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Module: Research in Context ADAD5003

Course: BA Architectural Arts: Glass

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Question 1: What is the role of the designer/maker in the 21st Century and how might this role change in the next 10 years? Discuss your ideas with reference to two of the practitioners or thinkers discussed in your lecture strand.

Word Count: 2623

To understand the role of the designer in the 21st century and how that role will change in 10 years' time we need to consider what design means. 'Design is based on the attempt to fulfil human needs in an evolving technical and cultural context' (Braungart & McDonough, 2009, p. 180). This suggests individual needs will dictate how relevant a new design or product is to us. Designers need to be educators as well as innovators, creating an opportunity for altruism rather than appealing to our 'pleasure and delight' (Braungart & McDonough, 2009, p. 144). They can instead highlight issues that need addressing such as the environment, which for years has been ignored. Designers need to start to think about how they can influence the public in a more positive way for the benefit of the environment. People who do not believe in climate change are dangerous to our future. Donald Trump tweeted, 'the concept of global warming was created by and for the Chinese in order to make US manufacturing non-competitive' (Friends of the Earth, 2019). Statements like this detract from a very real problem and are not evidence based. In a report about sustainable resource use Swedish chemist Svante Arrhenius wrote:

Humanity stands ... before a great problem of finding new raw materials and new sources of energy that shall never become exhausted. In the meantime, we must not waste what we have, but must leave as much as possible for coming generations (Arrhenius, 1925).

It is inconceivable that almost 100 years later we are still in the same position. 'We are about to sacrifice our civilization for the opportunity of a very small number of people to continue making enormous amounts of money' (Thunberg, 2019, p. p15). This needs to change and designers can lead the way by being innovative for the benefit of the majority rather than the privileged. Whatever the challenges ahead, designers need to be ready and willing to respond for the benefit of generations to come.

Designers today have a responsibility to prevent '*intergenerational remote tyranny* – our tyranny over future generations through the effects of our actions today' (Braungart & McDonough, 2009, p. 43). It can be achieved through respecting the environment in the way things are made. Resources are being depleted at a rapid rate. Between August 2017 and July 2018, 7900km² of the Amazon was destroyed, equivalent to 987,000 football pitches (Philips, 2018). The scale of this destruction is unimaginable until translated into language that humankind understands. Designers need to show the world that there is a better way to manufacture goods. 'What we are doing to the forests of the world is but a mirror reflection of what we are doing to ourselves and to one another' (Maser, 1989, p. 280). All life forms are suffering as a result of climate change. Thunberg says 'Once we start behaving as if we were in an existential crisis, then we can avoid a climate and ecological breakdown' (Haynes, 2019) and this is where designers come in. Designers need to make a "feedforward" system in regards to a sustainable future.

Designers have the power to change attitudes through sustainable means. A designer who is doing just this is Lucy Hughes who has invented MarinaTex. It is a bioplastic made using fish waste from the fishing industry, which stands at 50 million tonnes a year (Hughes, 2019). This alternative to plastic is biodegradable in 6 weeks. It is also stronger than LDPE (Low-Density Polyethylene). There are always going to be occasions when people need to buy a bag but MarinaTex has the advantage that if it does end up in the environment it can be consumed without harm (Hughes, 2019). Hopefully it will not lead to people just throwing away their bags afterwards. Food packaging could also be made from it and be put in with food waste, minimising impact. 'To eliminate the concept of waste means to design things - products, packaging, and systems - from the very beginning on the

understanding that waste does not exist' (Braungart & McDonough, 2009, p. 104). Hughes' material is doing exactly this. Another group of people who have made plastic one of their targets is design firm Pentatonic.

