical struggles.

As a final comment of my editorial, I would like to invite the readers to remember a myth: the butterfly effect. Itmight be too ambitious to aim for designing for all for designers, but the nature of reasoning as in the butterfly effect nurtures beautiful results.

Gaye Yurdagül Poçan

Gaye Y. Poçan is an industrial product designer from İstanbul, Turkey. She is doing Ph.D. at Istanbul Technical University. As being a nature lover, she is interested in the sustainability concept in her research. She wrote her master's thesis in this field, as well, about sustainable packaging. After years of mainly academic experience as a research assistant, now she is continuing his career in B/S/H Home Appliances Company in Innovation Management team.

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How Inclusive is Sustainable Consumption?

Gaye Yurdagül POÇAN

Abstract

Sustainability is an immediate must for humankind to rise life quality. It suggests shifting our way of living both in social and environmental terms and changing the existing production and consumption system.

One of the issues under sustainability umbrella is sustainable consumption. In this context, consumer occupies a very important place. For the sustainable system to work properly, consumer collaboration and willingness to behave and consume in a sustainable way is highly necessary. Consumer refers here, every one of us, everybody in society. As we all need to consume to be able to survive, our way of doing it effects the environment and shapes the system. Therefore, we all are asked to help the shift towards sustainability by changing our way of consumption, and our preferences.

On the other hand, our consumption attitude is linked to many variables. For some people, the priority in their life might be just to survive as not everyone is living in the proper economic and social conditions. Especially low-income people may not have the ability to prefer sustainable options or it may not even be a consideration for

them in their life. Also, considering that sustainable consumption can still be seen as an alternative to the mainstream, and also the existing non-environmental system is better-organized, it is mostly much easier to access unsustainable options today. Sustainable alternatives might be considered even niche and sometimes luxury. From this perspective, it is questionable how inclusive sustainability in terms of consumption is. Although from social sustainability perspective equity, justice, and inclusiveness are emphasized, from the environmental sustainability perspective, especially for sustainable consumption where human is an important part, these terms are not addressed often and are a missing part in the literature.

In this study, the purpose is to learn how different variables like economic, psychologic and technical background of people have impact on sustainable consumption practices and due to that, to question the inclusiveness of sustainable consumption.

Introduction

Environment where living creatures and non-living things interact has been a concern especially after 20th century. The interactive system between human and nature has shown that the way we interact cannot sustain in the existing way anymore. Especially, the new way of consumption and production system after industrial revolution has caused a big damage. Therefore, a quick and radical moves to change our way of production and consumption is urgent. Searching a more sustainable path inquires far reaching system change and strong approaches to achieve it, not small adjustments. This means a policy for "ecological modernization"

involving production and consumption systems. (Hobson, 2013, p. 1083 cited in Welch & Warde, 2018; BLue, 2017). That means the consumption pattern as much as production system is also essential.

Carrete et al. suggested in their research that from a wider ecologic approach to more specific ones sustainable consumption behavior is influenced by attitude and consumer beliefs (2012). Therefore, sustainable consumption practices has social, cultural, and economic background and motivated by "various external, internal and situational factors" (Welch & Warde, 2018). As these factors change for everybody or for different groups, their behavior would be different. Environmental justice scholarship suggesting "factors such as class, race, ethnicity, gender and age demarcate groups that experience a limited range of alternatives and have unequal access to systems of provision" (Seyfang & Paavola, 2008). Therefore, as society is segmented, they also suggest that sustainable consumption research, can be better organized to understand consumer constraints and opportunities in various groups with stratified view rather than universal (Imhoff et al. 2004 cited in ibid). Regarding this, in this research the different variables that may influence sustainable consumption behavior are analyzed and their impact on sustainable practices are discussed and accordingly inclusiveness of sustainability is questioned.

Sustainable consumption is mostly used interchangeably with the major phrases like "green consumption", "responsible consumption", "environmentally friendly consumption" despite some nuances in their connotations (Kostadinova, 2016, p. 225 cited in Welch&Warde, 2018 cited). In this study, it refers mainly ecologically conscious lifestyles as an alternative way of

consumption to 'mainstream' and 'conventional' one which often implies unsustainable patterns.

Consumption is briefly "the acquisition and use of goods and services for purposes of social, cultural and material enrichment" (Warde, 2022). In other words, it can be a 'good' or a 'service' and can be 'acquired' or 'used' and also can be for 'social, cultural or material enrichment'. That is to say, it is a broader and complex approach. 'Acquisition of goods' involves purchasing activity, therefore it has an economic aspect but not restricted to it. As it has "social, cultural and material enrichment" purposes, it involves motivational and psychological aspects. Lastly, as it is also "use of goods" it involves many activities of daily life like waste management, transportation, cleaning, eating etc. Therefore, for the implementation of these activities infrastructural aspect is important, so it has a technical aspect, as well.

According to the literature the challenges of different consumer groups face are summarized on three topics in this research. They are namely "economic background", "psychologic background" and "technical background".

1. Economic Background

The economic background in this research implies the financial income of consumers, which is necessary for shopping activity and accordingly purchasing decisions.

Based on Bourdieu's theory of capital, consuming in a greener way and the use of greener items also require mostly the possession of them (cited in Welch & Warde, 2018). Therefore, sustainable consumption involves shopping activity and accordingly implies purchasing.

It can be argued that more sustainable alternatives are generally more expensive than mainstream goods. As cited in Carrete et al. (Laroche et al., 2001), green products mostly require some special processes "such as containing less toxic substances" and therefore sold at a higher price. If the brand does not find ways to decrease the price of manufacturing or selling phase to encompass the low-income group with eco-friendly alternatives, this positions the brand at a higher cost market segment and connects with the consumers willing to pay it (Carrete et al., 2012). Therefore, the higher earners as they are better placed financially are more likely to purchase green products. As a result, the prices have an impact on the consumer purchasing decision.

According to the research conducted in Mexico in parallel with the some previous research in China and India (cited in Carrete et al., 2012) claims that economic uncertainty may cause low-income groups to prefer conventional counterparts of environmentally friendly products as these groups are not able to afford when there is a high price difference. It is to say, "green behavior was motivated by economical rather than environmental reasons, particularly among lower social classes" (ibid).

Sustainability is mostly associated with also wellness. Considering this, according to the guidelines for sustainable food consumption, meat and fish should be consumed less, and "seasonal, local, and, where possible, organic fruit and vegetables" and also "ecologic and fair trade–certified produce wherever possible" should be preferred (Clonan & Holdsworth, 2012). However, as cited in Clonan & Holdsworth (2012), "sustainable and certified produce is more expensive, and the cost is a recognized barrier to accessing a healthy, sustainable diet". Yet, there is limited research specifically addressing "low-income consumers' motivations and capacities" toward green behavior (Dowler, 2008). Although some of the advises seems likely to be met by poorer people like eating less meat and fish, and choosing seasonal, local foods rather than processed food or maybe even growing their own food, these advises also "can serve additional constraints on already restricted ways of living" (Dowler, 2008). For example, local food may not be available for every area or growing own food may demand extra time and more effort.

The situation is similar for also clothing in terms of sustainable consumption. Fast fashion is the way for affordable and available clothing as large quantities are sold for cheap prices. Some even argue that therefore it democratizes fashion as the latest styles can be owned by anyone (Bick et al., 2018). However, it is both unhealthy and unsustainable, bad for both people and the environment.

> **"From the growth of water-intensive cotton, to the release of untreated dyes into local water sources, to worker's**

low wages and poor working conditions; the environmental and social costs involved in textile manufacturing are widespread"(ibid).

Therefore, it is offered that when new cloth is needed, high-quality, long-lasting and greener clothes from transparent supply chain retailers should be chosen for the environment. However, new green purchasing seems much more expensive than the fast-fashion, therefore it might be a luxury option for low-income groups.

H&M might be one of the many examples to show the price difference of environmentally friendly products compared to regular ones. For example, when "woman puffer jacked" is searched on the website of H&M clothing brand 63 results are shown and one of them is made of recycled nylon (H&M, n.d.). When the results are sorted by the highest price, it is seen that the recycled option is the most expensive one without a discount at 199 euros. Even the sale price of 96 €, is still in the second most expensive price category. We can see the most expensive ones are only three jackets with 136 €, followed by the ones between 100-90 €. The main point is that 48 of the 63 results are priced under 50 € which shows clearly that the environmental option is very expensive compared to the regular one's price.

To decrease consumption level and produce fewer products, rather than buying a new ones, second-hand stores or repairing old cloth is suggested (Bick at al., 2018; welch & Warde, 2018). This seems quite possible for low-income groups as they are more familiar with secondhand usage even though it is not motivated by

environmental concerns. However, as discussed before for sustainable food, these options are also restricting life of poorer people. Not giving a brand new purchasing option to economically disadvantaged groups while higher earners have the opportunity to buy high-quality options would not be fair.

Sustainable consumption is mentioned as choosing environmentally friendly options for daily activities instead of the conventional ones by assessing "likely benefits and costs", also the motivation should be an environmental concern, not "utility maximization, individual profit, and enjoyment" (Welch & Warde, 2018). Elgin (1993) suggests that living with environmental concern is a "sophisticated response" to "deteriorating industrial civilizations" (cited in Welch & Warde, 2018). She also mentioned that "an ecological approach to living invites us to continuously balance two aspects of life – maintaining ourselves (creating a workable existence) and surpassing ourselves (creating a meaningful existence)" (p. 403).

Considering this approach, if sustainable consumption is surpassing ourselves rather than maintaining our existence and the motivation is responsibility for the environment rather than individual profit, one can say that sustainable consumption is a choice, a decision among various options, rather than an obligation. In this case, as food and textile consumption examples explained, the practices low-income groups can do is an obligation as they do not have many options and also they are not motivated by the environmental concern, instead, motivated by economic reasons.

Therefore, sustainable consumption does not seem to be available for the low-income groups truly, as others do.

2. Psychologic Background

Psychologic Background in this research implies the cognitive process and mental situation of the consumer, which involves intent, concern and motivations for consumption behavior and decisions. These all are also related to social environment, culture, age and education of the consumer.

As mentioned previously, sustainable consumption is mainly based on environmental or ecologic concern and involves sophisticated decisions for creating a meaningful existence. That requires "awareness" which is defined as "knowing something" in Oxford Dictionary. Knowing is automatically related to 'information'. Accordingly, here, the question is about the ability of different groups in terms of reaching the information and knowledge for sustainability. Age, education, and culture are some of the main variables influencing awareness, and so consumption behavior. Carrete et al. (2012) mention that for example, younger and/or educated people have a wider holistic view of human activities and their results and therefore, they "have greater understanding" of and are more familiar with the environmental issues.

To sum up, the opportunities to reach information and gain knowledge to be aware of environmental issues are not equal for all groups due to their age, education, or culture/geography. Therefore, it will not be fair to expect the same level of sensitivity from everybody for pro-environmental consumption. This situation

questions the inclusiveness level of sustainable consumption. As not everybody has the same psychologic background it seems sustainable consumption is not all-embracing.

3. Technical Background

Technical Background in this research implies the infrastructural obstacles which are not caused by the consumer's individual situation, but rather by the system s/he belongs to. This refers to facilities and options offered by the government or other organizations like private market initiatives. Therefore, technical background briefly is the possibilities for sustainable consumption in the organization of daily life.

In some situations, even the two variables mentioned above - economic and psychological background- of the individual for sustainable consumption is strong, in other words, even if the consumer has a high income and also is willing to behave in a sustainable way, the technical background can be an obstacle.

Urban life today is constructed based on modern lifestyle, in other words, unsustainable way of living based on fast and over-consumption. The modern economic system has been the base where green practices are missing especially after the industrial revolution. Accordingly, as today we are in the transition zone from unsustainable to sustainable systems, in many regions even though the citizens are willing to change their consumption habits, the opportunities and facilities may not be ready. As convenience is an essential part of consumer collaboration, infrastructure appears to

be another challenge for the inclusiveness of sustainable consumption (Carrete et al., 2012).

For example, 'Returnity' is a brand that gives an option for reusable packages for last-mile delivery (Packaging Europe, 2022). Which offers to use durable packages repeatedly for the delivery of online shopping, instead of disposable packages. However, in many countries, there is no option in this field for sustainable consumption. That means, even environmentally conscious people have to throw the delivery package when they shop online. Not allowing shopping online for sustainability, again restricts the options and this shows the limits of inclusiveness of sustainable consumption due to the technical background of some groups.

The responsibility should not be attached to only consumer as the government and policy are other essential parts of the sustainable system. Government's proactive policies is an integral part of the systemic change in terms of regulations or subsidizing the initiatives considering environmental protection (Stevens, 2010). For example, the consumers who do not have the facilities like zero-waste stores with reusable packages, affordable ecologic food options, waste separation possibilities, recycling technologies or efficient public transportation are not fair to be expected to behave ecologically responsible. As Carrete et al. said substantial improvement would only be realistic when efforts of different stakeholders like "consumer, the media, the private sector, and the government" are collaborated. (2012).

Results and Discussion

Sustainable consumption encompasses a wide range of practices. For example reduction of waste by for example reusing objects or recycling materials (Carrete et al., 2012). In addition, more specifically, household consumption practices like cleaning, cooking; eating practices like organic or natural; shopping & purchasing and transportation can be some examples. In this study the main variables which have impact on consumer practices are addressed from three aspects. In terms of inclusiveness, how these variables have an impact on sustainable consumption behavior is discussed. 3 main variables are:

1. ***Economic background: İncome***
2. ***Psychological background: Age, Education, culture, geography***
3. ***Technical background: Governmental policies and facilities & Private entrepreneurs***

It is seen that all options for sustainable consumption are not available to some groups because of the lack of opportunity due to their economic/psychological/technical background.

From an economic aspect; many of the options especially related to purchasing activity are mostly suitable for the groups with higher income as eco-products are much more expensive than mainstream counterparts. Therefore, as mentioned in the literature there have been some options offered to groups with lower income like repairing, using second-hand, growing own food, etc. are more likely to limit their consumption practices and to serve additional

constraints, even to isolate and exclude them from the rest of the society. Options also imply the past, when more comfortable options have not evolved yet. However, today, options are diverse. Restricting some groups to only a small part of consumption practices does not seem inclusive and fair. This contradicts with sustainable consumption theme. Therefore, the economic background has a big impact on sustainable consumption and accordingly doesn't seem inclusive for lower income groups.

On the other hand, poorer groups are likely to behave greener in many of their daily practices as they use second-hand products for example instead of buying new ones or try to consume less energy and use public transportation for example. However, these all choices are motivated by money saving instead of environmental concern since their first challenge is to survive. As mentioned before, sustainable consumption is defined as a conscious choice motivated by environmental concern, it should be proactive rather than reactive. Therefore, these practices cannot be regarded as sustainable consumption when a family does it because of the obligation due to the limited badged and not with pro-environmental intention. As Seyfang& Paavola mentioned, "although the focus of sustainable consumption policy is over-consumption on a societal level, for many groups in society under-consumption remains a key social justice issue which must not be overlooked" (2008).

From a psychological aspect; demanding an old lady to prefer eco-friendly natural cleaning detergents instead of regular cleaning chemicals might be very challenging for her as she used to use the regular ones for her whole life and has the insight that supports

chemicals are the only way of cleaning. Therefore she might feel the other options can not be clean enough. As knowledge and awareness are based on some variables beyond one's preference like age, education, culture, etc., until the same conditions and the same psychologic background is provided, sustainable consumption doesn't seem inclusive.

Lastly, from the technical aspect; even consumer is motivated by environmental concern and willing to behave greener, the facilitation may not be provided and may stop her/him. Due to some conditions like the policy and the initiatives in that region which is, again, out of one's power is a challenge for sustainable consumption and its inclusiveness.

Inclusiveness is defined in Cambridge dictionary as "the quality of including many different types of people and treating them all fairly and equally" (n.d.). From the results, it is seen that *"the quality" of sustainable consumption is so low in terms of covering different types of grıpus and suggesting the fair opportunities.* Therefore it can clearly be claimed that sustainable consumption is not inclusive for all, for now.

To be able to overcome obstacles facilitating learning literacy, developing policies considering different groups with different capacity to act sustainable might help and public service can be supportive.

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Sinem Hallı

Born in İstanbul in 1987. After graduating from American Robert College, continued her education life in her dream profession in Istanbul Technical University Industrial Product Design. Studied in Politecnico di Milano as an exchange student for one semester.While studying Brand Communication as a master student, worked in several companies in different sectors. Received various design prizes from multiple international and national competitions ranging from furniture to packaging. Later on, went back to universities to share her knowledge with upcoming colleagues as a lecturer while studying PhD at ITU Industrial Design Department and bachelor of Child Development at Istanbul University. Meantime, does freelance design collaborations.

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The role of caregivers in the use and re-use of toys for a sustainable future

Sinem Hallı

Abstract.

The toys sector worldwide is worth 80 billion USD, and 700 million USD in Turkey. This equates to 175 USD per child globally, compared with just 30 USD in Turkey (Şentürk&Bayat, 2016). A household's budget for toys and other means of entertainment has to be spent with care and attention both to the need for children to develop, have fun, and experience everyday life through them and to satisfy the caregivers' concerns with safety and educational priorities. Toys have an asymmetric power relation between buyers and users where the buyer and the user have different roles and the user's reaction is unpredictable. If this is not managed properly, toys run the risk of remaining in the hands of the buyer without being used at all, causing clutter and waste. Toy sustainability can be measured by nine criteria derived from the literature and expert interviews. The literature on the environmental aspects of toys, from a value–belief–norm perspective, covers physical touch points, such as materials, design, assembly, and transportation, and suggests methods to enhance toys' sustainability up to the "during use" phase. This study, carried out by snowball sampling among Turkish caregivers, is one of the few to examine caregiver toy selection and lifecycle management patterns, thus providing useful information about the whole lifecycle of toys. Among those who participated in the survey,

mothers, who constituted the greatest number, indicated that they were open to the use of secondhand toys. This research identifies a "less is more" culture for toys, considering both sustainable values and income inequality and manifested in the practice among environmentally conscious caregivers of returning unused toys into circulation for further use, thereby decreasing the carbon footprint of toy usage.

Keywords: consumer behavior, child development, carbon footprint, secondhand market, climate citizen, toys, sustainability

1. Introduction

Sustainability and toys … Although these two words may seem unconnected, as children rapidly grow out of using toys, and it is mostly adults who are concerned with sustainability, they are closely related. Sustainability, in a sense, refers to what may be done for a happier, cleaner, and healthier world and a better future, and children are the real owners of the future world. Sustainability is a concept that has technical, environmental, and social dimensions. While the technical dimension of this concept includes the more controllable aspects of products, such as design, materials, and production, the social and environmental dimension includes systems based on relations that support social bonds and leave a clean environment for future generations. Even before a baby is born, a family tends to start investing in toys, and a high level of consumption of toys continues well into childhood. Little research has been done on the sustainability of this universally consumed type of product. The present study aims to fill this gap for the good of all now and into the future.

Toys, which can be defined as any object designed to be played with, are a prominent part of children's daily lives, and children experience everyday life through them (Healey & Mendelsohn, 2019). Toys are essential tools through which adults connect and communicate with children and which advance children's cognitive, physical, social, imaginative, and emotional skills (Abdulaeva & Smirnova, 2011; Bolişik et al., 2014). In the past, children spent much of their time outdoors and did not need any manufactured toys to play with. "Toys" could be anything that they imagined as complementing their games. Most schools in which the holistic development of the child is prioritized, such as the Waldorf or Montessori schools, stress the importance of the quality of toys, rather than their quantity. Patterson and Bradley (2010/2020) indicated that, if the child is exposed to too many toys, s/he may be overwhelmed and not play with any of them. To call a toy successful, it is important that the child play with it repeatedly and have fun in doing so (Bolişik et al., 2014).

As children grow up, their needs and inclinations develop. Thus, toys should fulfill the rapidly changing needs of children at various developmental stages, while causing minimal damage to the environment. With the success of online shopping platforms in recent years and the convenience of comparison of alternatives, recommendations, or comments on products, caregivers prefer these to the traditional methods of shopping for toys (Richards et al., 2020). However, while digital channels make purchasing easy, they can also stifle environmental awareness among shoppers who tend to act on impulse. These channels have limited capacity for conveying to potential buyers all the properties of the products that

they would experience in physical contact, thus inhibiting clear judgement. However, the ease of comparison on digital platforms gives online shopping the edge, especially in the eyes of families with a low income. The global toy market is worth 80 billion USD, compared with 700 million USD in Turkey. This equates to 175 USD per child globally, compared with 30 USD in Turkey, but the latter figure is not shared equally among the country's children (Şentürk & Bayat, 2016). Even when the budget for toys is limited, it must take into consideration all the developmental and health needs of children, as well as environmental concerns. In Turkey, a developing Mediterranean country, cultural and social values have an impact, such as the importance given to the child in the family or collective views on environmentalism (Dagher & Itani, 2014; Nguyen & Johnson, 2020; Johnstone & Lindh, 2018), which will be reflected in the distribution of the budget for toys. The best toys are not always the most expensive ones, and variety is critical for healthy child development (Bolişik et al., 2014).

Compared to some other products, the success of toys must be measured in terms of environmental friendliness and fulfillment of needs. For example, toys must be germ-proof and easy to clean, because small children especially tend to put things in their mouths. There are factors to be considered regarding child development needs. Fun is also a must when the subject is a child. Potential caregivers start buying toys long before child's birth, but the users abstain dispose of them easily even after the termination of use. The "use" lifetime of the toys is determined by the age of the child, and the toy should be disposed of somehow after the completion of its lifespan with the current user, which is not mostly equal to the real-

life expectancy of a toy. Therefore, if toys have not been bought mindfully with respect to environmental issues and disposal, homes tend to be filled with toys that are not played with at all, often having missing or non-functioning parts. A conscious caregiver considers the actively played and passive (not played) periods of toys and tries to manage them to cause minimum damage to the environment (Robertson & Klimas, 2019). During use, maximum efficiency must be obtained from the toy in the unit time. Toys, like many products made for children, have an asymmetrical relation of power with buyers and sellers (Neydim 2005; Karadağ 2018), meaning that it is adults who design, manufacture, sell, and buy toys, whereas it is only the children who play with them. Since the buyer and the user are different people, the reaction of the user cannot be known at the time of purchase. Hence, there is a substantial risk that a toy may remain in the hands of the buyer without being used at all. This situation suggests the need to develop a critical culture in the buying of toys.

Toy selection is a multidimensional process that includes both objective and subjective criteria regarding the toy's features and the needs of the child. These criteria need to be assigned the correct relative weights. The needs of consumers are understood by companies on online shopping platforms, where artificial intelligence systems with an integrated toy purchase guidance make decision-making easier by some 66% (Sales Force, 2020; Pascual Nebreda et al., 2021). Parental toy selection criteria have rarely been studied in the literature (Richards et al., 2020). Therefore, our research with parents and caregivers, with a focus on purchase behaviors on digital shopping platforms to identify buyers' approach, represents a

new perspective and study area. This study explains the relationship between two factors in toy purchase preferences: (1) sustainability and eco-awareness attitudes for specific caregiver types, and (2) their toy lifecycle management tendencies.

The study was carried out by means of a survey conducted among Turkish caregivers who were selected by snowball sampling. Studies on sustainable consumer behavior in Turkey indicate that such behavior varies according to occupation, age, gender, income, and education. In the survey, questions were posed based on nine sustainability criteria set explicitly for toys (Erol& Tayfun, 2022). During the evaluation, correlations were measured between the caregiver, the toy material, the ages of the children, and preferences regarding disposal. Current toy sustainability studies mostly focus on tangible sustainability measures such as materials, design, or production based on the "before use" part of the product's life. The present study examined the perspectives of Turkish caregivers on online toy shopping in terms of sustainability, with criteria specifically developed for toys determined from previous research and expert interviews and covering the entire toy lifecycle. Hence, it should provide useful information for caregivers when selecting toys for their children. Our findings yield new theoretical and operational insights to those interested in understanding the drivers of green purchasing behavior (GPB) on digital platforms, how online toy retailers can improve product descriptions and workflow within the site, and how to direct buyers to sustainable products.