Pentatonic's philosophy is a world 'where nothing is discarded. Where materials live forever, re-born as beautiful high-performance new products. Where technology and design come together to help you save the planet' (Pentatonic, 2019). This vision shows a competent way to deal with all the waste. Designers for Pentatonic work with companies' waste and turn it into something new. For example, Pentatonic were commissioned to redesign Starbucks chairs. The frame and fabric of the Starbucks x Pentatonic 'Bean' chair is made from recycled coffee cups and lids, Frappuccino cups and water bottles (figure 1) which are made from P.E.T. (Polyethylene terephthalate). Once upholstered, the chairs do not seem any different to other Starbucks chairs (figure 2). Pentatonic are also recycling smartphone screens into drinking glasses. Designers have been working with Pentatonic for 15 years, showing it is possible to address the waste issue. If more



Figure 2 – Upholstered 'Bean' chair (Pentatonic, 2019)



Figure 1 – 'Bean' chair frame (Pentatonic, 2019)

designers emulated Pentatonic's values we would not be manufacturing 'trivial gadgets... wasting irreplaceable resources, poisoning the atmosphere during manufacture and polluting the ground once we have grown tired of them' (Papanek, 1995, p. 10). All designers should aspire to this ethos. With technology advancing so rapidly, people feel the need to get new phones regularly. Designers should help us to upgrade our phones without needing a new phone. This could be something as simple as a replaceable processing chip. We need to go back to 'a greater emphasis on quality, permanence and craftsmanship in designed products, as people and designers come to understand that obsolescence or bad workmanship waste natural resources that can't be replaced' (Fuad-Luke, 2009, p. 48). Designers' morals should be examined to make sure that products are made for the universal benefit of the world.

It is not enough that designers make their work ethical, 'make it a quality-of-life problem... When we make it an ethical problem, we will not solve it' (Braungart & McDonough, 2009, p. 12). If someone is not directly affected by the problem, they do not have an incentive to change. People need to feel connected to a problem. The role of the designer in the 21st century should be about educating people by setting an example, whilst making the products affordable. It is no good making something that is environmentally friendly if the poorest people cannot buy it. Papanek (cited in Fuad-Luke, 2009, p. 44) said that designers should prioritise solving problems for the deprived 80% of people rather than designing whimsical goods that last but for a fleeting moment. If designers thought about the 80% their impact would be massive. In 2012 designers Eliasson and Ottesen launched a social business Little Sun which, 'brings clean, reliable, affordable energy to the 1.1 billion

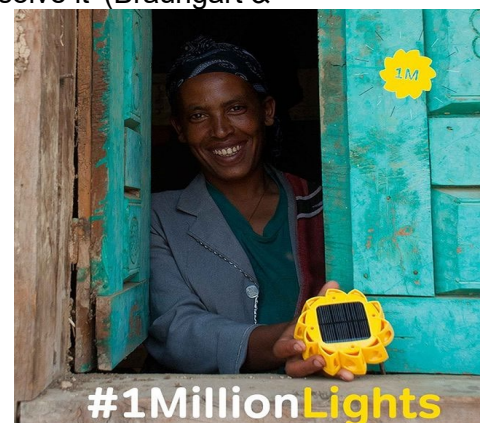


Figure 3 – Little Sun solar light (Eliasson & Ottesen, 2019)

people in the world living without electricity while raising awareness for energy access and climate action worldwide' (Eliasson, 2019). In a recent exhibition in the Tate Modern Eliasson showed a solar lamp (figure 3) designed for Africa to solve the problem of using kerosene lamps which are dangerous, expensive to use and bad for the environment. Lamps sold in the developed world subsidize the lamps sold in the developing world. 'What started as a humble idea to create a small, portable solar lamp for people without electricity in Ethiopia is now a global project that has changed over two million lives' (Eliasson, 2019). If more designers worked for the benefit of the 3rd world countries, the world would be a much more cohesive society.