The remainder of this paper is organized as follows. Section 2 presents a literature review with information on child development

and children's relationships with toys, the concept of toy sustainability, toy materials, GBP and recycling, and secondhand options. Section 3 discusses how the participants of the survey were identified and how the survey was conducted. Section 4 introduces data analysis and the results interpreted with descriptive statistics and correlation tests. The last section discusses the outcomes of the survey and presents a conclusion.

2. Literature review

A shopping decision is shaped by multidimensional considerations, some internal, some external, including the consumer's character, mental outlook, lifestyle, and social status; the product's properties, such as form or financial value; and supplier-related measures, such as brand and purchasing assistance offered (Wan et al., 2014). The purchaser decides what to buy after evaluation of all the relevant factors that can be sensed internally and materialized in preferences later. The products themselves offer a clear picture of it because the dominant materials and values are reflected on the industry and the way the materials are produced or disposed. The use of environmentally friendly materials such as wood is more dominant in cultures intertwined with nature or the adoption of the recycling culture by most of the society is an example of this.

The value-basis theory suggests that a positive or less negative attitude toward a subject actualizes a person's actions in a specific way, which can be reflected in environmental issues in terms of beliefs, values, attitudes, and behaviors about the natural world (Esmailpour & Rajabi, 2016). Therefore, a nature-positive approach can be observed in actions that promote sustainability. Wesley Schultz (2001) divided eco-friendly values and attitudes into three

groups: self ("my health, my future, my lifestyle, me"), other people ("all people, children, my children"), and the biosphere ("plants, animals, marine life").The authors indicated that education level and gender shape the act of sustainable and conscious consumption and the eco-friendly value given to environmental issues to minimize negative effects on nature (Wesley Schultz, 2001;Erol& Tayfun, 2022). Environmentalists maintain behavioral patterns, such as limiting the use of products that are not produced with ethically sustainable resources and have excessive packaging and instead using energy-saving products and packaging (Nguyen & Johnson, 2020; Esmailpour & Rajabi, 2016). These people, who can also be defined as showing GPB, are environmentally conscious, willing to recycle, use green products (Kautish et al., 2019), and act more consciously to reduce the potential harm they may cause to the environment. According to the value-basis theory, the environmentalist perspective expects behavior that is consistent in at least one of these three value groups. When toy-purchasing behavior is viewed from an eco-friendly viewpoint, the "other people" and "biosphere" value groups are prioritized. Children, who are the main users of toys, are represented as "other people," while the management of the lifecycle and materials of toys falls within the "biosphere" group, and the buyers who have sustainable purchasing and disposal behavior are represented by the "self" value group.

2.1 Child development, skills, and relationship to toys

Although toys change and are updated for every age group, they are tools that accompany children throughout their lives and support their development and needs, from cognitive and imaginative to communication needs and from problem solving to physical abilities

(Coelho & Fernandes, 2013; Patterson & Bradley, 2010/2020). It is important that toys that meet the needs of the relevant age group are accessible. In a study in Turkey carried out with mothers and teachers by Özdemir and Ramazan (2012), toys were defined as beautiful and fun play tools that support the development of children in various fields, while entertaining and educating them at the same time. The researchers concluded that toys are expected to meet children's interests, wishes, needs, and skills development, while being healthy, safe, durable, high quality, and suitable for the age and development level of the child (Özdemir & Ramazan, 2012). This indicates how important it is to choose toys that are right for the child in every respect. Studies on online toy shopping in different cultures show that mothers give priority to the educational and developmental features of toys (Richards et al., 2020). With regard to sustainability, contextual and case-specific factors are also decisive (Dagher & Itani, 2014): features such as having long-term use and being educational, up-to-date, and challenging can be considered as indirect sustainability criteria specific to the product and conditions.

The benefits for the child of different types of toys, whether traditional or not, are varied. Most toys provide an opportunity for a dialogue between the child and the caregiver during play, while also supporting language development through the child's exposure to adult language (Robertson & Klimas, 2019). Role-playing toys such as dolls develop symbolic thinking, blocks and puzzles develop problem-solving and fine motor skills, and playing with a ball develops gross motor skills. For the healthy development of the

child, various types of toys are needed that support all these skill groups to some degree.

The things that the child plays with do not necessarily have to be expensive toys. Cutlery or kitchen utensils that allow the child to familiarize him/herself with the environment and imitate experiences of everyday life are also capable of meeting the developmental needs of the child, whereas expensive electronic toys may even harm the child's health as well as failing to make a contribution to the child's development.

2.2 Conceptualizing sustainable toys including their after life

Previous studies on toy sustainability cover improvements and suggestions for the period "before" use, which spans the time from the moment of design to the moment of use and includes production processes, selection of materials, the management of production waste, and logistics management, but not the entire lifecycle of toys (Muñoz et al., 2009; Choi et al., 1997). In the toy lifecycle, there is almost no information on the usage period and the expected long life in which the toy encounters more than one user (Lukman et al., 2021). This important period should be examined specifically because the success of a toy's performance, until it is thrown away, is measured by this duration. Manufacturers and designers do not have control over the use phase of the toy owing to different user scenarios and different combinations of user types to which the same product is exposed (Cor & Zwolinski, 2015). In addition, the impact on nature is evident when considering the waste of batteries in electronic toys; the number of batteries a toy will use during its

lifetime and how those batteries are disposed of afterward are not in the domain of the manufacturers or designers. Only a conscious consumer with an environmentalist approach can make the right decision about the disposal of these wastes.

While previous studies excluded what happens to the toy after the act of purchase, such as everyday use or alternative scenarios after the first user, including disposal or a new user, this study evaluates the sustainability of toys in terms of their entire lifecycle. To construct a sustainable toy lifecycle perspective, it is important to examine the various phases through which toys go, in order to make sense of the inconsistent relationship between the "intention–behavior gap between values and everyday user actions" and the inferences to be drawn from that (Bhamra et al., 2011). Understanding the real reasons for this contradiction between "intention" and "behavior" will suggest areas that can be improved in the toy lifecycle. For example, while earlier studies indicate that price is the most effective criterion for deciding on a purchase, accounting for 30% of the considerations, the customer may consciously prefer more expensive green products with the expectation of better quality and environmental friendliness (Schuitema & de Groot, 2015; Scherer et al., 2017). One of the aims of the present study is to discover the kind of "intention and behavior" tendency in balancing price and preference. Assuming that children will be perceived as the most valuable people in the eyes of caregivers, it can be thought that more expensive and environmentally friendly choices can be made with the expectation of the highest quality.

Key sustainability criteria are measured by material type, battery usage, durability, recycling, and secondhand opportunities. According to the literature, traditional toys that do not require batteries (Robertson & Klimas, 2019), made with durable, natural, and recyclable materials and not of plastic, but which can be used for years by more than one owner, can be defined as the most sustainable. As suggested, the impact on climate change can be limited by repairing minor problems in items, instead of replacing such items; by donating after use rather than throwing the items away; and by choosing higher-quality products considering that they will last longer. Environmentally concerned people are also expected to prefer toys with features with the key sustainability criteria and meeting other sustainability criteria set specifically for toys that this research covers.

2.3 Multifaceted features of toy materials

In terms of sustainability, the material of which a product is made is an important component because, in principle, it is expected that the material shall cause minimal damage to the environment and be recyclable. When it comes to toys, the importance of the material includes a health dimension, given that children are in direct contact with them potentially all day long and can put them in their mouths. Therefore, conscious caregivers prefer toys made from organic, additive-free, traditional, and environmentally friendly materials (Dalğar & Kaya, 2017; Scherer et al., 2017). The sustainable preferences of consumers are parallel to their ecological sensitivities, and they prefer products that consistently match their own values and sensitivities (Scherer et al., 2017). For this reason, sellers of toys should provide clear information on the sustainability of the materials used. In the absence of such information,

consumers may not be able to make informed decisions, even if they are environmentally conscious.

Wood, plastic, paper, fabric, and metal are common toy materials, and there are battery-operated electronic toys produced by combining these materials. Various materials allow children to experience, in a fun way, sizes, colors, shapes, and textures through toys, thus supporting their development and teaching them at the same time (Elibol et al., 2006). Wood is a sustainable, durable, natural, organic, and easily workable material that is also harmless when unpainted (Elibol et al., 2006; Usta, 2019). This traditional material can gain more aesthetic value with the addition of colors and patterns, but wooden toys are more expensive than those made with other materials, as they are handcrafted. Although paper is a healthy, sustainable, recyclable material, it is unstable unless reinforced with other materials (such as plastic, wood, or lacquer) and therefore easily deformed when used in toys (Elibol et al., 2006). For this reason, it is not a preferred material for toy production, except for certain categories such as jigsaw puzzles or traditional paper dolls. The fabric types used in the production of stuffed animals or dolls, which toddlers use as sleeping companions and are the primary toys that allow them to experience love and affection, are also among sustainable materials (Patterson & Bradley, 2020).

Metal is high density and therefore heavy, even in small quantities, and its chemical composition can cause health problems; for these reasons, although it is recyclable, it is an unsuitable toy material for young children (Elibol et al., 2006). Some electronic toys, which

leave non-biodegradable waste, contain toxic cadmium if they are battery-powered, and can cause suffocation or poisoning if their battery is swallowed, are highly dangerous for children (Elibol et al., 2006; Pérez-Belis et al., 2017). Battery-powered or complex electronic toys also fail to improve dexterity and promote imagination (Patterson & Bradley, 2010/2020). Although electronic components and batteries that allow recycling are used in these toys, the sustainability performance of such toys is limited by the sense of responsibility of the purchasers, owing to limited legal enforcement for recycling in countries like Turkey.

Plastic, which is ubiquitous in the modern world, is the most preferred material for toys, being low-cost, easy to mold, capable of mass production, and having clean lines and vivid colors (Shove et al., 2017). This material, some types of which are recyclable, can withstand all kinds of atmospheric conditions for long periods without losing its properties, and it provides a nice combination of durability with lightness, warmth to the skin, and pleasure to the eyes, with vibrant colors and aesthetics (Dalğar& Kaya, 2017; Shove et al., 2017). Moreover, plastic is often lightweight and can be carried easily by children of any age. Plastic is used a lot, especially in packaging, but is not recyclable and takes hundreds of years to decompose, accumulating in the natural world over the years and posing a serious threat to the environment. It is vital to act with environmental awareness for the protection of nature, especially with the right material selection and waste management, and embracing sustainable values (Evode et al., 2021; Levesque et al., 2022).

2.4 GBP and recycling

Considering that domestic waste accounts for 40% of material that is damaging to nature, this number can only be reduced by the conscious purchasing of "green products" that cause less damage without sacrificing quality and expectations (Joshi & Rahman, 2015; ElHaffar et al., 2020). Although the earlier literature explained "green products" in terms of their production methods, later sources adopted a more inclusive approach that encompassed systems based on the prioritization of a wide variety of product characteristics and their perceptions by buyers (Joshi & Rahman, 2015; Johnstone & Lindh, 2018; Papista et al., 2018). In these systems, criteria based on personal evaluation outweighed classical green product criteria, which indicates the importance of meeting green product characteristics and personal preferences on common ground (Dagher & Itani, 2014; Joshi & Rahman, 2015; Schuitema & de Groot, 2015; ElHaffar et al., 2020).

Any kind of production process, if not well managed, may produce biodegradable or non-degradable wastes that can be harmful to all living things and nature. Recycling is a means of converting these wastes into raw materials to produce new products that will reduce the damage to the environment (Evode et al., 2021). Unfortunately, considering that only 9% of the waste is recycled and the remaining amount is collected in disposal areas or discarded into the natural environment, such environmentally friendly practices are evidently not adequately embraced by all in society (Gourmelon, 2015). Plastics and batteries are materials that are suitable for recycling and need to be disposed of separately, as they otherwise cause harm to the environment (Sun et al., 2015).

2.5 Second hand options

Products that are offered to the market after completing their life with the first user and that therefore have more than one owner are called secondhand products, and the use of such products supports the economy as well as being positive in terms of sustainability. Sharing, giving, donating, selling, or using the products through common access services give products a second chance, allowing them to reduce ecological damage (Mugge, 2018). It is essential to encourage the maintenance and repair of toys and their secondhand use. Unfortunately, the literature shows that many people have a negative attitude toward extending a product's life because of ignorance. However, ignorance is not the only reason for avoiding the secondhand use of products (except cars, etc.), there being other reasons for people's negative attitudes, which are defined as perceived risks. Perceived risk, which varies in severity depending on the circumstances, is defined as the expectation that the person will endure negative consequences as a result of choosing the wrong option in the decision process (Çakır & Dedeoğlu, 2020). Çakır and Dedeoğlu (2020) described aspects of perceived risk as financial (feeling apprehension of financial loss as a result of purchasing a useless product), physical (potential illnesses due to dirt or contagious viruses or bacteria from the product), psychological (use of someone else's old product makes the person feel worthless), social (insult and exclusion from society), and performance-related (product not performing as expected).

Excluding consciously preferred secondhand shopping applications that have developed in recent years, using hand-me-down products outside the family circle is perceived as the most obvious sign of low

socioeconomic status in Turkey. People try to stretch their means as much as possible to heighten their social status by buying brand-new products (UckanYuksel & Kaya, 2021). The idea of loss of prestige causes many people to approach secondhand products with hesitation. Toys, on the other hand, are products that often lie idle and unwanted because they cannot keep up with the development of children, become out of date, or have a short lifespan, making them quite suitable for secondhand use.

3. Materials and methods

The aim of this study was to examine the preferences of different caregiver types in the management of the purchasing of toys and other means of entertainment and their handling of the toy lifecycle. Given that people buy toys in different relationships and contexts, the environmental effects of their decisions and priorities, conscious or unconscious, gain a dimension worth investigating. After choosing the product and purchasing it, different processes start, for each user, with "using" and "not using." There is no problem when toys are played with, since they have been already purchased with certain expectations, which it can be assumed they meet. However, if the toy is not played with by the "user" child, it may remain idle. At this point, some caregivers, owing to environmental awareness or their individual personality traits, prefer to dispose of the toys in such a way that they can still serve a purpose.

According to Turkish Statistical Institute (TURKSTAT) data from 2021, the number of live births in the country was about one million, 35.8% of these being the first, 32.2% being the second, and 18.3% being the third births of mothers. The average age of mothers who gave birth in 2021 was 29.1 years, compared with 26.7 years in

2001. The average age for the first birth was 26.7years in 2021 (TUIK, 2022). Millions of young people are considered as children until they reach the age of 18, and each year more are added to this number. These people, who are the potential users of toys, are the subject of our research, along with the large market of their caregivers. The aim of this study was to observe the relationship between sustainable consumer preferences in toy purchase and caregiver types. As a first step, a sustainability expert with knowledge of toys and child development was interviewed. Then, the factors to search for were drawn from the literature review, including various aspects of sustainability and possible sustainability criteria specifically for toys. Finally, nine criteria that are effective in preferences were highlighted for toy sustainability. The study was organized within the framework of these criteria.

The sample for the study consisted of Turkish caregivers living in the country or abroad, found by the snowball sampling method. A questionnaire was sent to the participants via various electronic communication methods (e-mail, WhatsApp, social media, etc.) during a 21-day period (29.11.2021 – 20.12.2021). Of those approached, 225 people with different caregiver roles completed the questionnaire successfully. The survey consisted of 83 questions about demographics, product purchase preferences, end-of-life scenarios, and environmental awareness in general. Some of the questions asked and statements addressed to measure their strengths in the survey regarding the perspectives of caregivers about toy sustainability and their representations used in the data analysis in parenthesis were:

- ***I look for the recyclability of toy materials (material recyclability importance)***
- ***When buying toys, I think about the possible harm to the environment***
- ***When buying a toy, I look for it to be recyclable (recycle potential concern)***
- ***What is your approach to the secondhand use of toys that you do not use?***
- ***Have you ever acquired a toy secondhand?***
- ***Why did you acquire that toy secondhand?***
- ***When buying a toy, I think about the possible harm that its packaging may do to the environment***
- ***I recycle toys that my child did not use /had previously been damaged before (recycled before)***
- ***I dispose of waste batteries from toys in waste battery collection boxes, and I usually pay look for rechargeable batteries instead of disposable batteries.***

Participation in the survey was voluntary. Demographic information, such as education level, income level, and participant age, was sought from the participants, with direct and indirect questions and several alternatives. On the other hand, to allow for alternative correlations, questions about caregiver roles, which allowed multiple selection, and the ages of the children were included in the questionnaire. The data obtained from the survey were analyzed through the statistical program.

4. Data analysis and results

Our study sought to discover the effect on caregivers' sustainability behaviors of factors such as their titles, age, education level, or

income level (Tables 1, 2, 3). Studies on sustainable consumer behavior in Turkey and abroad indicate that it varies according to occupation, age, gender, income, and education (Dagher & Itani, 2014; Erol & Tayfun, 2022).

Caregiver role	Frequency	Percent
Mother	100	44.4
Father	18	8.0
Sibling	12	5.3
Grandparent	14	6.2
Aunt / uncle	75	33.3
Educator	2	0.9
Other (friend, acquaintance, etc.)	4	1.8
Total	225	100.0

Table 1 - Caregiver Roles

Education level	Frequency	Percent
Masters, PhD	117	52.0
University	95	42.2
High school	13	5.8
Total	225	100.0

Table 2 - Education Levels

Child's age	Frequency	Percent
0 – 1 years	17	7.6
1 – 3 years	70	31.1
3 – 6 years	72	32.0
6 – 11 years	46	20.4
11 – 16 years	20	8.9
Total	225	100.0

Table 3 - Child's Age

The participants were selected from those who were in contact with children of various ages. It was assumed that preferences for toys would change because of the evolving behaviors and needs of children in different age groups.

In the research, the descriptive statistics method, a quantitative research method, was used. Analyses were conducted of the data collected from the surveys, and descriptive statistical findings such as frequency, percentage, mean, standard deviation, skewness, and kurtosis of the data were presented. Then, statistical analysis methods suitable for the hypotheses were selected, and the relationships and differences between dependent variables and independent variables were revealed.

In a normal distribution, the test reveals how much the universe overlaps with the sample and shows homogeneity. According to the normal distribution test results, parametric test methods or non-parametric test methods are used. The fact that the skewness and kurtosis values in this study were between ±1.5 and ±2.0 indicate that the data were normally distributed (Erol & Tayfun, 2022). The results of the normal distribution test are shown in Table 4.

Descriptive statistics (N = 225)								
	Minimum score	Maximum score	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Importance of materials	1	5	3.79	1.020	-0.462	0.162	-0.474	0.323
Wood	1	5	3.75	1.367	-0.665	0.16	-0.902	0.32

preference						**2**		**3**
Plastics preference	**1**	**5**	**3.08**	**1.329**	**-0.317**	**0.162**	**-1.057**	**0.323**
Cloth / plush preference	**1**	**5**	**2.90**	**1.374**	**0.050**	**0.162**	**-1.198**	**0.323**
Electronics preference	**1**	**5**	**3.08**	**1.205**	**-0.164**	**0.162**	**-0.749**	**0.323**
Cardboard / paper preference	**1**	**5**	**3.29**	**1.446**	**-0.417**	**0.162**	**-1.183**	**0.323**
Metal preference	**1**	**5**	**2.29**	**1.210**	**0.495**	**0.162**	**-0.778**	**0.323**
Concern about potential recycling	**1**	**7**	**4.16**	**2.119**	**-0.195**	**0.162**	**-1.278**	**0.323**
Importance of material recyclability	**1**	**5**	**3.72**	**1.148**	**-0.613**	**0.162**	**-0.345**	**0.323**
Recycled before	**1**	**7**	**4.15**	**1.878**	**-0.157**	**0.162**	**-1.073**	**0.323**
Secondhand purchase / acquisition	**1**	**7**	**4.57**	**1.882**	**-0.195**	**0.162**	**-1.129**	**0.323**
Secondhand giving	**1**	**7**	**5.72**	**1.377**	**-0.921**	**0.162**	**0.102**	**0.323**
Packaging concerns	**1**	**7**	**4.49**	**1.897**	**-0.395**	**0.162**	**-1.010**	**0.323**
Battery concerns	**1**	**7**	**5.35**	**1.907**	**-1.039**	**0.162**	**-0.102**	**0.323**
Environmental awareness	**1**	**7**	**4.85**	**1.688**	**-0.414**	**0.162**	**-0.789**	**0.323**

Table 4 - Descriptive Statistics Summary

For the selection of parametric–non-parametric statistic methods, the mode–median–arithmetic mean and skewness–kurtosis values were examined in relation to the evaluation of the normality of the responses of the participants, and it was observed that the distribution was normal. The descriptive statistical results of the answers given by the participants are presented in Table 4. The scores were normally distributed, and therefore parametric analysis techniques could be used.

However, a more advanced technique to evaluate and double-check the same data, as shown in Table 5, did not support the conclusion of normality. This further technique explains that, if the "sig" value, which indicates the p value, is less than 0.05 in tests performed at a confidence level of 95%, it is considered that the variable is not normally and homogeneously distributed. If the number of data is less than 30, Shapiro–Wilk test results are preferred, and, if it is higher than 30, Kolmogorov–Smirnov test results are preferred (Özdemir & Ramazan, 2012). The sample size of 225 assessed with Kolmogorov–Smirnov showed that the data with sig 0 were not normally distributed.

	Kolmogorov–Smirnov[a]			Shapiro–Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Importance of materials	0.194	225	0.000	0.873	225	0.000
Wood preference	0.265	225	0.000	0.815	225	0.000
Plastics preference	0.204	225	0.000	0.881	225	0.000
Cloth / plush preference	0.144	225	0.000	0.895	225	0.000
Electronics preference	0.188	225	0.000	0.909	225	0.000
Cardboard / paper	0.225	225	0.000	0.858	225	0.000

preference						
Metal preference	**0.221**	**225**	**0.000**	**0.858**	**225**	**0.000**
Concern about potential recycling	**0.151**	**225**	**0.000**	**0.928**	**225**	**0.000**
Importance of material recyclability	**0.187**	**225**	**0.000**	**0.868**	**225**	**0.000**
Recycled before	**0.157**	**225**	**0.000**	**0.894**	**225**	**0.000**
Secondhand purchase / acquisition	**0.150**	**225**	**0.000**	**0.913**	**225**	**0.000**
Secondhand giving	**0.223**	**225**	**0.000**	**0.835**	**225**	**0.000**
Packaging concerns	**0.196**	**225**	**0.000**	**0.908**	**225**	**0.000**
Battery concerns	**0.225**	**225**	**0.000**	**0.806**	**225**	**0.000**
Environmental awareness	**0.170**	**225**	**0.000**	**0.915**	**225**	**0.000**
a. Lilliefors Significance Correction						

Table 5 - Tests of Normality

When the data do not show a normal distribution, the non-parametric Mann–Whitney U test is used for the evaluation steps of non-parametric independent samples. This test is used to see the difference of means between two independent groups from a similar population and to determine the difference or equality between the groups. The Mann–Whitney U test is used when the dependent variable is ordinal or when the necessary assumptions for the t-test are not met (Arslan, 2018). On the other hand, the Kruskal–Wallis test allows comparison of three or more groups in terms of a quantitative variable. It can be seen as the extension to the Mann–Whitney test, which allows comparison between two groups under the non-normality assumption.

The Kruskal–Wallis test was first performed in relation to sustainable behaviors listed in Table 4 and the different age groups of the children in Table 3. However, there was no meaningful difference among the groups of children. Although there was an inference that there might be a significant difference between the groups according to the education levels of the participants (Table 2), there were only two groups that could be calculated out of three levels of education (university and masters/PhD), both of which represent higher education. This difference was therefore not taken into further consideration in the study owing to the small number of participants with lower levels of education.

The same test indicated that (Table 6) the role of the caregiver had a meaningful effect on the choice of plastics, plush, secondhand shopping, recycling, environmental concerns, and concerns about packaging and batteries.

	Null Hypothesis	Sig. a, b	Decision
1	The distribution of material importance is the same across categories of caregiver	0.057	Retain the null hypothesis.
2	The distribution of wood preference is the same across categories of caregiver	0.141	Retain the null hypothesis.
3	The distribution of plastics preference is the same across categories of caregiver	0.002	Reject the null hypothesis.
4	The distribution of cloth / plush preference is the same across categories of caregiver	0.019	Reject the null hypothesis.
5	The distribution of electronics preference is the same across categories of caregiver	0.098	Retain the null hypothesis.
6	The distribution of cardboard / paper preference is the same across categories of caregiver	0.272	Retain the null hypothesis.

7	**The distribution of metal preference is the same across categories of caregiver**	**0.337**	**Retain the null hypothesis.**
8	**The distribution of concerns about potential recycling is the same across categories of caregiver**	**0.056**	**Retain the null hypothesis.**
9	**The distribution of material recyclability importance is the same across categories of caregiver**	**0.014**	**Reject the null hypothesis.**
10	**The distribution of previous recycling is the same across categories of caregiver**	**0.055**	**Retain the null hypothesis.**
11	**The distribution of secondhand purchase / acquisition is the same across categories of caregiver**	**0.038**	**Reject the null hypothesis.**
12	**The distribution of secondhand giving is the same across categories of caregiver**	**0.071**	**Retain the null hypothesis.**
13	**The distribution of packaging concerns is the same across categories of caregiver**	**0.001**	**Reject the null hypothesis.**
14	**The distribution of concerns about batteries is the same across categories of caregiver**	**0.021**	**Reject the null hypothesis.**
15	**The distribution of environmental awareness is the same across categories of caregiver**	**0.001**	**Reject the null hypothesis.**
a The significance level is .050.			
b Asymptotic significance is displayed.			

Table 6 - Independent-Samples Kruskal-Wallis Test Results

Reliability analysis was conducted to measure the internal consistency of the items in the scales used in the study. Within the scope of this analysis, Cronbach's alpha coefficient was evaluated with a number between 0 and 1 (Cronbach, 1951). The scale is considered dependable when Cronbach's alpha value is 0.60 or above. It was observed that the Cronbach's alpha coefficient for the

21-item preference, end-of-life scenario, and environmental awareness responses was 0.681. Hence, it was concluded that the measurements used in the study were dependable. Accordingly, we moved on to the next phase of checking the Kaiser–Meyer–Olkin (KMO) values.

As a result of the first explanatory factor analysis for preference, end-of-life scenario, and environmental awareness answers, it was concluded that the KMO value calculated as 0.690 was sufficient, and the Bartlett sphericity test was found significant (chi-square test statistic = 1179.17; degree of freedom = 105; p-value < 0.001). Therefore, it was decided that the interpretation of the explanatory factor analyses was appropriate, and further evaluations were started. In addition, it was observed that there was significant consistency at the attitude level found by the correlation tests regarding sustainability attitude and behaviors.

In the relations established with bivariate Pearson correlation, which measures the strength and direction of linear relationships between pairs of continuous variables (Rodgers & Nicewander, 1988), it was observed that those who were open to buying plastic toys did not attach much importance to the product material (-0.279), did not care about reuse or recycling of the toy materials (-0.188), did not care much about damage to the environment (-0.241), and did not care about recycling (-0.219). However, it was observed that those people were willing to buy electronic toys (0.180). Those who cared about toy materials avoided the use of plastic (-0.279) and electronic toys (-0.146), attached importance to the reuse of toy materials when the life of the toy ended (0.211), especially preferred wooden toys (0.187), and cared about environmental damage (0.531), recycling (0.439), and possible

damage from the battery (0.220). A high percentage of caregivers who preferred cardboard toys were willing to use wood (0.414) and plush (0.256), were sensitive to recycling (0.149), and were environmentally aware (0.138).

Descriptive statistics and the Kruskal–Wallis–H test methods were used when comparing the nominal and ordinal values, such as the type of caregiver, education, age, and age of the children with the continuous values we measured with the Likert scale in our survey.

Caregiver Roles		N	Mean	Std. Deviation	Std. Error Mean
Concern about potential recycling	Mother	100	4.28	2.239	0.224
	Father	18	4.17	2.036	0.48
	Siblings	12	3.83	1.899	0.548
	Aunt / uncle	75	3.96	2.05	0.237
	Teacher	2	6.5	0.707	0.5
	Grandparents	14	5	1.519	0.406
Importance of material recyclability	Mother	100	3.73	1.118	0.112
	Father	18	3.94	0.725	0.171
	Siblings	12	4.17	1.03	0.297
	Aunt / uncle	75	3.6	1.273	0.147
	Teacher	2	5	0	0
	Grandparents	14	3.86	1.027	0.275
Recycled before	Mother	100	3.78	1.941	0.194
	Father	18	4.44	1.504	0.354
	Siblings	12	4.75	2.179	0.629
	Aunt / uncle	75	4.29	1.777	0.205
	Teacher	2	7	0	0
	Grandparents	14	5.07	1.492	0.399
Secondhand purchase / acquisition	Mother	100	4.89	1.901	0.19
	Father	18	4.67	1.97	0.464
	Siblings	12	4.58	1.881	0.543
	Aunt / uncle	75	4.35	1.744	0.201

	Teacher	2	5	2.828	2
	Grandparents	14	4	2	0.535
Secondhand giving	Mother	100	5.95	1.313	0.131
	Father	18	6.17	0.924	0.218
	Siblings	12	5.58	1.379	0.398
	Aunt / uncle	75	5.41	1.462	0.169
	Teacher	2	4	1.414	1
	Grandparents	14	5.71	1.326	0.354
Packaging concerns	Mother	100	4.2	1.969	0.197
	Father	18	4.94	1.765	0.416
	Siblings	12	4.75	1.712	0.494
	Aunt / uncle	75	4.51	1.758	0.203
	Teacher	2	7	0	0
	Grandparents	14	6	1.519	0.406
Battery concerns	Mother	100	5.36	1.977	0.198
	Father	18	5.94	1.552	0.366
	Siblings	12	4.75	1.815	0.524
	Aunt / uncle	75	5.16	1.939	0.224
	Teacher	2	7	0	0
	Grandparents	14	6.36	0.929	0.248
Environmental awareness	Mother	100	4.53	1.806	0.181
	Father	18	5.61	0.916	0.216
	Siblings	12	4.75	1.815	0.524
	Aunt / uncle	75	4.84	1.586	0.183
	Teacher	2	7	0	0
	Grandparents	14	6.29	0.825	0.221

Table 7 – Group Statistics

In line with the data in Table 7 show, mothers had the second-highest tendency (X = 4.89, Std = 1.901) to purchase secondhand products after teachers (negligible because of the small sample size). However, they did not have the same sensitivity in terms of

secondhand giving, recycling, battery concerns and environmental awareness compared with the rest of the study population as the data in Table 7 shows.

To dig deeper and test the previous hypothesis, the Kruskal–Wallis–test, which measures the non-parametric inputs' relationships with unsatisfied normality, was conducted for the caregiver variable of the study, as the results did not show a normal distribution.

Test Statistics [a, b]															
	of materials	preference	preference	preference	preference	preference	preference	concern	importance	before	purchase / acquisition	giving	concerns	concerns	awareness
Kruskal	7.314	8.552	11.995	13.573	3.340	5.601	3.471	9.186	2.492	3.617	5.714	8.715	13.855	8.477	17.559
df	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Asymp	0.120	0.073	0.017	0.009	0.503	0.231	0.482	0.057	0.646	0.460	0.222	0.069	0.008	0.075	0.002
a. Kruskal–Wallis test															
b. Grouping variable: caregiver roles															

Table 8 – Kruskal - Wallis Test Results

According toThe results of the Kruskal–Wallis test (Table 8) demonstrate the effects of caregiver roles with a large enough sample size in environmental concerns (H(4) = 17.559, p = 0.002), packaging concerns (H(4) = 13.855, p = 0.008), plastics choice (H(4) = 11.995, p = 0.017), and plush choice (H(4) = 13.573, p = 0.009). These results indicate that, in the abovementioned terms, there were significant differences within the four caregiver groups.

Sample 1 - Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
Mother - Father	*-37.309*	*15.921*	*-2.343*	*0.019*	*0.191*
Mother - Siblings	8.740	18.997	0.460	0.645	1.000
Mother - Aunt / uncle	-8.978	9.498	-0.945	0.345	1.000
Mother - Grandparents	*-66.401*	*17.744*	*-3.742*	*0.000*	*0.002*
Father - Siblings	-28.569	23.174	-1.233	0.218	1.000
Father - Grandparents	-29.091	22.158	-1.313	0.189	1.000
Father - Aunt / uncle	28.331	16.321	1.736	0.083	0.826
Siblings - Grandparents	*-57.661*	*24.462*	*-2.357*	*0.018*	*0.184*
Siblings - Aunt / uncle	-0.238	19.333	-0.012	0.990	1.000
Aunt / uncle - Grandparents	*57.422*	*18.104*	*3.172*	*0.002*	*0.015*

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .050.

Table 9 - Pairwise Comparisons of Caregiver for Environmental Awareness

Pairwise comparisons for environmental concerns (Table 9) using Dunn's test indicated that grandparents' scores were significantly different from those for mothers (p = 0.000), siblings (p = 0.018), and aunts / uncles (p = 0.002), as were mothers' scores from fathers' (p = 0.019). No other differences were statistically significant.

Sample 1 - Sample 2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj. Sig.[a]
Mother - Father	-23.658	15.966	-1.482	0.138	1.000
Mother - Siblings	18.047	19.050	0.947	0.343	1.000
Mother - Aunt / uncle	-8.493	9.525	-0.892	0.373	1.000

Mother - Grandparents	***-63.166***	***17.794***	***-3.550***	***0.000***	***0.004***
Father - Siblings	**-5.611**	**23.239**	**-0.241**	**0.809**	**1.000**
Father - Grandparents	**-39.508**	**22.221**	**-1.778**	**0.075**	**0.754**
Father - Aunt / uncle	**15.164**	**16.367**	**0.927**	**0.354**	**1.000**
Siblings - Aunt / uncle	**9.553**	**19.388**	**0.493**	**0.622**	**1.000**
Siblings - Grandparents	**-45.119**	**24.531**	**-1.839**	**0.066**	**0.659**
Aunt / uncle - Grandparents	***54.672***	***18.155***	***3.012***	***0.003***	***0.026***
Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same. Asymptotic significances (2-sided tests) are displayed. The significance level is .050.					
a. Significance values have been adjusted by the Bonferroni correction for multiple tests.					

Table 10 - Pairwise Comparisons of Caregiver for Packaging Concerns

Pairwise comparisons for packaging concerns (Table 10) using Dunn's test indicated that grandparents' scores were significantly different from those for mothers (p = 0.000) and aunts / uncles (p = 0.003). No other differences were statistically significant.

As Dunn's test also revealed, the desire to buy plastic was statistically much lower among the siblings (X = 1.67, Std = 1.371) group than among the rest of the roles (mothers (p = 0.001), fathers (p = 0.010), grandparents (p = 0.012), and aunts / uncles (p = 0.001)).

In our study, mean and standard deviation values were first examined step-by-step in the statistical evaluations, and then

Kruskal–Wallis–H and Dunn's tests were used to reveal the differences in attitudes among different caregiver roles on subjects such as material type, environmental awareness, and recycling.

In terms of mean and standard deviation values, although Table 7 revealed that mothers stood out with positive attitudes, especially with regard to secondhand purchases (X = 4.89, Std =1.901) compared to other roles, no statistically significant difference was observed in this regard in the detailed tests conducted. Moreover, according to the results in Table 8, environmental concerns attitude (H(4) = 17.559, p = 0.002) values are meaningful for grandparents, packaging concerns attitude (H(4) = 13.855, p = 0.008) values are also meaningful for grandparents, and low plastics preference (H(4) = 11,995, p = 0.017) values showed a statistically significant difference in favor of siblings from all other caregiver roles.

5. Discussion and Conclusion

The participants in our study behaved consistently in terms of environmental and material sensitivities and waste management, which can be described as sustainability conscious behaviors. In general, it was observed that those who preferred plastic toys had a similar positive approach to electronic toys, but they were not highly sensitive with regard to toy materials or recycling. Similarly, material-conscious people preferred wooden toys and were sensitive to environmental issues, but stayed away from electronic, plastic or battery-powered toys. The fact that those who preferred paper or cardboard toys also preferred natural materials such as fabric and wood and adopted environmentalist behaviors in general is in line with the sustainability literature. For this reason, if there is an inconsistency between the expectations based on the literature, it

would be appropriate to question the different motivations behind it by conducting new studies. When examined in detail, it seems that "recycling of toy material," "prolonging the life of the toy by secondhand exchange," and "recycling" behaviors do not act in parallel. This can be explained as not being able to distinguish different cases that each of those behaviors represent different values for people or as indicating that these differences may be the reflection of different motivations. For example, choosing recyclable toy materials may be an environmentalist preference, while the unestablished recycling culture and system in society may lead to an "I did my responsibility by choosing the right material, but let the system take care of the rest" perspective. On the other hand, from the sharing culture point of view, prolonging the life of toys may be perceived as an expected family activity, and the exchange of toys between relatives may not have been evaluated as an environmentalist approach to consumption. Therefore, the main motivations that cause these behavioral differences bear examination with further research and in-depth interviews.

In our research, questions such as "Did you ever get secondhand toy?," "What kind of toys did you get secondhand?," "What was the reason for your preference?," and other questions about secondhand buying, secondhand giving, and their processes were included in the survey. Of the 225 participants, 98 answered negatively, participants responding, "I never buy / use secondhand toys." The stigma attached to secondhand product use in Turkey had a serious impact (UckanYuksel & Kaya, 2021). The toys and other objects for entertainment that were got secondhand were large and inessential items, such as baby walkers or baby bouncers; toys that needed to

be bought in bulk but were expensive, such as Legos, Hot Wheels cars, or wooden blocks; moderately expensive vehicles, such as a battery-operated car or a balance bike; or expensive and frequently bought items such as foreign books. When it came to a preference for secondhand toys, few answers highlighted a motivation for sustainability; the other respondents stated that secondhand toys came from acquaintances, were given free of charge or at affordable prices, or that there was a wide variety of such toys that are not even at the market for sale that can be reached at cheap prices. Our research also found that the practice of hand-to-hand transfer of secondhand toys and baby goods was common in Turkey.

The literature indicates that family histories, personal backgrounds, and the environments in which people grow up have different effects on sustainable behaviors. Considering this, our research included questions about income and education. However, although there were differences in terms of education levels among the participants, the distribution of education levels, being confined to mostly university level and above and only a few of high school, was too small to represent Turkey's population and to explain the differences in sustainability behavior between education levels. In contrast, the preferences of the participants for certain expensive product groups like battery operated cars by secondhand buying or giving behaviors indicated the strong effect of income. It means that people do not perform this behavior with the intention of sustainability, but they have this tendency because these products are expensive. In future studies, the links between the trends in toy preferences and demographics can be examined in greater detail with measurable questions and a larger sample.

With regard to caregiver roles, mothers exhibited either more positive (giving a chance for secondhand products) or more negative (not being sensitive to use of plastics at all) attitudes in some areas than the general sample, but these attitudes were not always consistent within themselves, and there may be different motivations behind this inconsistency. Mothers who had a positive attitude and behavior toward buying secondhand products registered similar or even lower scores than those in other categories in terms of secondhand giving, material or battery recyclability, or environmental awareness. This result may indicate the economic aspect of secondhand purchasing behavior, meaning that the behavior is a necessity rather than a sustainable choice. However, there is still potential here for a marketing study because of the positive attitudes of mothers compared to other caregivers. Since they approach the subject more positively, perception management studies, especially on secondhand receiving and giving, can lead to positive behavior change for caregivers. Personalized information and guidance on sustainability in the lifecycles of toys can be offered to caregivers to aid their choices.

Differences in terms of sustainability behaviors were found among caregivers where there was a sufficient number of participants (mothers, fathers, grandparents, siblings, and uncle/aunt). These differences pertained to their use of plastic or fabric toys, their perspective on secondhand shopping, their tendency to recycle, and their environmental, packaging, and battery concerns. The most significant differences were indicating higher tendency for grandparents in relation to environmental and packaging concerns.

These differences may be attributable to their life experience, better economic conditions, enabling them to spend more money on toys, which they buy rarely, or their desire to leave a better world to the next generation. However, since all of these are matters of speculation, detailed research is required with a focus on the effect of participants' genders on their preferences.

In our research, we tried to differentiate between the toys bought for children in different age groups. However, unlike findings in the literature, there was no difference between age groups, nor any specific kind of toy bought for an age group. The reason may be that the same person had a connection with children in different age groups and therefore was unable to make a differentiated assessment. In Turkish culture, the transfer of toys and other means of entertainment from older to younger children is considered quite normal, unlike secondhand buying or acquiring, so the respondents may not have been able to control or to be particularly selective about the toys they received. Better assessment in this regard could be studied by conducting in-depth interviews with caregivers, especially with a single child or age group.

This study suggests raising awareness of a "less is more" culture in child entertainment products, considering both sustainable values and income inequality by returning unused toys into circulation on secondhand use platforms. Especially with the irrepressible rise of digital services pumping consumption, it is more important to decrease the carbon footprint of toys with the help of environmentally conscious caregivers. Among the missions of our study were raising the awareness of caregivers about the problems

caused by discarded toys and encouraging them to reintroduce toys that are not or no longer wanted into the cycle of usage.

The existence of the deficient issues mentioned in the text and creating new questions in our minds also points out the areas of our study that need to be developed in the future studies. The participants in the survey were reached by snowball sampling, which meant they did not have enough ethnic or demographic diversity to represent Turkish society as a whole. There were not enough participants in certain caregiver groups, most of the participants were highly educated, and most lived in big cities. In addition, although most of the questions were about online shopping experiences, it is possible that the participants answered the questions in consideration not only of their online experiences but also of their conventional shopping experiences. Still, the framework of our study, the research area, and the new questions that arise from our evaluations will form the basis for future research. Since our research related only to the Turkish market, which represents just 0.8% of the world toy market, it would be appropriate to conduct a similar study in different cultures to gain a broader picture and to make sense of motivations and attitudes that may vary between nations.

It is our duty to leave a better world for our children, to whom we entrust the future. We can do this with behavioral models and systems implemented today that will create a sustainable world in the future. The present research attempted to shed light on this little-studied area.

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***Pelin Ozturk** graduated from the Izmir University of Economics, Department of Industrial Design in 2012. She completed her master's degree in Industrial Design at Marmara University in 2020 and is still pursuing a Ph.D. in Industrial Design at Istanbul Technical University. Between 2012-2019, she worked as an industrial designer and design consultant in various companies such as CeyoOrthopedic Sandals and Basaksehir Technology and Innovation Center. She continues her academic studies as an instructor at Beykent University, Department of Industrial Design.*

***YagmurGizem Avci** completed her undergraduate education at Istanbul Technical University (ITU)-Department of Industrial Design in 2016. She completed her master's degree at ITU Graduate Education Institute-Industrial Design Department in 2020, she has been continuing her Ph.D. education in the same department since 2020. She gives undergraduate courses as an instructor at Beykent University, Department of Industrial Design. Previously, she worked as an Industrial Designer in the TV8-Acun Medya Set Design team and Arçelik Small Domestic Appliances R&D Center. In her academic research and work, she focuses on new product development, user research, and social innovation.*

Prof Dr. Cigdem Kaya ***is chair of department and professor of design at Istanbul Technical University (ITU), Department of Industrial Design. She has been the vice director of Science and Society Research Center (2014-2017) and Industrial Design Graduate Programs Coordinator at ITU (2014-2017). She has been part of I-D team of Learning Lab by Relais Culture Europe, Paris; where she co-develops content and methodology in the field of cultural innovation since 2019.***

Cigdem Kaya received Bachelor of Industrial Design from Istanbul Technical University (ITU) in 2003, Masters of Fine Arts in New Genres from San Francisco Art Institute (SFAI) in 2006 and Ph.D. in Industrial Design from ITU in 2011 with co-supervision at Art and Design Center at Sheffield Hallam University (SHU) where she closely studied with Chris Rust. Kaya's research has been funded by Fulbright and Marie Curie programs. She has published many peer-reviewed articles in best design research journals. She supervised 3 PhD thesis about craft, critical making, use-share systems, all of which aim at social innovation and sustainability.

In 2020, she has been awarded with one of the most prestigious national research awards: scientific encouragement award by Middle Eastern Technical University Prof.Dr. Mustafa N.Parlar Education and

Research Foundation in 2020 for her research on social innovation and sustainability

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How can Social Innovation approach feed the Universal Design?

YagmurGizem AVCI, Pelin OZTURK, Cigdem KAYA

Abstract

Universal Design(UD) is the product design approach to create solutions that available for overall society. In this context, it is a very important notion that designers put forward designs or proposals that can touch everyone's life, taking into account current and future trends and global crises. While presenting these designs/proposals, the Social Innovation(SI) perspective, which activates social actors and tries to create social benefit by taking advantage of the potential of the society, can be an important actor. In this direction, designers as creative social actors can come up with product/service ideas and suggestions that can serve society in general within the framework of social innovation and sustainability. In this study, the potential contributions of the social innovation approach to the universal design perspective will be discussed with sample cases on a global scale.

Keywords: ***universal design, social innovation, designer role***

Introduction

Today, with social and technological developments and global crises, the definition and scope of design are also changing. In this context, approaches, and concepts that aim to benefit humanity and the planet such as inclusion, sustainability, sustainable development, and social welfare gain importance. Considering the current social, economic, and ecological crises, design for all or Universal Design can also be considered as a concept that includes or should include these approaches. In this regard, Manzini (2010) emphasizes that the most feasible way to compete with current problems in the world is to propose ideas that include unexplored models, systems, and innovations. With this perspective, the Social Innovation(SI) approach, whose scope is to meet social needs and provide social benefit through new proposals (Manzini, 2015), can offer a practical perspective to the UD approach by contributing to the individuals, communities, societies and thus the planet. Within the scope of the research, the basic notions of UD and SI approaches will be presented and their intersection points will be discussed in order to point out this potential relationship. Afterward, existing promising examples of SI that fit the UD perspective and are thought to contribute will be presented and discussed to point out the potential benefits of using this relationship.

Definition, principles & goals of Universal Design

The Center for Universal Design at North Carolina State University specified UD as design of products and environments usable by as many people as possible, without the need for adaptation or special design (Connell et al., 1997). UD is a design process that enables

and strengthens population diversity by improving people's performance, well-being and social inclusion(Center for Inclusive Design and Environmental Access, 2012).

UD is not a fad or a trend. It is an enduring design approach based on the belief that the broad spectrum of human abilities is commonplace, not special. UD works on the challenges faced by people with disabilities, the elderly, children and other communities that are often overlooked by the design process. UD prevents such groups from being stigmatized by normal people and benefits everyone(Center for Inclusive Design and Environmental Access, 2012).