Designers will need to take a more symbiotic approach to their work in order to better understand how to help humanity to change its way. Involving nature in design is a holistic or an animistic approach. Designers who believe in this view are concerned with, 'how to preserve dignity and agency in non-human design collaborations' (Bertulis, 2019, p. 50). A lot of people will find this view challenging but if we respect our natural surroundings then we all benefit. We should think of nature as a 'silent stakeholder' in order to understand this concept (Lundebye, 2019, p. 87). Nigel Cross says, 'involving in the design process those who will be affected by the outcome, may provide a means for eliminating potential problems at their source' (Smith, 1977, p. 111). A healthy planet will allow humankind to thrive. Everyone has a stake in nature and an obligation to the future, especially designers.

Designers working for a large company should be held as accountable as an individual designer. This is where Corporate Social Responsibility comes in. CSR is:

A company's sense of responsibility towards the community and environment (both ecological and social) in which it operates. Companies express this citizenship (1) through their waste and pollution reduction processes, (2) by contributing educational and social programs, and (3) by earning adequate returns on the employed resources (WebFinance Inc. , 2019)

Apple is a brand that people pay a lot of money to own as it conveys a sense of innovation and status. Apple should be focusing on both environmentally friendly products and how they are manufactured. Apple's latest MacBook Air and Mac mini enclosures are made from a 100% recyclable alloy. They are also recycling the solder used in manufacture, reducing the amount of tin ore mined by 29,000 tonnes. In 2019:

More than 40 components in iPhone XS, iPhone XS Max and iPhone XR contain recycled plastic. And 100% of the wood fibre in Apple's packaging comes from recycled sources or responsibly managed forests (Apple, 2019).

What their website does not tell you is how these things relate in the bigger picture. All mobile phone batteries contain cobalt. Over 60% of the world's supply of cobalt comes from South East Democratic Republic of Congo. 'Earth and water are contaminated with industrial runoff, and the air is brown with noxious haze' (Kara, 2018). We do not consider the impact of the individual components of the product we are buying. 'No company should be able to jettison their responsibility for ... cobalt and other minerals simply because they are separated from them by a few thousand miles, and a few layers in their supply chains' (Kara, 2018). Unless protections are made into law regarding the manufacturing of goods, large corporations will not change. Rich countries will continue to strip assets from poorer countries without a second thought for the impoverished people living in the toxic air. 'Sustainability' is a current buzz word that is not necessarily adhered to by businesses. Designers know that if they use the word in their ethos people will be more receptive to their product.

A sustainable company does not necessarily mean that everything they do is perfect. 'To be less bad is to accept things as they are, to believe that poorly designed, dishonourable, destructive systems are the *best* humans can do' (Braungart & McDonough, 2009, p. 67). Like many consumer goods iPhones are designed with a planned obsolescence which is bad for the environment. Apple was fined €10 million regarding this issue for violating the Italian Consumer Code (Brunelli, 2018). This practise cannot be allowed to continue if designers are to address the issue of a throwaway society. Designers working for large brands should be accountable rather than complicit with what Flusser describes as a 'post-industrial helicopter-pilot complex' (Flusser, 1977, p. 8). Apple is an aspirational brand for many and as such should have an obligation to future generations.

Natural Resources Wales (NRW) is a great example of how organizations can have a green manifesto and achieve it. NRW is a carbon positive organization. Through sustainable management of their land and buildings they have achieved what 10 years ago might have been considered impossible, a carbon positive future, removing a net 349,621 tonnes of CO₂ equivalent per year from the atmosphere (Natural Resources Wales, 2018). If all designers were encouraged to think about their carbon footprint, they would have a better understanding of their impact on nature. NRW in collaboration with UWTSO, Swansea city council and Urban Foundry came up with a way of improving Swansea's infrastructure in 2016 (Urban Foundry, 2019). Urban Foundry are a regeneration company based in Swansea who are a certified B corporation meaning they 'meet the highest standards of verified social and environmental performance, public transparency, and legal accountability to balance profit and purpose' (B Lab, 2019). Swansea is being designed with people's well-being in mind as there are a lot more green spaces. This is where the future of design should be heading.

The Well-Being of Future Generations Act Wales 2015 is leading the world in policy for 'improving the social, economic, environmental and cultural well-being' of people living in Wales (Department for Natural Resources of the Welsh Government, 2016). There are 7

Well-being Goals

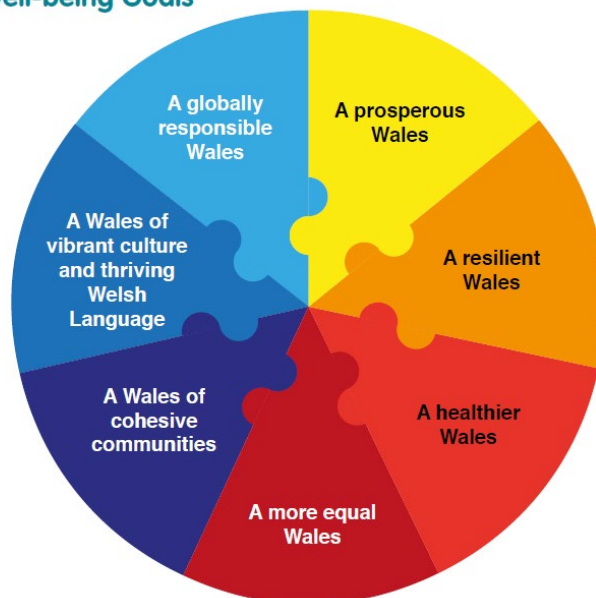


Figure 4 – The 7 well-being goals (Welsh Government, 2015)

goals (figure4). Public bodies in Wales have an obligation to take a holistic approach to the long term through collaborative working. This should become a requirement for designers too. Under the sustainable development principle, this means they 'must act in a manner which seeks to ensure that the needs of the present are met without compromising the ability of future generations to meet their own needs' (National Assembly for Wales, 2015). Designers in Wales who adhere to these rules could be pioneers, causing others to follow. It would make their brand more attractive as it shows they care.

Whether a designer is working for themselves or as part of a group working for a large company, the rules and aims towards creating a sustainable environment should be the same. Goethe says 'Knowing is not enough; we must apply. Willing is not enough; we must do'



Figure 5 – Freeman's jewellery
(Martin, 2019)

(Papanek, 1995, p. 105). Aylsa Freeman is an independent designer who portrays this well. After graduating from university specializing in metalwork, she became disillusioned with the amount of damage being done to the environment through metalworking, so she quit to rethink her practice (Freeman, 2019). After doing an MA experimenting with paper her designs were born. Freeman's work centres around the idea of 'transmuting an unwanted material into something with unique aesthetic integrity' (Freeman, 2017). In this case recycled print, which is turned into solid blocks, sanded to reveal the text beneath and made

into jewellery. A pair of earrings by Freeman cost £90 and a brooch from £110 (figure 5). People are willing to pay more for 'ethical' products, but many will see an extortionate price for what is essentially, paper jewellery. Recycling waste in a creative way but making it affordable for everyone makes sustainable design more accessible.

In 10 years, there will be no reason for designers not to be making products in an environmentally justifiable way, especially in Wales where the Well-Being of Future Generations Act Wales 2015 already exists. Other countries will hopefully follow. Designers have a responsibility to humankind to show that a viable product is possible and can be made in a sustainable way, rather than stripping the earth of its precious resources. Designers could collaborate to create 'new societal values to balance human happiness with ecological truths. In doing so design contests the notion of material and economic progress, and its inherent ecological untruths' (Fuad-Luke, 2009, p. 141). No designer should be allowed to knowingly or unknowingly destroy the planet. Moving the problem elsewhere is not an acceptable solution. Laws need to be made and enforced to stop this practise. No longer will people be able to claim ignorance as evidence is everywhere. Eco-effective designers will succeed as humankind realises their impact on the earth and rejects unfriendly practices.

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