Universal Design Principles

The Principles of UD were written in 1997 to reveal the scope and content of UD and to create a framework to guide both design and evaluation activities (Connell et al. 1997). These principles lead to a design approach that does not discriminate and ensures greater usability for all. These principles are framed as below;

Principle One*: Equitable Use* **refers to the design is useful and suitable for marketing to people with different abilities.**

Principle Two*: Flexibility in Use* **refers to the design that accommodates a range of individual preferences and abilities.**

Principle Three*: Simple and Intuitive Use* **means creating an easy-to-understand design independent of the user's level.**

Principle Four*: Perceptible Information* **refers to a design that effectively communicates the necessary information to the user, independent of ambient conditions.**

Principle Five: ***Tolerance for Error refers*** **to the design that minimizes the negative consequences and hazards that may occur as a result of accidents.**

Principle Six: ***Low Physical Effort*** **refers to an efficient and user-friendly design.**

Principle Seven: ***Size and Space for Approach and Use*** **refers to provide appropriate size and space for access and use, regardless of the wearer's body size, posture or mobility.**

Universal Design Goals

The IDeA Center developed the goals of Universal Design to extend UD's original focus to include social issues, health and wellness. These 8 goals cover functional, social and emotional dimensions. However, these goals are supported by an interdisciplinary knowledge base of anthropometrics, biomechanics, perception, cognition, safety, health promotion, and social interaction. (Center for Inclusive Design and Environmental Access, 2012). The IDeACenter's 8 goals of Universal Design are;

Body Fit **means including a variety of body sizes and abilities.**

Comfort **means keeping user's wishes within the desired limits of body function and perception.**

Awareness **means protecting that the information necessary for the use of users is easily perceived.**

Understanding **means creating operation methods and using intuitive, clear and concise.**

Wellness **means being useful in promotion of health, protection from diseases and dangers.**

Social Integration **means treating all various user groups with dignity and respect.**

Personalization **means integrating opportunities user's choice and the expression of their preferences.**
Cultural Appropriateness **means respecting and reinforcing the cultural values of individuals and the social and environmental context of design projects.**

Social innovation and its potential contribution to universal design

As mentioned before, in addition to the Universal Design principles, the definition and principles expanded for containing social involvement, health, and wellness, and has defined eight goals accordingly (2012). These Universal Design goals are framed as Body Fit, Comfort, Awareness, Understanding, Wellness, Social Integration, Personalization, and Cultural Appropriateness. In this context, it can be effective to use the social innovation approach by designers who develop products, systems, and models within the framework of UD, especially for the aims that contain social concerns. Because, "Social innovation refers to the design and implementation of new solutions that imply conceptual, process, product, or organizational change, which ultimately aim to improve the welfare and wellbeing of individuals and communities" (OECD, n.d.).In that, SI aims to new proposals for achieving social goals, and SI acts are often new visions that perform to improve people's lives through understanding unsolved necessities and problems (Mulgan et al., 2007). In practice, social innovations can be particular attemtps like ideas, actions, experiences, systems, etc. (Nicholls et al., 2015). In a broader definition, social innovation acts are experiences that emerges from the reinterpretation of resources

to achieve socially defined goals with innovative approaches (Manzini, 2014). These values can be considered as resources, knowledge, expertise, stakeholders, and creative actors within society. Accordingly, Manzini et al. (2010) mentioned that social innovation triggers different kinds of resources of society and by doing this, SI can be an important agent for transformation.Thus, social innovation can be a social transformation tool that embodies values around certain issues and transforms these values into social tools (Oliveira, 2021). Considering these values and also the principles and aims of Universal Design, social innovation acts can be associated with UD by considering concepts such as inclusivity, the welfare/benefit of the society rather than the individual, sharing, and access. Therefore, social innovation is the ability to enhance the social benefit and create value for people, places, and organizations (Mortati & Villari, 2014) and design for SI can be an important mediator for this purpose. With this basis, designing for society can be defined as anything that designers can do to encourage, maintain and guide social transformation, and these actions add new connections to the social dialogue about how to do necessary social transformation. So, SI highlights how social transformation process derives from innovative proposals and realizations of these proposals in real context (Cibin et al., 2020). Therefore, using the social innovation approach and its spread examples to achieve UD goals can be an important source and tool for social benefit. Because, if creative approaches and designer's qualifications are used together in a suitable environment, the creation of new life and production styles becomes more possible (Manzini, 2015). As a result, it can be said that there are several intersections in line with the goals of social innovation and UD

approaches, and scenarios, where social innovation methods can contribute to UD, can be created by being aware of these intersections.

Examples of SI on a global scale that could fit into this intersection

In this section, some examples of existing and promising social innovation projects from India and other countries will be presented to demonstrate the potential contribution that was mentioned and proposed in the previous sections of the SI approach to UD. The examples to be presented were determined from different sources of SI in line with the reviews of the authors in line with their design research expertise. The examples to be presented will be briefly defined and their relations with the UD aims will be discussed.

- Digital storytelling

StoryBank Project:The Budikote, India StoryBank project was created to support knowledge sharing and economic development to reverse migration to urban centers in rural India where literacy rates are low. As part of the project, audio-visual stories within a village community and a digital story library were created in the village and displayed for a month through a screen located in the center of the village. Within the project 137 stories generated in different subjects by 79 local people.(Manzini, 2015).

Imagine Milan Project: Similarly, Imagine Milan is an important initiative launched by the Imagis research group in 2009, with the aim of reconstructing the identity of certain neighborhoods of the city. The main scope of the work is the creation of a series of short videos in which local citizens tell stories about their neighborhoods.

In these videos, a rich, multifaceted and deep vision of the city is provided by talking about what the neighborhood used to be, how it is now, and how it could be. This particular experience highlighted the importance of storytelling and how this social approach can serve to reconstruct and sustain the relationships and cultural heritage(Manzini, 2015).

As seen in these two different but similar examples, the social innovation approach can develop inclusive systems for the UD goals such as Understanding, Cultural Appropriateness, and Social Integration by understanding existing values, needs, and requirements, being aware of social and technological resources, and using them together.

- Slow Food

Slow Food is a formation that Carlo Petrini and his friends aim to be a part and partner of production by seeing themselves not as consumers but as co-producers, by having knowledge about production methods of foods and while supporting the producers. In other words, they proposed a fresh perspective on food consumption and focused on the evaluation of products that might vanish in the dominant agro-industrial system. On the need side, they developed food awareness in consumers, and on the supply side, they reached out to producers (farmers, breeders, fishermen, etc.) and encouraged consumers to support them.Slow Food evolved as a movement that includes many people globally and performs to maintain that fair food for every individual. It is a movement that believes all people can have an impact on the food production cycle through their food choices, and eventually change the world. (Manzini, 2015).

So, it can be said that this social innovation attempt includes awareness and innovations created on both the demand and supply sides and UD's Awareness, Understanding, Wellness, and Social Integration targets. In addition, the fact that the movement started in Italy and spread all over the world is an important detail that demonstrates the general inclusiveness of the social innovation approach and its potential contribution to the scope of UD.

- Democratic Psychiatry

The democratic psychiatry movement was founded in 1973 by a psychiatrist named Franco Basaglia. He closed the psychiatric hospital in Trieste, of which he was director, and started cooperative production and service groups that brought together former patients, nurses and doctors. According to Basaglia, the creation of such an organization was very important in terms of overcoming difficulties and discovering their potential talents, for the disadvantaged group, for this example, the mentally ill. The main theme of the project was to see people with intellectual disabilities not only as patients, but also as individuals with abilities. If a person with a mental illness engages in activities such as working outside of being known with his illness, it will be easier to overcome his/her problems and integrate into society. This approach, which Basaglia worked and created years ago, is now used as a normal practice in Italy. Since 1978, "mad men" have been working in many businesses and integrated into social life (Manzini, 2015).

This example of social innovation can be closely associated with wellness and social integration from UD's targets. The state of illness of people with mental illness often overshadows their personal abilities. However, treating these sick people with dignity

and respect and taking into account that they also have talents and motivations will bring them into society. The legalization of this situation, based on an example from the project, proves that a successful social enterprise will be universal.

- TYZE

Another example that Manzini (2015) mentions in his book isTyze. It is a digital platform created to provide a modern and easy way to connect the complex lives of friends, families and neighbors who are willing to share and help their relatives' health information/status and provide care to someone in need. In addition, it can be said that this digital platform is a way to strengthen family, neighborly and friendship relations that have changed over time.

This example of social innovation can be closely associated with UD's wellness and social integration goals. Tyze develops a valuable resource that would otherwise be lost: people's motivation to support. This kind of digital platform design connects those in need of care with the people around them, providing their social integration by sharing and improving their health problems. The way social innovations emerge is a result of how people's lives develop and come together (Manzini, 2015). Therefore, as in the example of Tyze, the lives of people in need of care become more "normal" through the presence of their relatives who will provide them with this.

- Hosting a student

Hosting A Student, an initiative sponsored by Meglio Milano, a Milan non-profit organization. This initiative is based on the idea that older

people living alone can host and assist students looking for low-cost accommodation. The project can be considered as win-win solution that benefits the good use of existing resources. The aim of the organization was to bring together two groups that are unlikely to come together in daily life, who have complementary personal resources, namely the elderly who live alone and have extra rooms in their homes, and students who need low-cost accommodation. But for this to happen, a trusting organization was needed that would make it easier for both groups to find each other. To achieve this, Meglio Milano created the conditions in which a student and an older person can have a real relationship (Manzini, 2015).

Therefore, it can be said that this example of social innovation includes awareness and solutions created on both the demand and supply side, and UD's Awareness, Understanding, and Social Integration objectives.

- AYZH

One million mothers die each year due to unhygienic birth conditions. That's why the company was founded by Zubaida Bai with the idea of developing affordable healthcare technologies. Thanks to affordable products made by women in rural areas of India, the conditions of women who cannot give birth in healthy conditions are being improved. AYZH's core product, JANMA, Rs 100 clean delivery kit, which includes essential tools recommended by WHO, helps to prevent infection during childbirth and thus reduce maternal and infant mortality. AYZH also allows women in rural India to earn income by being involved in production. (Novak, 2019).

This social innovation project contributes to the promotion of health, avoidance of diseases, and protection from dangers, enabling every woman to give birth under equal conditions. So it's an approach linked to UD's wellness goal.

Conclusion

Within the scope of this study, the proposal that the SI approach can provide an innovative perspective in line with the Universal Design goals has been discussed. In this context, after reviewing the basic notions of UD, and the definition and scope of the SI approach, existing social innovation examples that can be included in the Universal Design framework are presented to emphasize the proposed relationship and potential benefit. Considering the literature presented and the examples discussed, it can be said that the social innovation approach, whose goal is to provide social benefit, will be an important, useful and innovative tool for Universal Design to achieve its goals. In this direction, in today's social, ecological, and economic situations, it can be an important design act for designers to come up with inclusive and innovative ideas, products, systems, and models that aim for social benefit with the designer's point of view, way of thinking and toolkits, by feeding from the intersection of Social Innovation and Universal Design approaches.

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***"BuseRodoplu** is a Service Designer from Istanbul, Turkey, with seven years of experience in Design Research and Experience Design areas. She completed her bachelor's degree at Kadir Has University, Interior Architecture, and Industrial Design (double major) departments. Having completed her master's degree in the field of Product-Service System Design at Politecnico di Milano, Buse continues her Ph.D. studies at Istanbul Technical University, Department of Industrial Design. During her academic career, she took part in Kadir Has University Steelcase Active Learning Center Project, and Politecnico di Milano Lens International Project, and professionally worked as a Service Designer in different sectors at companies such as Turkcell and PwC Experience Center."*

BuseRodoplu, Service Designer, Ph.D. Student Istanbul Technical University

***"ÇağkanKalkan** is a Service Designer from Istanbul, Turkey, with experience in Service Design and User Experience Design areas. He completed his bachelor's degree at Istanbul Technical University, Industrial Design department. During his undergraduate period, he redesigned a service with a social innovative impact for a local municipality. The product he designed was exhibited at the fair in Dubai and London. Her article on "Design and Inclusivity" was published in a national journal. He designed the e-scooter with the concept of safety for his graduation project. Çağkan continues his master of science studies at Istanbul Technical University, Department of Industrial Design. During his M.Sc. period, he professionally worked on e-scooter design for a start-up company. And he worked as a Service Designer and User Experience Researcher in different sectors at consulting companies that create digital experiences."*

ÇağkanKalkan, Service Designer, M.Sc. Student Istanbul Technical University

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ACCESSIBILITY PROBLEMS OF SHARED ELECTRIC SCOOTERS IN TURKEY

ÇağkanKalkan, Service Designer, M.Sc. Student Istanbul Technical University
BuseRodoplu, Service Designer, Ph.D. Student Istanbul Technical University

Electric scooters are seen as micromobility vehicles, which are used in many countries in the world and have started to be used in Turkey in the last few years. Providing its users with relatively easy use and not requiring physical effort compared to manual vehicles such as bicycles, it has facilitated its adaptation to modern city life. The electric scooter is an electric powered device that has a chassis on which the user stands, can be steered with the handlebar, moves with the motor inside the wheel, and is powered by a lithium-ion battery. Electric powered personal vehicles -such as electric bicycles, electric scooters, mono wheels, self balancing devices, and electric skateboards- are electrically operated personal vehicles used in the city for short-range journeys (Zagorskas & Burinskiene, 2019).

Electrically powered personal vehicles are used for their first and last journeys. The use of the term first and last mile in the literature is the final stage in the transportation chain where a good reaches the consumer. In recent years, the term has entered the mobility and public transport literature. Its usage here is the name given to the distance that the user using public transportation wants to reach by public transportation (Wasser & Parkes & Diels & Tovey

& Baxendale, 2020). Electric scooters provide connectivity to other transportation, so e-scooters increase accessibility to public transport. With the flexible use it provides, it allows access in situations where there is a traffic jam barrier (Gössling, 2020). Transportation systems are important for sustainable cities. The use of public transport for users should be encouraged, and therefore their first and last-mile experience should be created inclusively.

Electric scooters can be used by users with personal ownership or shared services. Electric scooter sharing services allow users to rent electric scooters for short distances or first and last mile journeys. Users reach the electric scooter from places left in random places or a station in the city by companies that provide electric scooter sharing services.

The increase in the use of this new actor participating in the transportation systems in relatively modernized cities has affected urban life. The worldwide spread of electric scooters has created new opportunities for urban mobility, while at the same time intensifying conflicts over public space (Tuncer, Brown, 2020). These conflicts, which increased in the public sphere, were handled by the lawmakers with regulations. In Turkey, the "Electric Scooter Regulation" was published on the 14th of April 2021 by the Ministry of Transport and Infrastructure, Environment and Urbanization, and the Interior Ministry of Turkey.

Electric scooters are defined by the regulation as: "An electric vehicle with reaching a maximum speed of 25 km/h, wheels, having brake mechanism, can be a footboard and handle, can include

vertical steering mechanism and use by standing electric vehicle". Shared electric scooters are defined by the regulation as: "Services using an electronic system that allows users to rent e-scooters for short periods". In summary, it is stated how e-scooters can be used with the following regulation;

- ***E-scooters can be used by users over the age of 15.***
- ***E-scooters should be parked in such a way that they do not hinder pedestrians and traffic.***
- ***No one other than the driver can ride.***
- ***Loads cannot be carried, except for personal loads that can be carried on the back.***
- ***Issues regarding the recognition of e-scooters by pedestrians and vehicles are stated (Official Gazette of the Republic of Turkey, 2021).***

In this regulation implemented in the context of Turkey, no detailed regulation on inclusiveness has been made. Our study is aimed to keep electric scooters on the agenda not only as a new technological transportation model but also to keep the micromobility experience on the agenda to meet the needs of all user groups. For example, work continues on vehicles that can carry multiple people and loads or better support the disabled (Hawkins, 2019). This can be addressed with an inclusive design approach, removing the barriers to research for all user groups on micro mobility.

Inclusive Design is a methodology that aims to produce design solutions without leaving anyone out, taking into account all the differences defined as "barriers" in people. This methodology; considers differences as an opportunity to design better, not as an

obstacle and limiting factor for design. While inclusive design produces individual solutions to problems, these solutions can make an impact on much wider user groups. In other words, the approach brought by the inclusive design increases the experience not only for a single user group but also for large user groups.

For a more socially sustainable world, disability for users can be addressed with inclusive design. From a design perspective, disability is more than a personal trait. It is a mismatch between the user's needs and the design of a product, system, or service. From this perspective, it follows that anyone excluded by a design can experience disability. Designing inclusive products, services, spaces, and experiences should be seen as a natural requirement of user-centered design.

Inclusive design is also possible in the market as a business strategy. The fact that products, services, places, and experiences are accessible to everyone increases the number of customers. Designing products that embrace the needs and capabilities of users not only ensures increased customer satisfaction and enhanced corporate social responsibility but also leads to better market penetration. In recent years, inclusive design has gained more and more important as an approach that aims to expand the boundaries of product use as much as possible (Clarkson & Mieczakowski & Hessey, 2013).

Shared electric scooters used in Turkey are not inclusive enough to meet the needs of all user groups. In the regulation, inclusiveness

for electric scooters and electric scooter sharing services has not been fully addressed.

The restriction on the use of electric scooters in the regulation made in Turkey for those over the age of 15 shows that every user over the age of 15 can use an electric scooter. This situation raises a debate as to the necessity of being inclusive, predicting that every user group over the age of 15 has similar needs. It also does not indicate a difference in usage experience between personal scooters and shared scooters. For example, a user may choose to buy a scooter in the market that can customize according to size and remove the barriers to the driving experience. However, since the shared electric scooter user cannot make any adjustments or corrections to his dimensions, barriers arise for the driving experience. The barriers to the use of shared scooters used in Turkey can be exemplified as follows:

- Not inclusive for visually and hearing impaired users. No experience has been created for this user group to be able to detect environmental and physical stimuli for using shared electric scooters.

- Not inclusive for the user group with limb deficiency (finger, hand, arm, leg, foot, etc.). The electric scooter user-product relationship has not been created for this user group to use shared electric scooters.

- Not inclusive for users of old users. An experienced process that this user group can experience without outside help has not been established.

- Handlebar heights cannot be adjusted. It is seen that people over the age of 15 have different heights. Adjusting the handlebar height may be necessary for safe riding, enabling customization.

- The hand grips have little contact with the hand. The grips used in shared electric scooters have a massive form. It is not sufficiently integrated with the human hand. It does not support the palm.

- The angle of the screen is not adjustable in models with a screen. The fact that the users are not the same height causes the screen and eye relationship to not be established correctly enough.

- Gas and brake levers are on one side. For right and left handed users, this is not comprehensive enough.

- Heavy to take to the pavement. For example, when going up and down the pavement with shared electric scooters, the underside of the chassis rubs against the pavement. Therefore, when going up and down the sidewalk with shared electric scooters, the user has to take the electric scooters off or off the sidewalk by hand.

- Loads that cannot be carried outside the back cannot be carried. Restricted to carry on the back by regulation. For example, for the user with a load, this creates an obstacle to the use of shared electric scooters.

- The width of the deck section is problematic. For example, if the user's feet shoe size is large, the user's feet hang out on the deck. This may impair driving safety.

In summary, it has been intuitively determined that there is not enough user interaction in electric scooters used in shared electric scooter services. The simplicity of the design of these electric scooters and their insufficient inclusiveness have reduced and standardized the experience of different user groups. This issue is not only related to users' satisfaction and well-being but can also endanger users' driving safety. Users can use electric scooters at a maximum speed of 25 km/h in vehicle traffic with the regulations made, and this increases the risk of accidents. The findings of this review reveal the need for more studies to investigate and implement the inclusiveness of electric scooters used in shared electric scooter services.

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***Louis Rawlins** is a person in this world. He lives in San Francisco and began working in design 25 years ago. He was once a typesetter for a small print shop. For the past 15 years, he's designed and built software. But he misses the smell of the ink and oil on the presses in the back of the print shop; the stories printers told him while they mixed ink to run the press; the sense of achievement when a printer handed him the finished letterpress invitation he designed; the tactile feeling of ink embossed and registered exactly against a foil-stamped embellishment. Today, Louis delivers abstract outcomes like scope, strategy and mission so the people on his team can deliver the right thing, on time. He studies the world around him and wonders where we'll land; what the future may hold for all of us, human and non-human, living on this earth.*

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The downward spiral: designing waterslides for our collective future

Louis Rawlins

Abstract

Emergent design, design exploration. Roadways connecting cities, circuits connecting coffee pots. Each path leads us somewhere and each of these paths were planned, though what each path produces may not have been intended (traffic congestion, anxious coworkers).

This paper is a brief glimpse into un-sustainability. What happens when we de-future our own future. The metaverse, magazines and the stories we tell ourselves about post-scarcity shape how we walk, or sleepwalk, through life.

The intent is for this paper to be lived rather than read. A text to be considered, felt and moved with rather than understood, collected and archived. An invitation to move and be moved by our world.

Keyword:

hope, abundance, hierarchy, rentism, future, design

Introduction:

The world is changing. As it always has been. Design as a discipline historically addresses the built environment. From the roadways that connect our cities, to the circuitry that powers our coffee pots, to the software I use to write this article, thought and reflection have gone

into planning and producing each of these things. I'm using this broad sense to talk about design, though my discipline in life has largely been focused on typography, usability and systems design.

This paper looks at at the world from the lens of un-sustainability. What happens when we de-future our own future. When we grasp for what might be next, we find ourselves...[1]

> **Looking back at some dead world / That looks so new**
> **Offices and fountains / That they named for you**
> ***Dazzlements of accidents / Rejoice their doom***
> ***Harikaris spinning' round the golden looms***
> ***Girl you dream infections / From a nauseous heart***
> ***Choice cut meats from derelict boulevards***
> ***— Beck, "Diamond Bollocks" (1998)***

The words bring to mind the on-going change that I witness in Emeryville, California. A little-talked-about section of the San Francisco Bay Area, Emeryville: sits adjacent to Oakland and Berkeley; looks across the bay to San Francisco; generally has been known at the end of the Amtrak line for folks taking the train from here to Chicago.[2]

When I arrived in 2004, Emeryville looked and felt like every Midwestern, post-industrial town I'd visited as a young person. Soot and warehouses. Potholes and broken-down cars. Gradually, it earned an office park, a live-work section, an open-air shopping mall

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[1] ***Defuturing, Tony Fry***

[2] ***My partner also reminds me that Emeryville was the first city in Northern California to get an IKEA, as a gauge. IKEA is finally here! First Northern California store opens in Emeryville. (2016, February 19). California Digital Newspaper Collection. Retrieved October 16, 2022, from https://cdnc.ucr.edu/?a=d&d=VEST20000415.2.5&e=-------en--20--1--txt-txIN---------1***

with a movie theatre and a brunch spot smack in the middle of the potholes, warehouses and broken-down cars. In the past thirty years, I've seen this repeated close to a dozen times in different cities. Calling it gentrification simplifies a personal, lived happening for people just wanting to survive.

It's difficult to call to mind words to describe it because in America, we've come to accept that we live in a world in decline. I live in San Francisco where we currently seem comfortable with overflowing trash cans. When I waited for the bus with my partner recently, someone was searching for treasures inside the trash can while two young people wearing leather shoes and designer jackets costing hundreds of dollars passed by, laughing and strolling casually. The American Dream, the one where we sold ourselves material advancement at the ignorance of the pain and suffering of others—our own Olemas where we could choose to walk away—is now the rule rather than the exception in my hometown.[3] Since I was in studying in university, people have denied me with phrases like, "It's not that bad." and "Why can't you just be happy?" to which I ask: *What is good for you about the suffering of people without enough while you live with material abundance?*

The aim of this paper is to be brief, but dense. We're going to look at the impact of a singular design future, one with aspects that we are living today: rentism. The term rentism is borrowed from a discussion in Peter Frase's*Four Futures* (which in turn borrows from a 1999 article in THE FUTURIST).[4] It asserts that of the different post-capitalist futures—the world in which we've agreed that

[3]Le Guin, U. K. "The Ones Who Walk Away from Olemas" (1975) from (2000). The Norton Anthology of Short Fiction (R. V. Cassill& R. Bausch, Eds.; 6th ed.). Norton.
[4] (Frase, 2016, #) (Costanza, 1999, #)

capitalist ways of being no longer serve humanity—rentism is one in which we have vast abundance alongside a rigid hierarchy controlling access to that abundance.[5] Different futures can and certainly do exist simultaneously, but for the purposes of this exploration we're going to pick one. Rentism most-easily fits my lived experience as a software designer in San Francisco (an area that has become synonymous with "Silicon Valley", but was conceptually separate less than twenty years ago).

I'm going to skip the financial aspects of rentier capitalism, which are fascinating and I encourage the reader to explore.[6] I'm also going to also ignore the fact that the terminology of "capitalism" is inadequate to capture what's happening in the world today.[7] Rather, this paper attempts to call attention to the rigidity of academic work and scholarly writing as one of the problems currently facing the world. This paper, specifically, with its footnotes, references and attempt to collect more information about the world may be part of the problem rather than a solution. It is reflection, not action.[8]

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[5] We can also call it "post-scarcity" but I think that refers more to a mindset rather than a real reckoning with what the world has to offer and how we treat one another. It's fair to say that this paper asserts: there is no utopia, so let's stop trying to reach it; we always have enough available, provided we can figure out an equitable distribution of what's needed for living being on this planet; many people do not have enough and live a life filled with fear, discomfort and pain because their ability to heal is stymied by those who take (which would include me). The reasons for this inability to heal can be categorized broadly to address refugees (people pushed out of land due to war or conflict) and the chronically unhealthy (people living out-of-step with their environment and means).

[6] See especially, Morozov, E. (2022). Critique of Techno-Feudal Reason.*New Left Review*, *133/134*(Jan/Apr 2022) and Zacarés, J. M. (2021).Euphoria of the Rentier?*New Left Review*, *129*(May/June 2021) for entertaining assessments of our current global economic situation.

[7] Lane, F. C. (1969). Meanings of Capitalism.*The Journal of Economic History*, *29*(1), 5-12. Woods, E. M. (1981). The Separation of the Economic and the Political in Capitalism.*New Left Review*, *127*(1).Fredona, R., &Reinert, S. A. (2020).Italy and the Origins of Capitalism.*Business History Review*, *94*(Spring 2020), 5–38.

[8] CITE / Type I and Type II problems, end of civilization

I'll borrow another of Frase's terminology and call what is written here "design science fiction." What I'm sharing is meant to open up space for emergence and exploration, rather than an assertion of answers.

Expression

As a means of emergence and exploration, I'm interested to reflect a point by Lennar J. Davis at the beginning of his book *Enforcing Normalcy.* He reminds us that "the aural/oral method of communicating, itself seen as totally natural, like all signifying practices, is not natural but based on sets of assumptions about the body, about reality, and of course about power." He goes on to elaborate that texts in the Middle Ages were meant "as scripts for performance" rather than a truth asserted in word. Over time, "as texts became more common, a switch occurred to a consciousness of textuality that was no longer to be performed."[9]

If it helps the imagination, pretend that there is a minstrel retelling a story alongside a person playing the recorder for a Renaissance court performance.[10] This paper is meant more of a performance to be lived than a text to be read. A text to be considered, felt and *moved with* rather than understood, collected and archived.

[9] **(Davis, 1995, #)**

[10] ***Flute vs. Recorder – t.blog*. (2019, July 14). Thomann. Retrieved October 13, 2022, from https://www.thomann.de/blog/en/flute-vs-recorder-the-ultimate-comparison/ A collection of recent examples of recorder music can help get you into the storytelling mood *Tribute to Adriana Breukink | Team Recorder*. (2022, October 12). YouTube. Retrieved October 13, 2022, from https://www.youtube.com/watch?v=Z54FU4qGuOs**

Four Futures

Rentism is about what happens when capitalism is over. Late capitalism is happening now; rentism is happening now, so let's consider it![11]

In *Four Futures,* Frase outlines his reasons for focusing on human labor and economic production, but for this paper, I'm more interested in dealing with America, because that's where I live today. We can both acknowledge that design gets deeply entangled at a global scale and that America has an outsized influence as a global empire with "its globe-spanning network of 750-plus military bases."[12]

Four Futures

	Abundance	Scarcity
Equality	communism	socialism
Hierarchy	rentism	exterminism

(Frase, 2016, p 29)

This future is going to feel familiar to people, so let's dive in.

Abundance

> ***Limitless at our fingertips / Don't sweat it, just get it***
> ***We're too cool to admit it / All we have is the internet***
> ***— Sudan Archives, "Limitless" (2019)***

[11] Benanav, A. (2020). *Automation and the Future of Work*. Verso Books.
[12] D'Eramo, M. (n.d.). American Decline? *New Left Review*, *135* (May/June 2022). https://newleftreview.org/issues/ii135/articles/marco-d-eramo-american-decline

When I look back at the magazines I subscribed to in the nineties—publications like Dwell, Emigre, Vogue and Harper's Bazaar (not including trade magazines like Digital Output, Computerworld and New Media)—I wonder what made me think having so much paper in my home was a good idea. The only periodical I receive in the mail today is New Left Review. It's important to me because I like to walk around and read the journal like I would a book. The journal has essays that inspire me to think differently about the world, but the bulk of what I read is online now, or in books that I've ordered online. My approach is mixed-media, to be sure.

My interface to this online world does not reflect me as a person. From LinkedIn to Instagram to Spotify, the services that have arisen in the world of online community and connection take me as a person for granted and provide me with a "feed" of information that tries to unseat me from the reason why I entered into that community. People who design these interfaces knowingly get "users" "hooked" on their products.[13] With apparently no irony in reference to the War on Drugs from the 1980s, companies proudly assert with measures and metrics how well they are able to capture revenue from advertising to their hooked users.

When I open my browser to LinkedIn so I can respond to a message, what is on my screen tries to get me to follow the "feed" of a colleague before I remember that I wanted to respond to a message. On Instagram, it hails me to view yet another "feed" as I try in vain

[13]Hoover, R., &Eyal, N. (2014). Hooked: How to Build Habit-Forming Products (R. Hoover, Ed.). Penguin Publishing Group. See also thinking on more-than-human centered design in Inamura, T. (n.d.). Design Praxis with the Kingfisher and Bacteria; The River as Place for Post Human-Centered Design learning. Design for All Institute of India, 17(No 6 – June 2022), 65 - 78. http://designforall.in

to hide it so I might respond to a one-on-one message within the app. In *Transmetropolitan* by Darick Robertson and Warren Ellis this noise and need to capture attention from everyone everywhere all the time is the norm now. The always-on feed seems to correspond with the quiet desperation for connection felt on the streets of San Francisco. Men with vibrant lime-green mohawks seat themselves for a meal in a Japanese restaurant while a woman passes with wooly bouffant hairdo framed by racing goggles. *Transmetropolitan* may have seemed pastiche when it was published in the nineties, but today its simply a historical document that accurately reflects what I saw during a recent meal. Life imitates art, imitates life, imitates a deep seated need to be noticed. What gets taken away in the extraction by online worlds can't be given back again in the real world by posturing and flamboyancy. But that doesn't stop people from trying.

Hierarchy

The metaverse, currently being assembled by men who are mostly white and mostly wealthy, aims to give people a way out, a way to live big dreams in limitless space.[14] This metaverse purports to allow people to avoid the horrors of this, real, physical life. The selling point seems to be that we can avoid living in the here and now in favor of a virtualized representation of ourselves.[15] Put on a pair of

[14]**Zenou, T. (2022, June 30). *Neal Stephenson's 'Snow Crash' predicted metaverse and hyperinflation*. The Washington Post. Retrieved October 6, 2022, from https://www.washingtonpost.com/history/2022/06/30/snow-crash-neal-stephenson-metaverse/ Apparently Second Life and IMVU didn't have enough pizzaz for people.**

[15]**Žižek, S., &Iek, S. (2002). Welcome to the desert of the real! : five essays on September 11 and related dates. Verso. For one attempt to help reintegrate people to their lives through the power of virtualization, see: *Invest in*SuperBetter —**

virtual reality goggles and "peace out" from the world. Neal Stephenson, the author of the book *Snow Crash* which defines the term "metaverse" claims it is "neither dystopian nor utopian" because "this is just the nature of the human condition." I'm not sure utopia or dystopia is a great destination for all of humanity, but I do know…

They're gonna try to get a rise / To unseat you
They'll demagnetize / Your poles
And you know they're gonna try / To delete you
So now you're atomized / Unwhole
You know better / Start making your apologies
Stop blaming technology / Yeah
Blaming technology / Whoa
May you please / May you start
Making your apologies / Oh
Blaming technology / Yeah
Blaming technology / Oh
We're only human / That's what they tell us
Here's what I say to them / What is your point?
Is each of us an island / Or more like Finland?
Here's what I say to them / Things fall apart
— Andrew Bird, "Atomized" (2022)

What I'm seeing of the metaverse, both literally and figuratively, fits the phrase "there is no there there," from Getrude Stein.[16] The

Republic. (n.d.). Republic.co. Retrieved October 13, 2022, from https://republic.com/superbetter

[16]Werner, M. (2012, February 3). Gertrude Stein puts the "there" back in Oakland. Inside Google Books. Retrieved October 14, 2022, from *http://booksearch.blogspot.com/2012/02/gertrude-stein-puts-there-back-*

metaverse doesn't offer much of value. This critique is not about clinging to the past and being reluctant to engage the new, but as a desire not to spend frivolous time in the metaverse doing nothing. Working in Silicon Valley reminds me that questioning the premises of a company can be a career-ending affair, and so I've often adopted my mother's admonition that "if you don't have anything nice to say, don't say anything."[17] Except, it's getting more difficult by the day to understand if "nice" means supporting a reasonable, safe and healthy life for people, or if "nice" means keeping my mouth shut even though I see anxiety and depression increasing for my colleagues and I worry about their ability to rest because they are constantly scrutinized about their ability to deliver on abstract goals like "frictionless transactions" and "delighted users."

Most software built for the internet today is built to enable a financial transactions. It may be fees from home-delivery of food, investment and money-transfer mobile applications or incremental-usage for software infrastructure like Amazon Web Services. Even software that enables a social transaction where one human interacts with a feed of image or text *content* created by humans, that software links attribution to retailers and advertisers, thus enabling a financial transaction. The context for the person using

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***in.html**What's strange to me, is that I had a long conversation with a taxi driver heading to the airport when I was living in Oakland. He described the rolling orchards clear into the bay from where I lived at the time, at the top of a hill in East Oakland. You can feel the loss. It's clear by the climate that Oakland can sustain—as one might expect from the name—many trees. Today, however, it's unbearable hot in Oakland because the orchards and greenspaces that used to offer oxygen and capture carbon have given way to houses, roads and freeways.*

[17] I think of the a recent class offering at the School for Poetic Computation called Scrapism that suggesting "this class may not be for you" if you "think highly of the CEOs of most major tech companies" https://sfpc.study/sessions/fall-22/scrapism It's difficult times for the unemployed and newly laid-off worker in technology as of October, 2022.

these mobile applications is not relevant. A person can be sitting on a bus, sitting on a toilet, or laying on the sidewalk under a blanket in a cardboard box.[18]

This call-out of isolation is not happenstance. Rushkoff reminds that "advertisements work best on lonely individuals. So it's no coincidence that mass media tend to atomize us."[19] It's become so ingrained in American culture to side-step responsibility. Sometimes this means literally walking around people laying on the sidewalk, in need of food. I do this daily. It's not hyperbole.

It's difficult to remain compassionate in the face of overwhelming inequities. In San Francisco, feces and urine can be found on the sidewalks from humans as regularly as from dogs walked by their owners. The orange cap from hypodermic needles litters bus stops and "rough" areas in the city as a reminder that some people feel obligated to self-medicate, outdoors, to make it all tolerable.

At times, this can make the what's happening in San Francisco feel distant as a shared problem requiring us to come together.

Rushkoff continues, that "even in the richest countries, most people are so atomized, materially insecure, and alienated from their collective capacities that their horizons are stunted. If full automation can appear as both a dream and a nightmare, that is

[18] Yes, I've seen plenty of people with mobile phones who live on the street. I understand from some that this may be their only lifeline to call people, but I doubt it, as I've seen a fair number of digitally literate unhoused people using computers at the library. I likewise doubt people living rough on the street would be using their phones to check Instagram, but honestly, I've never asked.
[19] (Rushkoff, 2016, pp. 18 - 21)

because it has no innate association with human dignity, and because it will not generate a post-scarcity world by itself."[20]

An oft-used quote from James Baldwin reminds us that, "not everything that is faced can be changed; but nothing can be changed until it is faced." We need to do some work here.

Conclusion

The news today, during October of 2022, speaks of climate crisis, an impending nuclear war (stylized as *Cold War II* or *World War III*—take your pick), or any manner of infrastructure collapse: physical structures like bridges, governmental bodies, national economies or all at once. We, as humans, don't have a terribly good outlook for one another and yet according to the news, we still seem to find it necessary to blame *someone.* It's odd, given our present status as a global economy and the fact that we live on this singular planet Earth. Once blame is placed, it quickly cycles around the room—or globe, in this case—and lands back in the lap of the person blaming. To say that humans are less happy than other animals in the world would be an understatement.[21] We seem not to be able to help ourselves but to suffer.[22]

We have ways to move forward. It's not hopeless, and at the same time as I've heard people say, "Hope is not a strategy." We can—and I'd argue, must—connect to our collective capacity. Take real steps to assess what we do and do not want to get from technology, rather

[20] ***(Morozov, 2022, p. 93)***

[21] We tend not to like to think of ourselves as animals, but as we've defined animals we seem to fit the category. Reluctantly.Timofeeva, O. (2018). The History of Animals: A Philosophy. Bloomsbury Academic.

[22] Nuwer, R. (2022, August 26). Book Review: The Downside of Human Exceptionalism. Undark Magazine. Retrieved October 16, 2022, from https://undark.org/2022/08/26/book-review-downside-human-exceptionalism/

than accepting changes in our lives that benefit a few and then allow those few, like Andrew Carnegie before them, to assign the money they've earned from our attention philanthropically to shape how we see the world. We can do this by starting to connect with ourselves deeply, then create community where we are.

In *Automation and the Future of Work,* Aaron Bananav notes that protests against the growing inequities in our world "fail to rise from the level of *reproduction* to that of *production.*" In this struggle people have "generally purchased the materials they use to perform these tasks within the ordinary course of the life they seek to disrupt by such actions. … Scarcity is overcome through the free giving of goods and services, and our human capacities are correspondingly enlarged as new vistas of existential security and freedom open up." In *Alone Together,* Sherry Turkle, a long-time researcher and psychologist looking at the impact of technology on people, reflects on her own relationship with her daughter.[23] Newly at university overseas, Turkle talks about how much she enjoy exchanging letters with her mother when she was in university. Her daughter, speaking to her over Skype and have recently exchanged text messages with her mother can't think of much tosay if were she to write a letter by hand. Her daughter does, however, encourage her mother to give it a shot and write the letter. In many ways, this encompasses two values we need to learn as a global village. It needs to be supported and encouraged for people to interact in the way they wish, when they wish it. Being required to use a telephone, write a letter, or check Facebook, all creates differing levels of boundaries for people. Ultimately, it's the human connection that matters. On the flip side,

[23]Turkle, S. (2017). Alone Together: Why We Expect More from Technology and Less from Each Other. Basic Books.

we need to be comfortable with letting it go. If a group of people wants to spend their lives in the metaverse, connecting themselves to tubes of Soylent so they can most-closely resemble the power-generating pods in *The Matrix* series of films, then we need to find peace with that. Struggle over where we all land, especially for something as frivolous as how we dream about our lives, is not time well spent. Rather, we can spend time dreaming about how we *live* our lives. Putting action and physical intent behind the changes we want to see.

My Grandmother's Hands, **a book primarily written to address racialized trauma in the United States, helps show a way forward.[24] It outlines a difficult topic: the idea that our bodies have an outsized influence over how we perceive the world. For example, if a person working on the police force is continually trained to kill and frequently put into high-stress situations, the odds of that person may harm another person unintentionally raises with each day that trauma goes unresolved.**

Resolving trauma is an on-going and highly personal process. Sometimes it takes a person a lifetime to gain awareness that they've been harmed. Other times, it takes a major shift in culture for there to be awareness of what may be categorized as harm. Post-traumatic stress was initially identified as "shell shock" after World War I, studied extensively before it fell out of fashion and has now come back into view as a state that can benefit from healing, much as a cut on your finger or a broken leg.

[24]Menakem, R. (2017). My Grandmother's Hands: Racialized Trauma and the Pathway to Mending Our Hearts and Bodies. Central Recovery Press.

The author of *My Grandmother's Hands* and many more humans are beginning to come together to question our ability to heal collectively. The premise is that if we spend time to notice and *discern* for ourselves what happens in our bodies, we start to gain awareness of what happens in the bodies of the people around us. Likely, you've seen someone crying and felt compelled to cry. Or seen someone in pain and felt pain.

Similarly, when people are upset, angry or scared, it can have an impact on the people nearby. This work is creating opportunities to learn how we show up for one another. While it is largely coming from the Black community in America, from my perspective, the benefits are worldwide and it's worth noticing. It's going to take time and Generations.

If there is any fear that we might lack the will to participate in a world in which we no longer struggle, Bananav closes with this reflection:

> ***What will people do with their expanded free time? Post-scarcity has been called "post-work," but such framing in inadequate. After a period of rest and recovery, even the most work-weary people become restless and look for something to do. The reorganization of social life to reduce the role of necessary labor is not, therefore, about overcoming work as such; it is about freeing people to pursue activities that cannot be described simply either as work or leisure. That might include painting murals, learning languages, building waterslides—or discovering new ways to do common tasks to***

> ***make them less time-consuming. It could mean writing novels, or self-reinvention through education or exploration. As automation theorists of both right and left envisage, the end of scarcity would enable people to enter voluntary associations with others from all over the globe: to join consortia of mathematical researchers, clubs for inventing new musical instruments, or federations for building spaceships. For most people, this would be the first time in their lives that they could enter truly voluntary agreements—without the gun to their heads of a pervasive material insecurity.***

This is within our grasp as humans because, quite simply, we do these things all the time. The last time you opened a car door for someone, you showed compassion for someone's need. Perhaps you washed dishes at someone's house after a gathering, or a partner offered to clear the table after a meal.[25] We—the humans reading this, living among our fellow humans every day—have the capacity to recognize the way that we support and uplift one another. It's in our hands. In the scheme of thing, all we have is time.[26]

One way that can be explored is simply by understanding where you fit in the world. I've lived with prilevege for as long as I can remember, but I've also felt the squeeze of poverty and the fear that comes with being near death more than once due to my health. It's a strange world we live in, and it's worth taking the time to let your

[25]***Graeber, D. (2021). Debt: The First 5,000 Years,Updated and Expanded. Melville House.***

[26]***BayoAkomolafe: The Times are Urgent, Let Us Slow Down. (2019, September 2). YouTube. Retrieved October 14, 2022, from https://www.youtube.com/watch?v=9qWaWGHNvy0***

body swing—Swing your belly baby / Move your body buddy—let the rhythms of life that abound move you.[27]

[27] ***José González - Swing (Official Music Video). (2021, August 18). YouTube. Retrieved October 16, 2022, from https://www.youtube.com/watch?v=bw2XHzmo_3g***

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***Begüm Türeyengil** is a PH.D. candidate in the Department of Industrial Design at İstanbul Technical University. She is a research assistant at Gebze Technical University. She is graduated from department of Industrial Design in 2015 and completed her master degree in 2019. Her research interests are emotional design, user research methods, metaverse, design education and pedagogy.*

Prof Dr. Cigdem Kaya ***is chair of department and professor of design at Istanbul Technical University (ITU), Department of Industrial Design. She has been the vice director of Science and Society Research Center (2014-2017) and Industrial Design Graduate Programs Coordinator at ITU (2014-2017). She has been part of I-D team of Learning Lab by Relais Culture Europe, Paris; where she co-develops content and methodology in the field of cultural innovation since 2019.***

Cigdem Kaya received Bachelor of Industrial Design from Istanbul Technical University (ITU) in 2003, Masters of Fine Arts in New Genres from San Francisco Art Institute (SFAI) in 2006 and Ph.D. in Industrial Design from ITU in 2011 with co-supervision at Art and Design Center at Sheffield Hallam University (SHU) where she closely studied with Chris Rust. Kaya's research has been funded by Fulbright and Marie Curie programs. She has published many peer-reviewed articles in best design research journals. She supervised 3 PhD thesis about craft, critical making, use-share systems, all of which aim at social innovation and sustainability.

In 2020, she has been awarded with one of the most prestigious national research awards: scientific encouragement award by Middle Eastern Technical University Prof.Dr. Mustafa N.Parlar Education and

Research Foundation in 2020 for her research on social innovation and sustainability

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Design for All in Metaverse

BegümTüreyengil

Prof.Dr.Çiğdem Kaya

"*The people are pieces of software called avatars. They are the audio-visual bodies that people use to communicate with each other in the metaverse*." (Stephenson 1992).

And the fiction comes true... The users of the internet are no longer just a cursor in a digital world where they spend hours. Being able to manifest would definitely change the interaction and experience. So, what can "being piece of software" bring to the lives of the users?

Metaverse started to be heard almost one year ago, by the users who are interested in crypto coins and technology especially after Facebook announced the new name of the company, "Meta"(Meta,2021). The pandemic and digitalization had enormous changes in our lives. The business life and also education has moved to the internet through video conference platforms. Metaverse is a new saying in our lives although we experience the intense use of internet in our daily life with online meetings, online shopping, augmented reality filters, social media, virtual concerts, virtual exhibitions, etc.The term "Metaverse" represents a digital world which is accepted as the future of the internet (Web 3.0) that provides users to interact with each other and software applications by letting user to be embodied in avatar form. The greatest benefits

of the platform are cited as the democratization and universal approach (Duan e. al, 2021). The meta-universe aims to benefit society by explicit and direct interactions that even race, gender, physical disability cannot prevent and weaken (Duan e. al, 2021). In this article, the predicted nature of the metaverse would be evaluated from the universal design perspective.

Universal Design and the Metaverse

Digital twins are accepted as the building block of the metaverse that makes the physical world accessible from the digital realm (Rijmenam, 2022). Technological requirements are wider for web 3.0 than web 2.0. Metaverse comprises the use of different technologies which are VR (virtual reality), AR(augmented reality), AI(artificial intelligence). Also IoT(Internet of Things), spatial technologies, HMDs(head-mounted displays and controllers), machine learning, blockchain are among technological developments that came into our lives recently. Metaverse also provides an area for users to generate contents through 3D models, softwares. Today it is possible to interact with the popular metaverse platforms such as Fortnite, Roblox, etc. by using Smartphone, PC or tablet applications and augmented reality technology without using VR headsets. However the holistic use of these technologie support the feel of presence. As it is stated six factors of the Metaverse in user focus which are "Avatar, Content Creation, Virtual Economy, Social Acceptability, Security and Privacy, and Trust and Accountability" (Lee et al, 2021).

The experience of the users is aimed to be realistic in the digital world through the similar aspects with the real world such as

environments, objects, events and eventually feelings. The Metaverse's analogy with the real world through digital twins strengthens the bond and sense of presence. Being able to embody, move and react in the form of an avatar that imitates human bodies in the digital environment strengthens the user's experience. Presence of avatars increases intuitiveness and makes interaction familiar and simple for users.

"Presence" is the sensation of 'being there' while surrounded with an environment (IJsselsteijn et al., 2000). In another saying, presence is a misconception that the medium disappears and is no longer separated from reality (Lombard & Ditton,1997) which provides the sense of 'a place visited' rather than 'a place seen'(Slater et al. 1999). The similarity of the behavioral and psychological reactions between the physical environment and the digital environment designates the sense of "presence" (Ayıter,2000). The sense of presence cannot be achieved only with objective elements, it is aimed for users to connect with each other on a socio-cultural plane through interactions between objects and people, not as placed to somewhere, which draws attention to the importance of avatars (Riva& Mantovani,,1999)

The metaverse, which promises a socially active environment, is expected to prevent discrimination in the real world and to minimize differences (Rijmenam, 2022). In order to ensure democratization in the digital universe, the technology providing access to the metaverse is expected to be accessible to different users in the real world, and the universal design principles are expected to be taken into account. Also as Eid (2022) indicates this new platform, which

is currently being built, has the opportunity to be shaped around the principles of diversity, equality and inclusion (DEI) from the very beginning of the process by prioritizing inclusion and starting from grassroots innovation.

Principles are guides for the design process which are useful to shape the expectations and requirements of designers and also consumers about the usable products and environments. Universal design principles aim the products and technologies to be suitable for use by the greatest population of the users without the need for adjustments and design regulations. There are seven principles of universal design which are "Equitable use, Flexibility in use, Simplicity and intuitiveness in use, Perceptible Information, Tolerance for Error, Low Physical Effort, Size and Space for Approach and Use" (Connell et al., 1997). Equality and accessibility are among humanity's greatest desires. In the digital world; unlike the physical world, it is an inclusive scenario to be able to access the services provided regardless of race, language, religion, economic disability, physical disability and socialize without being judged. Below the potential and the opportunities of the metaverse is discussed under headings of universal design principles.

Equitable Use

Almost 15% of the world's population, approximately 1 billion individuals, are disabled (WHO, 2021). While VR is touted as an empathy machine, it is stated that healthy people can experience being disabled individuals (simulations of macular degeneration, dementia and conditions affecting mobility), however disabled individuals are not included in the use of VR (Philips, 2000). On the

other hand, the metaverse is seen as a democratic platform for people who suffer from disabilities (Brehuescu, 2022). As Duan et.al. (2021) indicates, the differentiating features of the metaverse that separates from the real world can be explained under the terms accessibility, diversity, equality and humanity. The economical conditions that effect the access to the technology or the preparation of the required infrastructure such as speed of the internet could change the accessibility. One of the goals of Metaverse is giving a realistic experience with the immersive environments it offers. A realistic experience is aimed for more than one billion disabled individuals who cannot interact digitally (Alexiou, 2022). As Tariq et al(2018) indicates VR technology is suitable to use with disabled people for five main purposes which shapes the use and content of the metaverse. These aims are for the rehabilitation of the disabled, for improving the learning skills, for e-learning, for training for the real environment and for entertainment. The metaverse can be a very accurate tool to overcome physical obstacles. A number of obstacles such as hearing impairment, visual impairment, color blindness, etc. can be overcome with different technological possibilities and software. In this way, it is ensured that disabled people can continue their virtual experiences and get their work done without feeling different from other users. Tariq et. al. (2018) also emphasizes the systems serves for the independence of the disabled people from other people in their normal routines, learning skills in order to financially support themselves through the virtual economy, contributing to their country by overcoming their disability, and having a chance to rehabilitate by exploring, feeling nature.

The physical interface of the technologies also gain importance at this point. Although Metaverse can be used directly without the need for a headset, these technologies differentiate the interface, offer the chance to eliminate obstacles and even give a sense of body integrity or presence in an indiscriminate environment (Alexiou, 2022).

Simple and Intuitive Use - Low Physical Effort

Simple and Intuitive Use and Low Physical Effort are highly interrelated principles for people with disabilities. It was found appropriate to evaluate these two principles together, which affect both software and hardware decisions. Many disabled users cannot experience VR without support, even if they can wear the headset, they do not have the necessary head or body movements for a full VR experience (Philips, 2020). In 2017, disabled activist Alice Wong Lucas faced accessibility barriers in a project run with an immersive entertainment studio. As a result of the conducted survey after the project, it was understood that users with different types of disabilities, such as blindness to cerebral palsy to autism, experienced problems because they could not move the necessary body parts and customize the applications according to their disability (Wong, 2017). Difficulties in motor skills limit the use of VR controllers for individuals with disabilities because of requiring two working hands or arms (Philips, 2020). The disabilities like cerebral palsy require making small movements into a more comprehensive effect and also it has been stated that it can be difficult or even harmful to use not only for physical disability but also for disorders such as autism or anxiety (Wong, 2017). Although limited applications are available for users with physical disabilities

to experience VR, there are different approaches that companies try to strengthen the feel of presence from the perspectives of different types of users with different needs. The game industry has a determinative role in the development of the metaverse and lays the groundwork with technological developments and approaches. Studies are ongoing for different types of disabilities such as vision, hearing impairment and autism.

Perceptible Information

Playground Games, one of the developers of the racing game Forza Horizon 5, has collaborated with disabled communities in the areas of sign language support and color blindness mode (Williams, 2022). This can be attributed to Meta's offering 3 color correction filters in Horizon Workroom so that colorblind people can distinguish virtual objects. In accordance with the principles of accessibility and equality, there is a need to present the locations in the metaverse with subtitles or with translation to sign language for hearing impaired visitors. For blind individuals, it is especially important that VR is compatible with existing assistive technologies, and that the voice guidance transmitted by VR content is presented with equal effectiveness to the experiences of sighted users. Visually impaired or low vision users can benefit from this technology with the help of voice narrations (Alexiou, 2022)

Flexibility in Use

To create a fair and sustainable society with the appearances and social identities depending on the user's request seems possible, with avatars. This way discrimination that may occur due to physical appearance, and physical abilities can be prevented at least in digital

world. The avatars can be designed similarly to the appearance of the user and can differentiate between platforms. In avatar representations, arrangements are planned according to the preferences of the disabled people depending on how they want to be represented (Brehuescu,2022). At this point, working with the disabled makes the process easier.

Since the height of the avatar in Horizon changes depending on sitting and standing, a comfortable experience cannot be provided for wheelchair users or users who use the device while lying down. However, an upgrade feature is being worked on for meta users to keep it in line with other avatars. Lens adjustment features make the technology accessible and usable for different body types (Brehuescu,2022). Oculus's The Climb is one of apps that doesn't require moving the arms overhead for the game (Philips,2020).

Size and Space for Approach and Use

On the other hand the long duration use of these headsets can be problematic for all types of users in the means of flexibility of use and low physical effort criteria. The experiment that was conducted by Wall Street Journal shows the difficulties of spending 24 hours in Metaverse (Wall Street Journal, 2021). It has been seen that there is a necessity to provide a safe zone while using the device. The users need to spend high physical effort while using the technology with the precaution they take or for the adjustment of the headset devices to daily life. The battery problems of headsets is another problem that might affect the flexibility of use.

Discussion and Conclusion

The metaverse has a great potential for democratization with the help of technological developments that are used to enhance the experience of disadvantaged groups. In this article, metaverse and technological developments are examined through the principles of Equitable Use, Flexibility in Use, Simple and Intuitive Use, Perceptible Information, Low Physical Effort, Size and Space for Approach and Use. The principle of Tolerance for Error requires that the contents to be created for the metaverse be developed in a wise manner to prevent misleadings.

The strong sense of presence could bring so many advantages to the lives of the whole community. Designing for all does not only comprehend the disabled but also the technology would reach a wider age range by applying the required principles. The communication between the individuals would be strengthened by eliminating the requirement of learning Braille alphabet or sign language or even displacement. The digital equality would change the worlds of the disabled together with the whole society who had a chance to know people that manage to live though restrictions. The economicalopportunities that metaverse and crypto provides also presents new areas to work together or socialize for disabled. If the economical requirements to obtain this technology can be balanced through virtual economy the scenario of democratization would be more realistic.

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Letter from the Chairman's Desk By Sunil Bhatia PhD

The average is moderate and acceptable to all, not creating aversion as well as attraction. It is the exception that is responsible for interests or hatred. Interest and attraction are positive concepts of the progress of a society where the person is taking out what he is wishing from others without making realize it. Aversion and hatred are negative concepts and their role in the progress of society cannot be ignored. The biggest drawback is it makes the person feels exploited by others and the back of their mind thinks of retaliation. The universe's basic foundation is attraction and repulsion and our earth's continents are the product of an explosion. At present, it is coming close because of attraction and the result will be that all living may wipe out or new creations will replace existing living lives.

Humans are no exception they have the inbuilt character of attraction for the progress of all and avoid tinge of hatred with all mighty force. Repulsive characters are reflected in many forms like hatred, anger, and selfishness. The most significant driving force for the movement of society is selfishness. In an attempt of avoiding conflict of interest, it needs the support of subsidiary actions to the makeup of pretending under generous and caring, gestures not to

be noticed by others of being exploited. An exploiter fulfills the desire not to be average but an exception. He does not hesitate in making others' life miserable pushing below-average levels. Average has the character of killing the exceptions of both positive as well as negative forces. Humans' inner strong urge to be exceptions makes them struggle to move away from average.

The day human life begins there is biological attraction. If some woman has watery eyes that were exceptional quality from other average people and she is considered to be attractive. Her exceptional quality of eyes does not hamper the progress so it is treated as an attraction. A similarly strong muscular body of the male attracts everyone's attention. He exercises in the gym to make up for the deficiency that is not making him attractive. The biological deformity is the exception but it affects the growth and does not prove attractive but creates repulsive. An old person with a lame walk attracts others' sympathy whereas a person of the same age who walks straight like an average and normal human enjoys others' respect. These conflicts in humans are not to be average but nature has its own role and at one stage in time no one remains in the average category. This phenomenon fears him. The other side's inner wish in human to be the exception at any cost force for experimenting with artificial means.

This inner conflict in human to be attractive in spite of facing challenges of natural forces is the reason for the birth of makeup. The feature of liking big and large sizes has come into our minds with practical difficulties. They faced issues during pregnancy and delivery related to safe childbirth. Those who were with tiny waists where bone sizes are not adequately allowing the child to come out of the womb or other body parts that were not supporting the

smooth delivery and in this process either the mother or the child or both dies. Gradually it was engraved in mind for big and large sizes. The knowledge of caesarean has changed primitive thoughts.

In ancient times people lived in the natural environment and all knowledge was from nature. They used natural products to make them exceptions. Some exert extra personal effort for exceptionally good by acquiring better skills and visible in hunting for food. Even in hunting, some prey changes the colour of the skin to lower the attraction factor for not to be noticed by hunters. Hunters of any gender hide behind the bushes not to notice and make their presence feel to prey. Whosoever acts smartly in this game proves a winner. Fruits change skin colour after ripening for the attraction for spreading their seeds by carriers of birds, animals, or humans. Changing the colour of skin and hiding behind the bushes are one kinds of makeup.

The concept of gender difference surfaced with the germination of the idea of agriculture. It is a strong belief that agriculture was initiated by women and it was an alternative arrangement in case hunting fails. Gradually men were allowed to participate where physical strength was required for producing farm food. With time haunting is completely out of the minds of people and as they produce food grains on the farm they started animal farms for food. The foundation of domestication was limited to replacing haunting. The concept of ownership has come with the idea of storage of storing compared to the high uncertainty of haunting foods on a daily basis where the former has created a manmade exception. Later ownership of storage foods assures the availability of food for satisfying hunger at arm's length, initiating the concept of social differences.

Watery eyes or big reproductive organs are desirous and essential but social power is added as a new dimension for selection for mating. Earlier people were exhibiting social power through the use of flowers on their heads or other parts of the body. That was the act of exception for attraction. Later on, special flowers with specific patterns created the concept of authority in the social hierarchy and were called kings and queens. Later on, as human knowledge progressed that has taken these concepts to the next level. King crowns or beggar bowls were created at the social level. Humans at the biological level remain the same but socially create differences. The attraction was focused on biological with added features of social factors. Animal skin for covering body parts, especially lion skin exhibits the power and authority of the person. The beggars' picture in our mind is half naked or somehow managing to cover their bodies from exposure.

I have seen ornaments with any kind of flowers to manmade efforts with natural materials like terracotta, iron, gold, and silver designed to highlight the special body parts of people. It was an effort to be the social exception but did not ignore the human body assets. These ornaments were designed in making assets of the human body to be more attractive. It was designed mostly for the front or back parts of the human body. I have never come across any ornaments that decorate the left or right sides of the human body. It is a recent phenomenon where a sports garment has specific strips attached at the left and right sides of the lower and upper dress.

The journey of manmade makeup has come to the present stage after witnessing lots of valleys and peaks. It began with natural products like flowers, stones, and stems of plants for the application of makeup. The use of crushed red stone powder as lipstick was

known to ancient people. Alta is a bright red dye or liquid color used to adorn palms and feet in simple patterns. Painting the soles with this red liquid dye and adorning the upper foot with elaborate designs to bring out the beauty of the feet, is a common Indian tradition. It is the art of attraction and messaging for attraction devised by females for publicizing their womanhood of menstruation color of red by applying Alta made of lac on their feet symbolizing fertility and auspiciousness. Alta and turmeric are also applied during marriages in Asian culture. Henna- natural dye for hair and used also for decorating the palms and foot because it is water resistant and has longer power of retaining color compared to Alta. Kumkum(Red oxide) is another natural color used in the parting of head hair for symbolizing married life.

Later on, decorating the body parts serves the dual purpose of covering the dirty parts as well as highlighting and maintaining hygiene. On some occasions, it has a different purpose of makeup when a person wears shoes, armour, and a variety of gears that protects and provides safety. The discovery of petroleum created a new form of makeup that is not only closer to natural colouring but shining with staying longer in the applied area helped in attracting better. Greasepaint is proven great for actors in motion pictures for projecting better because it shines and reflects the light better compared to traditional make of stage drama artists.

As humans progressed beauty was associated with goodness. He even associated religious prayer for pleasing divine power with coloring themselves. He created two worlds of embracing and rejecting makeup. One is the worldly affairs in which he is living but another world that is governing but is unseen and unexplained but presence is felt by the outcome of some actions. He painted for

representing for representative of goodness in worldly affairs but sometimes painted the body in a different form for pleasing the authority of the divine world. Too much dark or gaudy color of the body represented the demon and soothing color with goodness. I do not know the reason why we associated dark shade with the imp and light shade with the symbol of good. This primitive mindset is prevailing in the present generation in makeup for toning down the shade of skin by any means. Gradually coloring of the body became part of our culture. It was not only confined to painting but the concept of hygiene was introduced with goodness by following regular bathing, taking care of the management of hair and cutting of nails, etc. Later on, added deodorant, and perfume as part of the makeup of masking odour. Decent dressing by covering the body part that does not allow the arousal of feelings of deliberated or unwanted in others considered to be part of makeup. Makeup turned out to be one factor in representing human personality. While an attractive physical form might be desirable, true "beauty" was instead associated with moral acts. People inhabitant of the desert wears different dress of gaudy colour not to lost in the sea of sands and be visible from a distance Mountain and plain people can be distinguished by their dress because of environmental needs that reflects in their dressing sense.

One day a student asked me. "What is beauty?" I replied anything symmetrical is bound to be beautiful. A woman does the makeup of eyebrows or lips to make them symmetrical. In contrast, asymmetrical features in the face are bound to be ugly. His next question was " What is the best makeup?" I said to keep your skin hydrated by washing your body with water at regular intervals.

Makeup is not confined to body colouring and symbolizing cultural behaviour it has a voice and other sense organs exploitation that helps in attracting others. Some people trained with skilled voices turned out to be the reason for attraction for others and dominate other established factors of attraction. Some people have learned the art of imitating any situation behaviour by others with their body as well as voice language that proved reason for attraction and we called it performing arts. People appreciate the soothing voices and that attracts the people. The chirping of birds attracts but the roaring of the lion creates fear that is not appreciated. A group of people wished to be exceptional so they started training the voices in such a manner that will attract the people. They refined it through practice and tried to make up after long hours of practice in the desired pattern of speech. Some people walking patterns attract people so a group of people studied that behaviour in detail to imitate that pattern for getting attention. They go through the rigorous exercise for mastering that pattern and we called it the act of dance in performing arts.

One day I was driving and the road with potholes remind me that roads need makeup for covering the potholes for smooth driving.

My mother used to make homemade kajal(Kohl) for eyes by burning an earthen lamp filled with clarified butter oil by covering the burning wick with another earthen vessel for the collection of carbon. After mixing the home-prepared butter in it she used to apply it to every child's eyes by saying it is the medicine that will make your vision better. That was worked as makeup for the girl child. The application of clarified butter oil on cooked bread for retaining moisture for keeping soft for a long time was possible because of the makeup technique. Even chefs present the cooked

food by decorating for enhancing aesthetic sense is one kind of makeup. Liposuction for removing the odd extra fat from the uneven body for making slim and smooth is another technology-based makeup. Removal of unwanted hairs on the body is another kind of make and responsible for designing scissors, razors, and various creams and tools. There is a specialized course in medical cosmetic surgery in the dermatology department. It was started by correcting the shape of accident-affected body parts to properly back to the original shape. It is used for correcting facial features through cosmetic surgery. There is a common phrase for those who have done cosmetic surgery "She has gone under the knife." In modern times women are using silicone gel for enhancing the breast in the desired shape to the attraction of others. I have heard that women are going to the extent of inserting thyroid patches under the skin for the continuous release of hormones for maintaining their youth for attracting others.

Makeup and the cultural ideology surrounding have come a long way since the idea of makeup stuck in the minds of humans. In India, young unmarried girls are not encouraged for going into makeup in early life. Married women are encouraged and for that designed many rituals, festivals, and other special occasions where they should project in better compared to usual daily basis. Decorating the body was considered a sign of wealth, power, and family prosperity. We have a social issue with a widow and we make them not to be attractive by shaving their head, wearing simple white dresses, and applying makeup are completely prohibited for them. It is designed not to attract any person. Too much application of makeup of any person is not well taken by others and questions her character or socially not appreciated.

I am thankful to Prof Dr CigdemKaya , Chair of Istanbul Technical university for accepting our invitation of Guest Editor. She is suffering with viral fever but she has shown a exemplary courage and submitted all the publishing material in time. Salute for her passion for academic works.

Lambert Academic publication for celebration of 150th special issue by publishing a book by compiling editorials
"Design For All, Drivers of Design" was translated into eight different languages from ENGLISH to French, German, Italian, Russian, Dutch, and Portuguese. Kindly click the following link for the book. "Morebooks", one of the largest online bookstores. Here's the link to it:

https://www.morebooks.de/store/gb/book/design-for-all/isbn/978-613-9-83306-1

With Regards
Enjoy reading, be happy, and work for the betterment of society.

Dr. Sunil Bhatia
Design For All Institute of India
www.designforall.in
dr_subha@yahoo.com
Tel 91-11-27853470®

ISSN: 2582-8304

Forthcoming Issues

December 2022 Vol-17 No-12

Ivor Ambrose

Managing Director, ENAT asbl.

Ivor Ambrose has worked in the areas of accessibility and disability inclusion for over 40 years as a researcher, university lecturer, project manager, policy advisor and independent consultant. Born in England, he has lived and worked in the UK, Denmark, Belgium and Greece. He holds a Master's degree in Environmental Psychology from the University of Surrey, UK and a university lecturer/Ph.D. qualification from the Danish Building Research Institute, where he specialised in User Evaluation of Environments and new Information and Communication Technologies.

In 2001 he turned his attention to accessibility in the tourism sector, which generally lacked awareness of the needs and specific access requirements of people with disabilities, resulting in inadequate

provisions for these travellers. As a researcher and advocate of 'Design for All, which germinated in Europe in the late 1990s, and 'Universal Design' which took hold in the same period in USA, he was part of a movement which challenged policy makers and practitioners in many fields to re-think the way environments, products and services were conceived and designed. Through his research and observations of life, behaviour and cultures, Ivor has developed a driving ambition to make tourism accessible for everyone, everywhere.

In 2008 he co-founded the European Network for Accessible Tourism (ENAT) non-profit organisation (www.accessibletourism.org), with a group of European organisations active in the tourism industry and disability advocacy. He was elected as its Managing Director and has continued in that position since then. ENAT has become the premier membership association for about 300 organisations, business and individuals who support and want to learn more about this area of tourism development. As its director, Ivor manages ENAT's activities and projects including curriculum development and vocational training courses for hospitality management and staff, European and international standards work on accessibility and tourism, destination management consultancy, certification and provision of accessibility information through online platforms including Pantou, the Accessible Tourism Directory (www.pantou.org). The ENAT Board also maintains links with the UN World Tourism Organisation, the EU Tourism Manifesto Group, the International Social Tourism Organisation, Blue Flag International, Zero Project and many national and regional tourist bodies.

Email: enat@accessibletourism.org

Athens, April 2022

ISSN: 2582-8304

January 2023 Vol-18 No-1

IMMA BONET

After high education in Pharmacy in the University of Barcelona, she developed her professional carrier in the field of healthcare, associations, education, accessibility and Design for All.

From 1975 to 1980, she was Head of the Haematology Department at the Hospital San Juan de Deu (Barcelona) and from 1994 to 1997 representative of the people with mental disabilities sector in the Governing Council of the Institut Municipal de les PersonesambDisminució de Barcelona.

From 1995 to 2000 she was responsible for the External Relations in the Resources Centre for Personal Autonomy that belongs to the Barcelona Province Government.

From 2001 to 2021, she became Executive Patron of the Design for All Foundation where she is responsible for the general management.

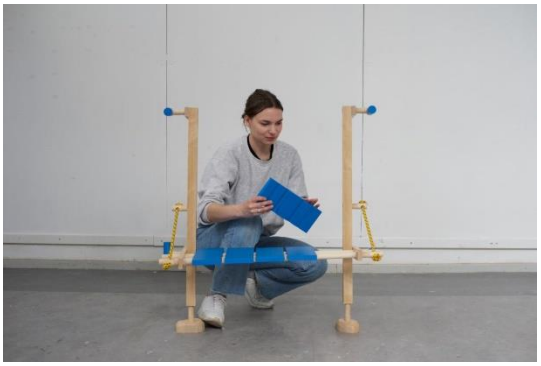
She has been responsible for the development of many national and international projects in her position as: Design for All in Spanish Universities, The Flag of Towns and Cities for All, Museum for All, Society for All, Auditing system for the use of Design for All in companies and has coordinated the participation of the Design for All

Foundation in the European project IDeALL (Integrating Design for All in Living Labs) on processes of co-creation with users.

She has been also lecturer in several Spanish Universities, design schools and congresses.

From 2022, she is currently a freelance Design for All consultant working for organisations like Design for All International, Moventia, City of Oslo, Avanti-Avanti Studio and ProAsolutions among others.

February 2023 Vol-18 No-2



Amelia Dray

"Amelia is a designer exploring childhood, play, and democracy. Her interdisciplinary practice works across fields such as leadership development, organisational change, service design, and child culture design. Her work aims to explore local forms of democracy alongside, with and for children.

Amelia is a strong advocate for children's play, how children lead, and how they offer new perspectives and wisdom. These concepts infuse her work across multiple contexts; working on large organisational change programmes overseas and in the UK, led design work with schools, charities and local + central government, and continuously developing her material practice as a designer."

March 2023 Vol-18 No-3

Meghan Preiss

Meghan is currently a Manager of CX Design Integration at Delta Airlines where she creates design strategies to prioritize the customer experience and infuse design thinking into the corporate culture. She is an instinctive translator traversing between complex details and big picture ideas. Meghan's passion to provide new paths for future generations to impact the world around them is becoming more of a reality with each new role she takes on. It was this passion that led her to become the youngest board member of the World Design Organization (WDO) in their 60-year history. Previously the United States female representative in WDO's inaugural Young Designers Circle, Meghan has worked with global communities to elevate design education and gender equality design initiatives. In the United Kingdom, she taught 12- to 18-year-olds how to merge design, engineering, user research, and business, while also mentoring them through different phases of life. Meghan's devotion to giving back has led her to volunteer and/or guest lecture within her favorite communities: Industrial Designers Society of

America, SHiFT Design, Auburn University, Columbus College of Art and Design, Lehman College, Western Michigan University, and more.

After graduating Savannah College of Art and Design with degrees in Service Design and Industrial Design, she gained experience in both consulting and corporate design roles. She spent a few years working as a Lead Design Research and Strategist at a design consultancy in Los Angeles where she had the opportunity to work through a variety of challenges with companies like LEGO, Boston Scientific, Hamilton Medical, BMW, Honda, and more. Working on large strategy problems from the outside, Meghan soon became interested in how she could potentially make a larger impact by working in-house, moving her career to work for Ford Motor Company and IBM.

April 2023 Vol-18 No-4

Prof Dr Rachna Khare

Dr. RachnaKhare is full Professor and Head of Department of Design at School of Planning and Architecture Bhopal, a Government of India Institution of National Importance. She served the institute in several administrative positions like Dean (Research) and Head of the Departments (Architecture, Landscape and Conservation). Starting her career in the early nineties, Rachna is a dedicated

teacher and keen researcher for last twenty two years. Rachna's research interests in the field of 'Universal Design' and 'Designing for Special Needs' have earned her grants and awards nationally and internationally. She is recognized as 'Inspired Teacher' by Hon'ble President of India and stayed Scholar-in-Residence at Rashtrapati Bhavan in 2016. She is also two times winner of Fulbright Fellowship (2022 and 2007) and availed those at George Washington University, Washington DC and Georgia Institute of Technology, Atlanta. Rachna has done several sponsored research projects with All India Council of Technical Education, University Grants Commission and Design Innovation Center Project of Ministry of Education in India. She has lectured worldwide on Inclusive Design and has more than 50 papers in various National and International journals and conferences to her credit. She has authored 3 books, 12 book chapters and edited more than 15 refereed journals. Rachna is well known as an activist and is a founder member of 3 NGOs working for the upliftment of vulnerable populations in India. Other than her regular teaching and research at her institute, Rachna founded and chairing a Centre for Human Centric Research (CHCR) that aims to build a body of knowledge that responds to the design needs of diverse human population otherwise marginalized in the past design practices.

June 2023 Vol-18 No-6

Debra Ruh CEO Global Impact

| Executive Chair, Billion Strong | Host of Human Potential at Work AXSChat Co-Host

Talks about #inclusion, #tech4good, #accessibility, #digitalinclusion, and #disabilityinclusionTalks about hashtag inclusion, hashtag tech4good, hashtag accessibility, hashtag digitalinclusion, and hashtag disabilityinclusion

Rockville, Virginia, United States

November 2023 Vol-18 No-11

Dr. SoumyajitBhar is currently an Assistant professor of environmental studies at Krea University, India, where he offers and coordinates a course on Design Thinking. Soumyajit straddles action and academic research with more than 14 years of experience (both

volunteering and full-time) working with various environmental and sustainability issues. He holds a Ph.D. in Sustainability Studies (with a specialization in ecological economics) from Ashoka Trust for Research in Ecology and the Environment (ATREE) as part of a unique interdisciplinary Ph.D. program. His dissertation attempts to understand socio-psychological drivers and local and regional scale environmental impacts of conspicuous/luxury consumption basket in India. Soumyajit is furthering postdoctoral research at the intersection of rising consumerism, sustainability concerns, and inequality levels in the context of the Global South. He is also keen to explore how design education can broaden students' perspectives and help them delineate pathways to a better world. He has published in international journals and popular media. He is also interested in larger questions of philosophy and ethics, particularly pertaining to environmental issues.

New Books

it is available on www.morebooks.de one of the largest online bookstores. Here's the link to it:
https://www.morebooks.de/store/gb/book/design-for-all/isbn/978-613-9-83306-1

The Ultimate Resource for Aging in Place With Dignity and Grace!

Are you looking for housing options that are safer and more accommodating for independently aging in place? Do you want to enjoy comfort, accessibility, safety and peace of mind – despite your disabilities, limitations and health challenges? The help you need is available in the Universal Design Toolkit: Time-saving ideas, resources, solutions, and guidance for making homes accessible.

This is the ultimate resource for individuals and professionals who want to save time, money and energy when designing, building, remodeling or downsizing a home. The Universal Design Toolkit will help you take the steps to design homes for your clients or yourself while eliminating the costly trial and error challenges you'd inevitably encounter if faced with this learning curve on your own.

Rosemarie Rossetti, Ph.D., teamed with her husband Mark Leder in creating this unique Toolkit. They bring ten years of research, design and building expertise by serving as the general contractors for their home, the Universal Design Living Laboratory– which is the highest rated universal design home in North America.

Within the Toolkit's 200 richly illustrated pages, you'll find: Insights that distinguish *essential* products, services and resources from the *unnecessary*.

Proven, realistic tips for finding the right home.

Home features you need to look for. Nothing is assumed or left out.

Handy home checklists and assessments.

Interview questions to help you hire industry professionals with knowledge and experience.

Photographs that provide a frame of reference to inspire, clarify and illuminate features andbenefits.

Valuable resources to save you time, money and energy.

Helpful sources of funding.

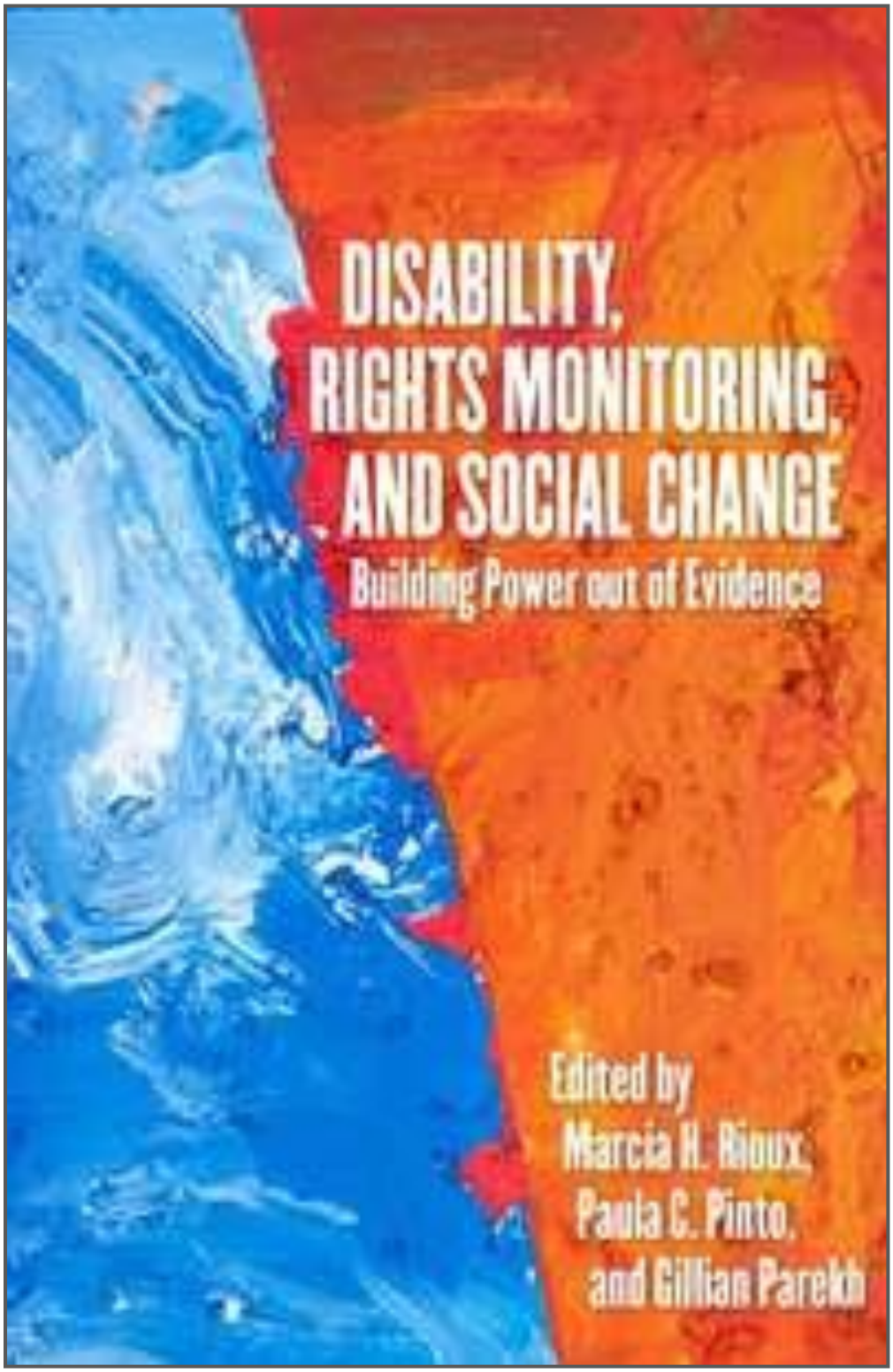
Space planning dimensions for access using assistive devices such as wheelchairs andwalkers.

And so much more!

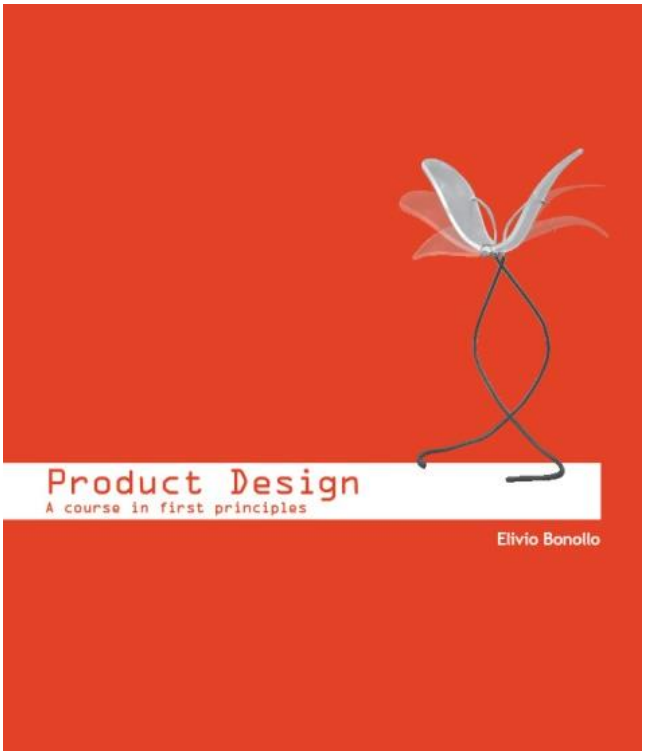
If you want useful, dependable advice and easy to implement ideas from respected experts who know the ropes, you'll love Rossetti and Leder's perspective. As a speaker, author and consultant who uses a wheelchair, Rossetti has helped hundreds of people design their ideal homes. Now her comprehensive Toolkit is available to help and support you!

Get the Universal Design Toolkit now to start your project!

Disability, Rights Monitoring and Social Change:



New Update: ELIVIO BONOLLO (2015/16) PRODUCT DESIGN: A COURSE IN FIRST PRINCIPLES



Available as a paperback (320 pages), in black and white and full colour versions (book reviewed in Design and Technology Education: An International Journal 17.3, and on amazon.com).
The 2018, eBook edition is available in mobi (Kindle) and ePub (iBook) file versions on the amazonand other worldwide networks; includingon the following websites:
ePubversion:www.booktopia.com.au
https://www.booktopia.com.au/ebooks/product-design-elivio-bonollo/prod9781784562946.html
mobi (Kindle versions):www.amazon.in
https://www.amazon.in/Product-Design-Course-First-Principles-ebook/dp/B07FNV2F4L/ref=sr_1_1?ie=UTF8&qid=1532999395&sr=8-1&keywords=Product+Design%3A+A+course+in+first+principles
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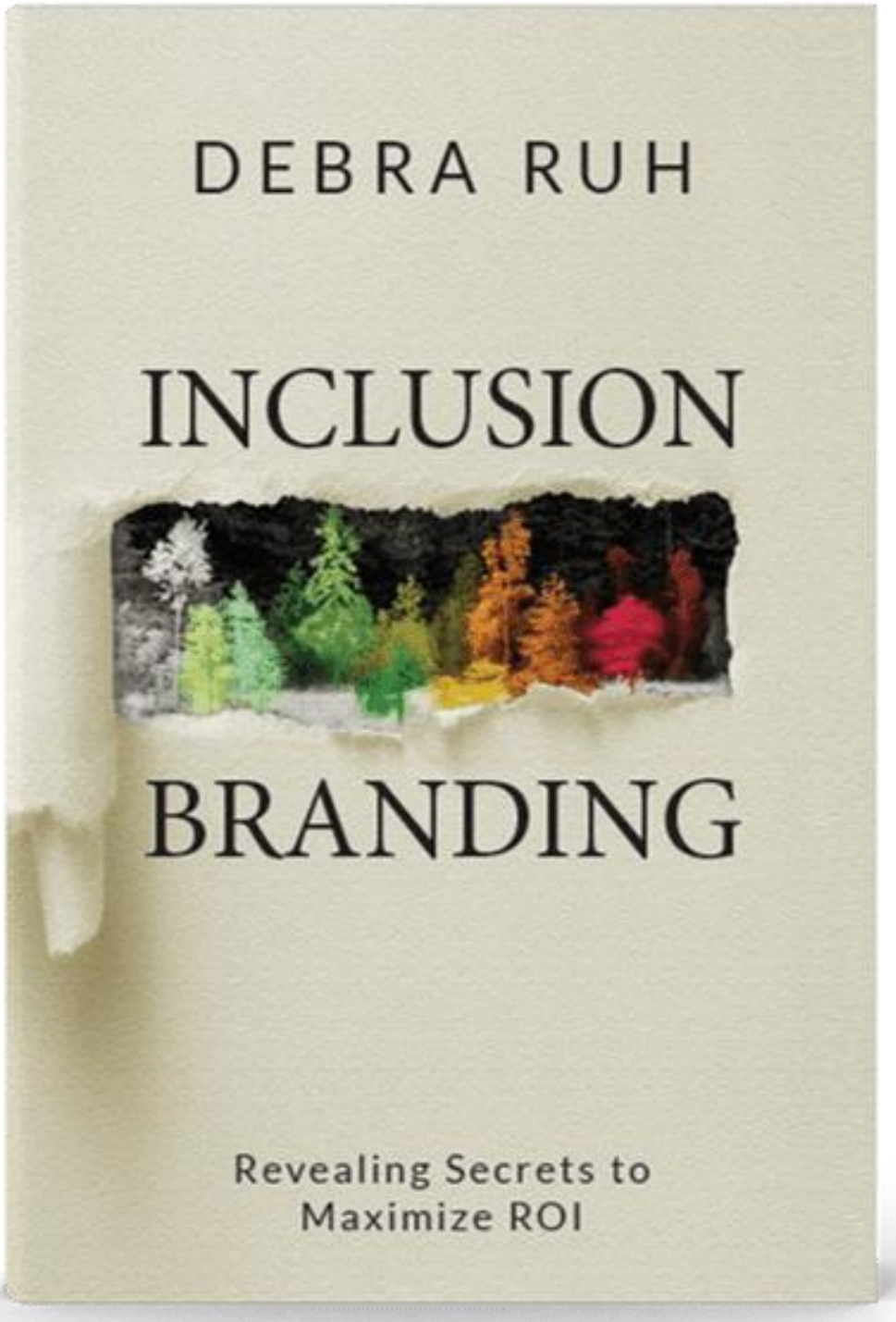
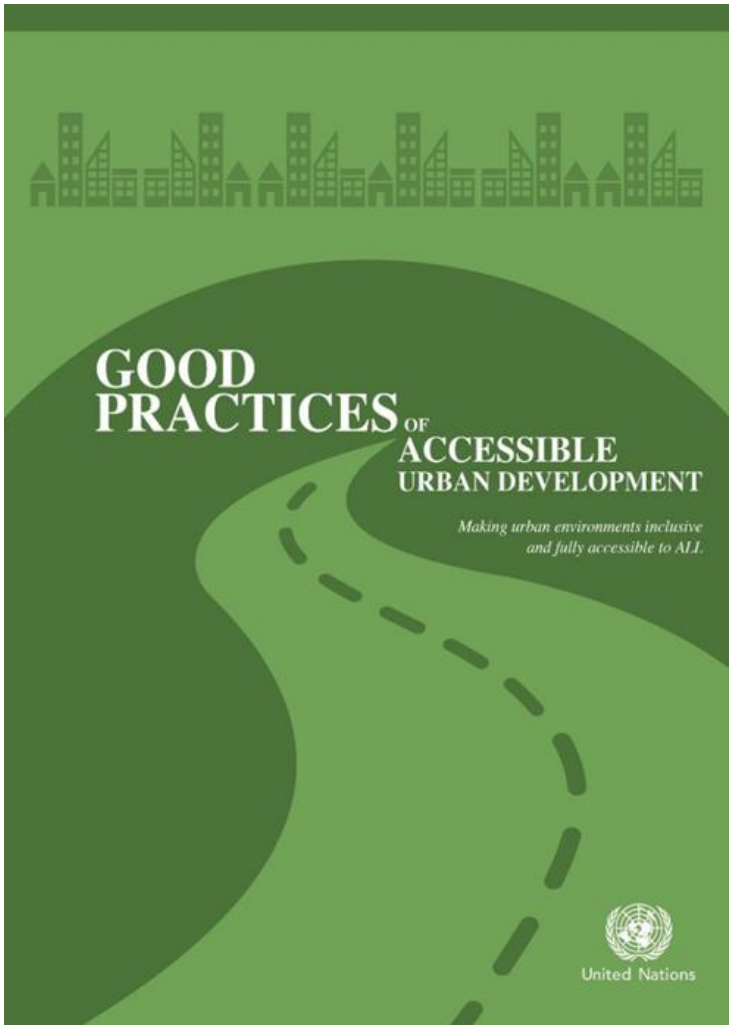
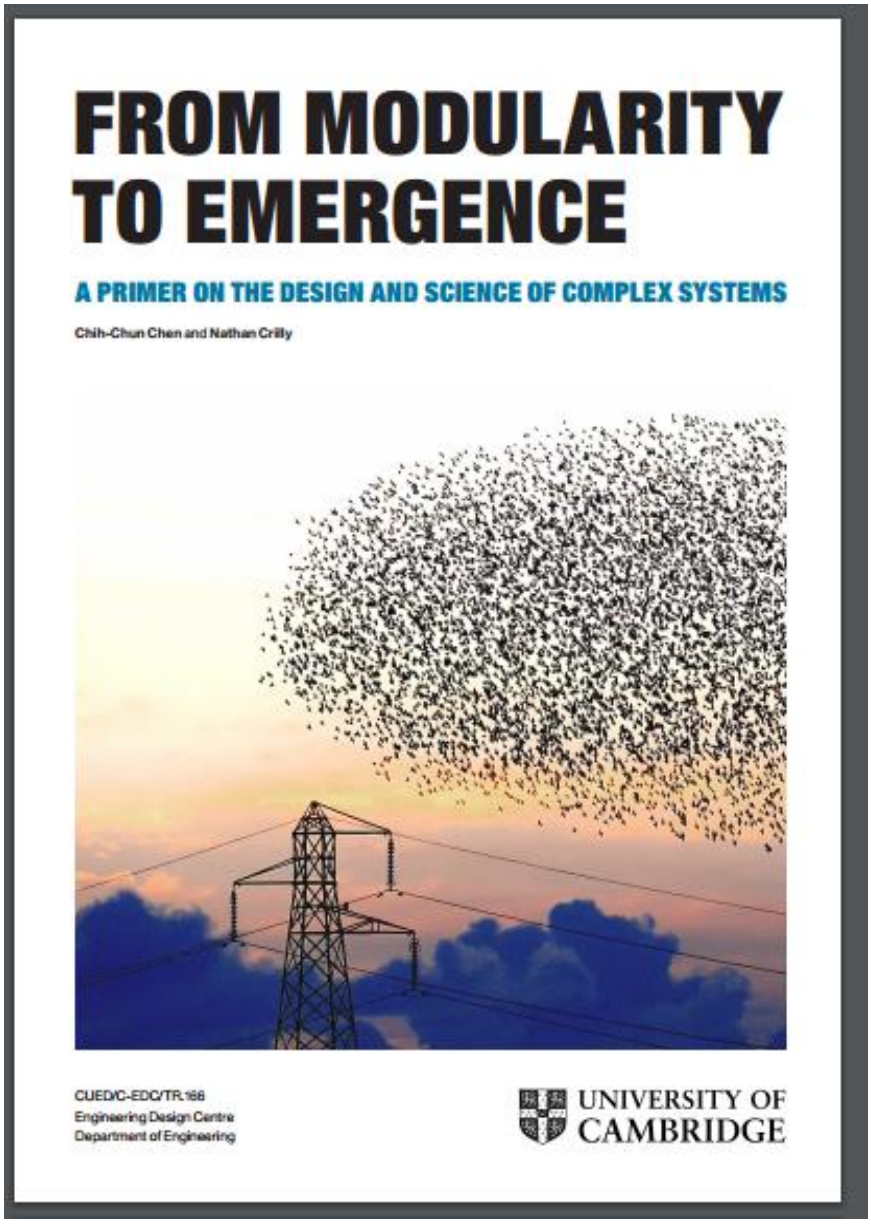
READING HINTS: ePub files can be read with the iBook app on Apple MacBook/iPad devices; ePub files can also be read on Desktops PCs, Laptops and Surface devices using readers such as the Microsoft *freda*ePub reader. The Kindle (mobi file) reader isflexible and suitable for reading the eBook on PCs; Kobo readers can also be used to read ePub files on MacBook and iPad. All formats are very interactive with very good navigation.


DEBRA RUH
INCLUSION
BRANDING
Revealing Secrets to
Maximize ROI



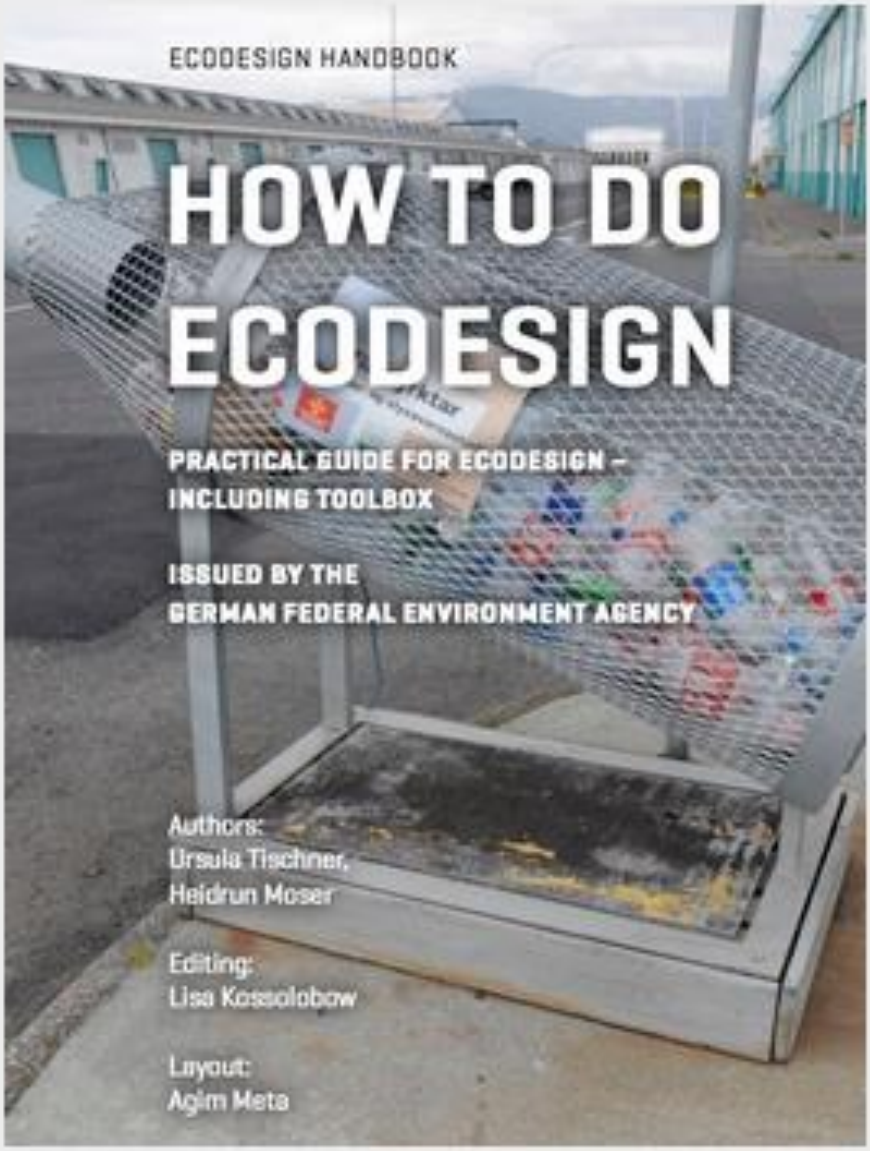
In light of the forthcoming United Nations Conference on Housing and Sustainable Urban Development (HABITAT III) and the imminent launch of the New Urban Agenda, DESA in collaboration with the Essl Foundation (Zero Project) and others have prepared a new publication entitled: "Good practices of accessible urban development".
The publication provides case studies of innovative practices and policies in housing and built environments, as well as transportation, public spaces and public services, including information and communication technology (ICT) based services.
The publication concludes with strategies and innovations for promoting accessible urban development.
The advance unedited text is available at:http://www.un.org/disabilities/documents/desa/good_practices_urban_dev.pdf



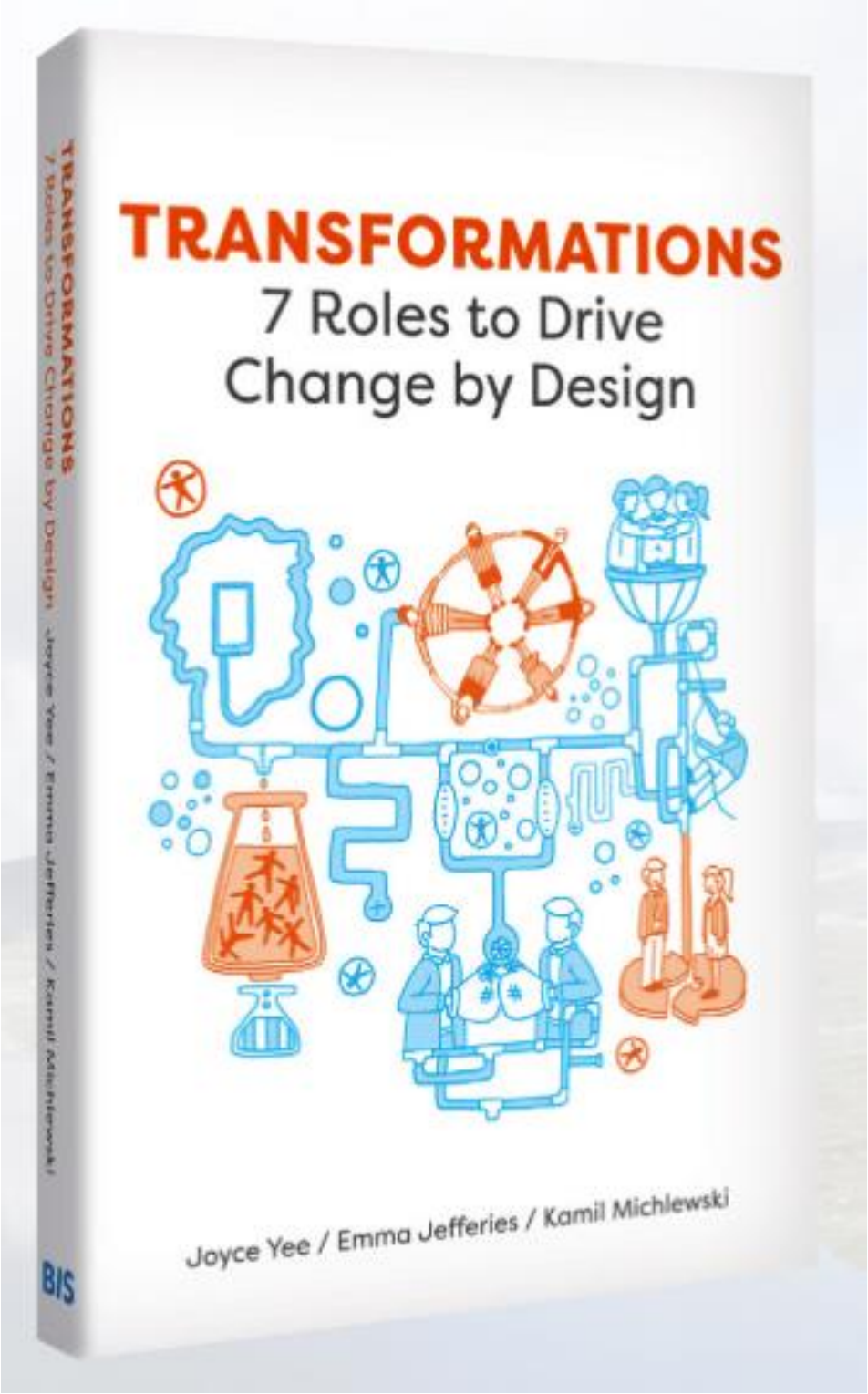
Dr Chih-Chun Chen and Dr Nathan Crilly of the Cambridge University Engineering Design Centre Design Practice Group have released a free, downloadable book, _A Primer on the Design and Science of Complex Systems_.
This project is funded by the UK Engineering and Physical Sciences Research Council (EP/K008196/1).
The book is available at URL: http://complexityprimer.eng.cam.ac.uk

Changing Paradigms: Designing for a Sustainable Future

New iBook / ebook:
HOW TO DO ECODESIGN

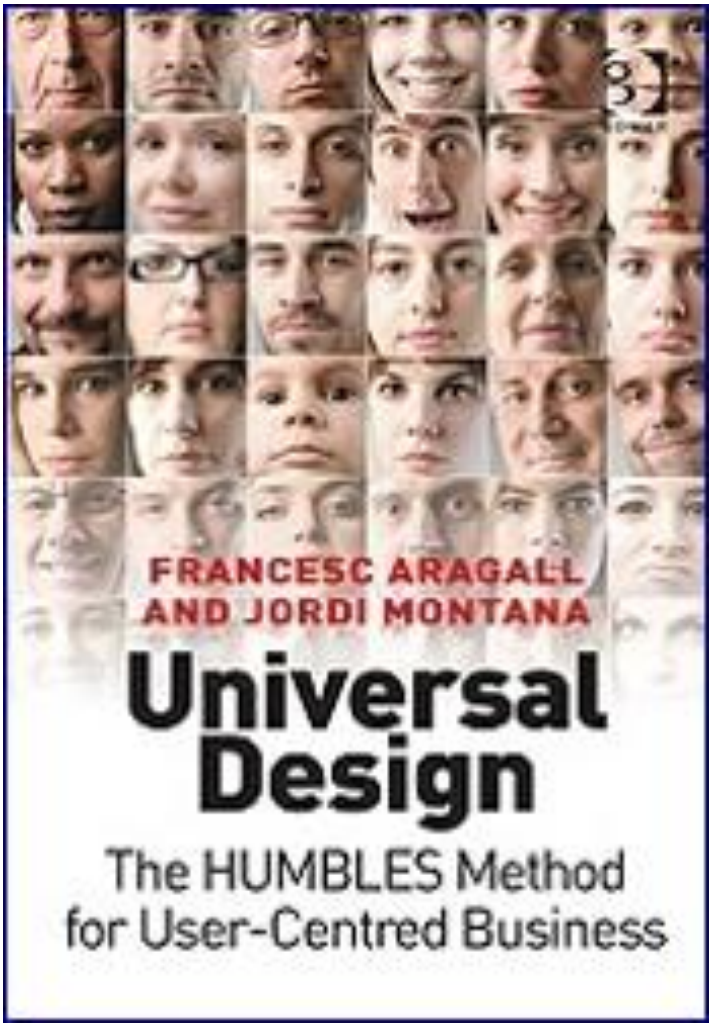


Practical Guide for Ecodesign – Including a Toolbox
Author: Ursula Tischner


TRANSFORMATIONS
7 Roles to Drive Change by Design
Joyce Yee / Emma Jefferies / Kamil Michlewski
BIS


Arnar Árnason and Sigurjón Baldur Hafsteinsson
DEATH AND GOVERNMENTALITY
Neo-liberalism, grief and the nation form

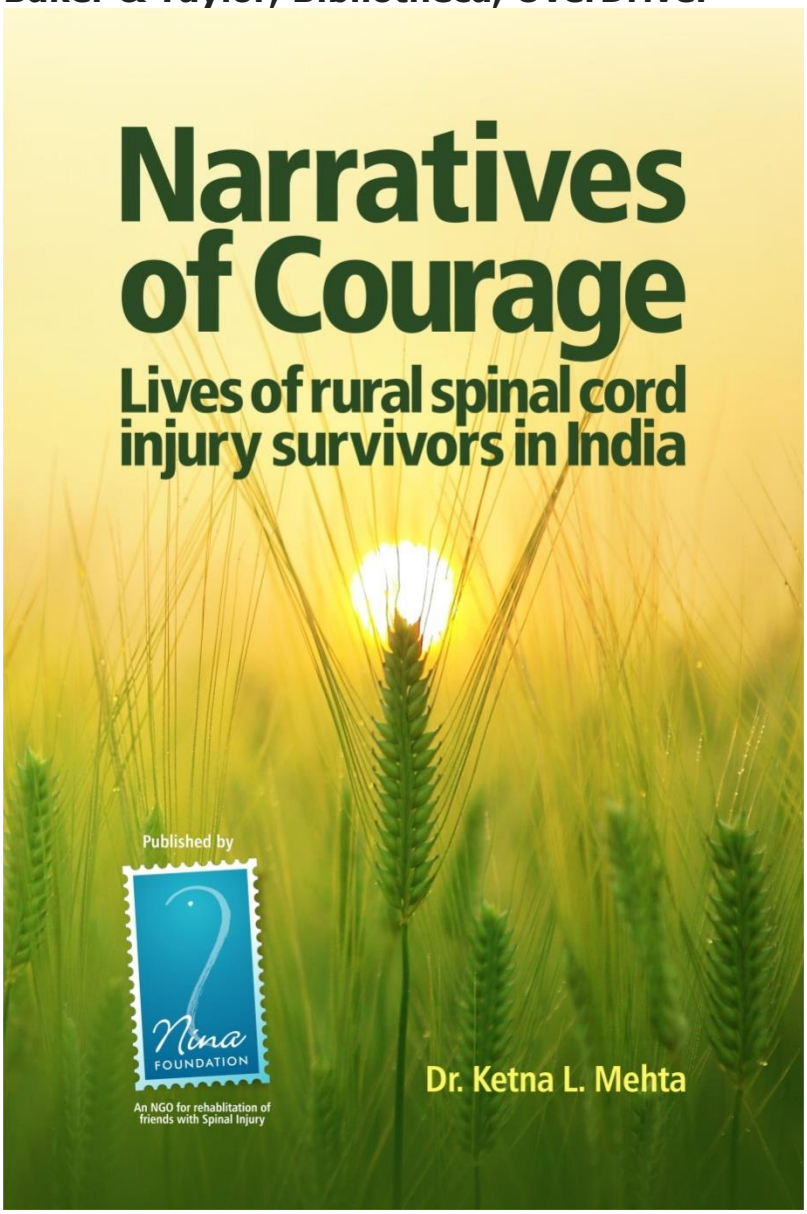
Universal Design: The HUMBLES Method for User-Centred Business



"Universal Design: The HUMBLES Method for User-Centred Business", writtenbyFrancescAragall and JordiMontañaandpublishedbyGower, providesaninnovativemethod to supportbusinesseswishing to increase the number of satisfiedusersand clients andenhancetheirreputationbyadaptingtheirproductsandservices to the diversity of their actual andpotentialcustomers, takingintoaccounttheirneeds, wishesandexpectations.
The HUMBLES method (© Aragall) consists of a progressive, seven-phaseapproach for implementing Design for All within a business. Byincorporating the user'spoint of view, itenablescompanies to evaluatetheirbusinessstrategies in order to improveprovideanimproved, morecustomer-orientedexperience, andtherebygain a competitiveadvantage in the marketplace. As well as a comprehensiveguide to the method, the bookprovidescasestudies of multinationalbusinesswhichhavesuccessfullyincorporated Design for All intotheirworkingpractices.
According to SandroRossell, President of FC Barcelona, who in company withotherleadingbusiness professionals endorsed the publication, it is "requiredreading for thosewhowish to understandhow universal design is the onlyway to connect a brand to the widest possible public, increasing client loyaltyandenhancing company prestige". To purchase the book, visiteither the Design for All Foundation website

Nina Foundation's latest E Book has been Published on following online platforms. Now you have more options to download and read Amazon's Kindle;
AMAZON INTERNATIONAL EDITION -
https://www.amazon.com/dp/B09WR78DN7

AMAZON INDIAN EDITION -
https://www.amazon.in/dp/B09WR78DN7
Other online platforms with a choice to read on any device (mobile, laptop, tablet, PC etc):
Scribd, Hoopla, Barnes&Noble,Tolino,Vivlio,BorrowBox,Apple,Kobo, Baker & Taylor, Bibliotheca, OverDrive.



ISSN: 2582-8304

News

1.

7

Carleton University's Azrieli School of Architecture and Urbanism must provide its students a proper education in universal design.

By definition, universal design is "the design of buildings, products or environments to make them accessible to all people, regardless of age, disability or other factors."

Experts and advocates and students say architectural schools are partly to blame for the lack of normalization universal design has received in practice.

In 2017, 22 per cent of the Canadian population over the age of 15 identified as having a disability. However, accessibility in the

built environment continues to be regarded as a niche issue in the architecture world.

According to experts, such as former lieutenant-governor of Ontario and wheelchair user David Onley, Ontario is nowhere close to its goal of being fully accessible by 2025, as set by the Accessibility for Ontarians with Disabilities Act in 2019.

Onley said in a Legislative Review of the Act that post-secondary architecture schools are not doing their part to teach students about universal design.

Often, architecture schools teach students that design and universal design are separate things, instead of doing what they can to make universal design the norm.

Architecture schools provide the foundation for the future of urban design. If they are not teaching students universal design, then they are teaching discriminatory design. Despite Canadian laws protecting the right of disabled people to not be discriminated against, the implementation of these laws into the built environment is moving slowly.

Teaching the people who design environments to be inclusive is a key step in implementing accessibility standards.

Carleton's architecture programs must shift teaching methods to normalize universal design and create an accessible future for all Canadians.

(Courtesy: Charlaton)

2.

Design entrance exams in India after class 12; Dates, eligibility, registration

Check out the list of top design entrance exams in India after class XII with exam dates, eligibility, and application details.

NEW DELHI: Design is a popular field among students. Design is offered as a course in colleges like the National Institute of Fashion Technology (NIFT), the National Institute of Design (NID), Pearl Academy, SMEAT, etc. However, to get admission to

these colleges, candidates have to clear the entrance test. Most of the design entrance exams conducted in India are at the college level and candidates have to clear 2-3 rounds to be selected for admission.

Latest: NIFT Entrance Exam Previous Year Question/Sample Papers. Click HereSuggested: How to Prepare for NIFT Entrance Exam. Check NowDon't Miss: Check the list of top design colleges in India. Click HereColleges Accepting Applications: To check the list of Institutions accepting Design Program Applications. Click Here

Most design entrance exams conducted in India are held in January/ February. To enroll in design courses in India, you need to be aware of the placement tests and eligibility criteria for various programs.

3.

MARQUETTE UNIVERSITY, PENFIELD CHILDREN'S CENTER LAUNCH ADAPTIVE TOY PROJECT SERVING CHILDREN WITH DIFFERING ABILITIES

First of two build days to be held Nov. 12 at Marquette's Engineering Hall

MILWAUKEE — Marquette University's Opus College of Engineering and its Orthopaedic and Rehabilitation Engineering Center (OREC), Penfield Children's Center and the Kohl's Building Blocks Program, have launched "Inclusive Play: Toys for all," an adaptive toy project serving children with differing abilities in Milwaukee County.

The Opus College of Engineering and OREC will host the first of two adaptive toy "Build Days" on Saturday, Nov. 12, at Engineering Hall, 1637 W. Wisconsin Ave. Build Days will feature local high school students and Marquette engineering students transforming traditional toys into adaptive toys. Through a collaboration with local FIRST Robotics teams and Marquette, participants will undergo a training session and then execute the electrical modifications for adaptive switch installation on eight different styles of toys.

Adapting these toys with large button switches increases the accessibility for a child to independently engage the toy and experience the reaction.

"I found myself struggling to engage kids who have more severe overall delays. I often found myself bringing regular toys to show the kids, and realized I was the one activating the toy," said Vladimir Bjelic, speech-language pathologist at Penfield Children's Center.

OREC will direct teams as they adapt 144 toys for use at Penfield Children's Center and the Speech and Hearing Clinic in Marquette's College of Health Sciences. The program includes eight different toys, including a teddy bear, a bubble machine and a guitar that will be used for treatment sessions or rented out for use at home.

Dr. Gerald Harris, professor of biomedical engineering and director of OREC, noted, "It's truly a pleasure for OREC to participate in the Marquette mission of service to others through this program. It's amazing to see so many groups come together to make this happen, including Marquette students, local high schools, FIRST Robotics teams, and our partners at Penfield Children's and the Kohl's Building Blocks Program."

OREC engineer Molly Erickson will be directing both Build Days.

"OREC's community engagement efforts allow us to work towards making a difference every day, and the Inclusive Play: Toys for All program helps us take next steps in our community engagement efforts to help others," Erickson said. "These Build Days are amazing STEM educational opportunities that focus on accessible and universal design, showing future engineers the value of designing products with everyone in mind – how the smallest change to adapt something can have a large impact on someone's life."

Participating high schools include Ronald Reagan College Preparatory High School, Rufus King International High School, The Lynde and Harry Bradley Technology and Trade School, Marquette University High School, and Divine Savior Holy Angels High school.

Media interested in attending a Build Day should contact Kevin Conway, associate director of university communication at Marquette University, at kevin.m.conway@marquette.edu.

About Penfield Children's Center

As a leader in child development, Penfield Children's Center helps children with and without disabilities reach their full potential by providing early education, health and wellness services, and family programs. For more information on Penfield, media should contact Shelby Schnell, director of marketing and communications, at shelbyschnell@penfieldchildren.org.

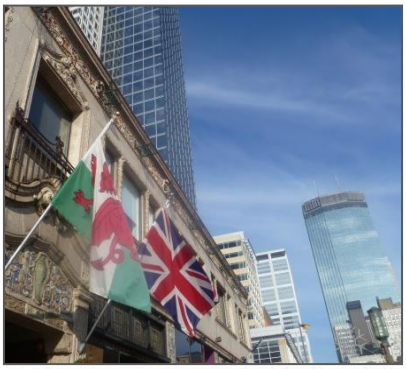
About Kohl's Building Blocks Program

Through generous support from Kohl's Cares, the Kohl's Building Blocks Program helps Penfield Children's Center support children throughout Milwaukee county in Wisconsin. This comprehensive program gives children in need access to early educational and developmental programs, services and equipment.

(Courtesy: Marquette University newsletter)

ISSN: 2582-8304

Programme and Events



THE 2023 COMPETITION IS OPEN!

Architecture Designed for Aging

Tell all undergraduate architecture students

Submit essay proposals by November 1

WWW.BERKELEYPRIZE.ORG

GOOD DESIGN NEWS

Rewarding Design Excellence

Hyderabad Regional Chapter of IIID (Institute of Indian Interior Designers), is hosting the fourth edition of its flagship event "IIID Showcase Insider X 2022

Hot News For Students and Educators!
We're on the Final Approach for this year's Spring Semester Student submissions. We only have a few days before the final entry deadline, so if you're interested in joining the competition, please complete the submission process immediately. You know where to find us: www.sparkawards.com

The last and final deadline is Midnight, California time, June 17. The jurors begin their judging on June 18.
We're delighted with the high caliber of entries we've seen this year. Recently schools like MIT, SVA, Art Center College, Tdelft, Pratt, Harvard, Tsinghua, RAC, Honglk, SADI, Savanna, RIT and companies such as Hitachi, Samsung, HP, Midea, Philips, Dell, Google, Fuseproject, Whipsaw & Pepsi have joined the participants. It will be fun 😁
All Best--Stay Well!
--Spark


THIS YEAR'S TOPIC:
ARCHITECTURE DESIGNED FOR AGING
THE BERKELEY UNDERGRADUATE PRIZE FOR ARCHITECTURAL DESIGN EXCELLENCE
1998
THE ARCHITECT HITS THE NURSING HOME
The First Berkeley Prize 1998-99
ARCHITECTURE IS A SOCIAL ART
The BERKELEY PRIZE supports the study and teaching of the social art of architecture. The online, two stage Essay Competition (in English) is open to undergraduate architecture majors in accredited schools of architecture throughout the world. The Travel Fellowship Competition is open to the Essay Competition semifinalists.
PURSE
Essay Competition: 35,000 USD; 6,500 USD first prize; Multiple prizes
Travel Fellowship Competition: Stipend and airfare; Multiple prizes
2023 JURORS
The Berkeley Prize Committee
In honor of the 25th Anniversary, this year the members of the Berkeley Prize Committee will select the semifinalists, the finalists and the overall winners.
SCHEDULE
Competition opens: September 15, 2022; Stage One entries due: November 1, 2022.
For more information go to www.berkeleyprize.org
• EXPLORE ONLINE: WWW.BERKELEYPRIZE.ORG
Please forward this message to undergraduate student message boards, newsletters, any and all electronic platforms, and to those who might be interested. Download PDF for full size image to post.


NCPEDP
25 YEARS
EMPOWERING THROUGH INCLUSION
HELEN KELLER AWARDS

18th and 19th, November 2022

•••

TypoDay 2022

18th & 19th November 2022

www.typoday.in

Typography Day 2022 will be held for the fifteenth time on 18th and 19th of November 2022 hosted by IDC School of Design (IDC), Indian Institute of Technology Bombay (IIT Bombay) with support from India Design Association (InDeAs) and Aksharaya.

The theme for this year's event is 'Typography for Children' and the event will be held online.

The event is planned over two days:
Day 1-2: Workshops on Typography and Calligraphy
+ Conference focusing on 'Typography for Children'
+ Exhibition of Typography Posters

Conference: Inclusive Nordic Travel

Tid: 07. november 2022 09.00 - 17.00
Sted: Oslo, Thon Hotel Opera, Dronning Eufemias gate 4

Registration

Deadline is October 30th 2022. Conference entrance is free.

DEAwards seeks entries with educational influence on Design

DEAWARDS CALLS FOR 2023 ENTRIES

Competition 'Design Educates Awards' (DEAwards) goes a step further as it combines architecture and design with an educational impact. The aim is to push aesthetics to reach and obtain a lasting, informative influence on society. Visual arts have always been perceived and used as means of expression socially and politically, but the competition seeks to change this through original concepts and ideas revolving buildings or products that can be implemented for their function and effectiveness. Renowned Architects like Toyo Ito and Anna Heringer make part of the jury panel that is set to select the outstanding projects based on implementation, aesthetics, feasibility, and quality of the informative layer.

To join the Awards and register click the link here before it's too late! **Deadline for submissions is February 2, 2023.**

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Prof Dr Ravindra Singh, Delhi Technological University, India
Email: ravindra@dtu.ac.in

Special Correspondent:
Ms. Nemisha Sharma,
Mumbai, India
Nemisha98@gmail.com
Address for Correspondence:
13, Lodhi Institutional Area,
Lodhi Road, New Delhi-110 003India.

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Dr_subha@yahoo.com

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