IS GLOBALISED DESIGN EDUCATION KILLING DESIGN VARIETY?

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ABSTRACT
Design is an agent of globalization affecting socio-cultural evolution through technology impact, and in return, globalization is generating new demands and forces that shape both design and design education. This paper combines two earlier pieces of research on ubiquitous tendencies in industrial design and designing creative destruction to explore a question concerning the creeping ubiquitisation of products designed for the global mass market and asks whether design education is partly to blame. Through academic conferences and other collaboration formats we often exchange best practices and take on-board new creative design education methods that could be observed as producing increasingly similar design outputs from institutions around the world. Evidence supporting this view is considered alongside other broader factors that may reduce diversity including commercial marketing and funding strategies, limited software design platforms and production technologies are discussed in the context of design education. Furthermore, it is proposed that the diversity and variety of industrial design courses is narrowing and suggests that this can lead to a crisis in the amount of variety in our creative ecosystems when faced with the future global design challenges of the Anthropocene. The research concludes by suggesting that more attention is needed for two central aspects of future design education: understanding more clearly how we can use collaboration to share good practice and how can we diversify the training of designers to generate more difference to support the creative destruction necessary for resilient societies that are able to cope with future change.

Keywords: Globalised education, design thinking, creative destruction, ubiquitous destruction, decolonising design.

1   INTRODUCTION

As the world has continue to globalise over the last few decades the design community has without doubt been one of the main engines driving the process of change having been the central part of an activity that has delivered billions of products and services to the planet's population. At the same time we have also seen an increase in the ubiquitisation of consumer products where for example almost all the smartphones available come in shiny mostly black flat oblongs and rarely express cultural values from the places where they were made.

In the academic community we have shared our best practices through educational exchanges, collaborative projects and conferences to understand how people teach design in different disciplines and cultures. We recognise that the global knowledge economy requires fundamental shifts in the ways that we educate designers [1] [2]. These exchanges have many values but one of the potential shortcomings in the globalising of design education is the reduction of variety in our creative environments produced by a lack of overview of the variety of our teaching methods and an inevitable focus on 'globalised' products.

Two previous publications by the author explored aspects of ubiquitous tendencies in industrial design [3] and how creative destruction can increase and reduce variety in design led innovation ecosystems [4]. This discussion brings together both of these aspects to explore the connection between how we educate designers for the global marketplace and whether we have sufficient creative design variety to face future challenges. The intention of this discussion is to explore the potential impacts on design education of ignoring the need to maintain a healthy diversity of teaching and learning cultures geared towards providing the requisite variety to cope with future challenges. In addition the recent debate on

the decolonisation of design opens up further questions around the Anglo-domination of global design education and whether its variety is broad enough to respond to the wider global community.

2   UBIQUITISATION

As industrial design has shifted from local to national to global markets the design languages, functions and strategies employed by designers has evolved to keep pace with this demand. Research by the author [3] has shown that mass-produced product families tend towards increasing ubiquitisation of design features and product languages over time. A number of influencing factors have brought this into play including: industrial production technologies that are highly cost-engineered based on isotropic materials, specific technology functions that limit design scope, marketing strategies discouraging new typologies and aiming at competition within existing product types, and finally business investment drivers based on short-term quarterly profit reports resulting in a risk-averse industrial environment [3].

The effect of this is to offer less choice for consumers who are increasingly being seen as global market segments. On the one hand this tendency has positive economic benefits for consumers offering lower prices and democratising the availability of high performance portable computing as one example that provides more people around the world with access to the same information and performance. However inside the neutral minimalistic blocks we purchase there has been a huge increase in variety and customisation possibilities through software. Where software was once coded into hardware, we now have the choice of vast arrays of apps and plugins to fine-tune our computing windows, even if we all still have the same input devices and interfaces. Conversely the counter-effect of ubiquitisation is to offer less variety of choice resulting in mono landscapes of product types where for example almost all smartphone are oblongs with semi-rounded corners with a touch screen interface with icon based operating systems (Fig.1). Other indicators of globalised product ubiquity can be found in the shift from national to globalised design languages in automotive design (Fig.2).

Figure 1. Mobile phones from top global brands showing product ubiquity

Figure 2. Best selling cars shifting from national 1970 to globally languages in 2014

At the core of these concerns is variety, and more specifically how much variety we generate in our environments and how that affects and shapes the behaviours and belief systems of our cultures. Appadurai for example [5] has described the effects of global cultural flows and how technologies can disproportionately affect certain societies. His suffixscapes framework describes how 'disjunctions' in the flow of technologies on the 'technoscape' can push sets of cultural ideas encouraging (or

sometimes forcing) different behaviours onto new groups while changing their social makeup. Ubiquitous products manufactured in high volume can have this effect of reducing variety and providing less choice. The forces at work here influencing the global flux of industrial design and education operate in complex systems of creation and destruction.

3 CREATIVE DESTRUCTION

The concept of creative destruction derived from Joseph Schumpeter who formulated the idea to describe the economic innovation model that impacted on business cycles by destroying the old in order to make the new [6]. It directly contradicted Adam Smith's [7] 'guiding hand' principle of top-down economic governance and recognised instead that market forces were driving innovation in an evolutionary manner. While Smith's governmental model assumed a more homogeneous economic view Schumpeter saw that technologies could adversely impact businesses and economies in ways that were outside of conventional governance policies and understandings.

The impact of creative destruction has since been explored in new directions including that of cultural change. Cowen [8] and Appiah [9] have both explored the cultural value of cycles of continuous creation and destruction proposing that these cycles are a crucial aspect of the healthy development of cultures and societies. Contamination is an essential component for cultural evolution and development in an environment where filters and preferences allow shaping and selection rather than colonialist imposition. Further publications including ones by the author [4] have connected design to creative destruction and proposed that it is a central feature that needs more research and exploration to uncover the mechanism under which it operates. Specifically, the least explored aspect is in the mechanisms that operate above the level of products and services, that of design education.

At the heart of creative destruction is the amount of variety in a system that enables us to create the new ideas that destroy the old. Design education and especially industrial design, engineering design and product design are central disciplines that directly affect the products we make and use by deploying methods that rationalise (homogenise) and diversify (heterogenise) concepts for new designs intended for the market. Balancing the amount of variety and being able to see its impact at a systemic level is of course a challenge. The amount of variation in a system affects the number of possible solutions and also directly relates to the potential for the impact of creative destruction. It follows for example that if we are looking to educate designers for creative communities that are resilient and able to generate responses that adapt to future global disruptions either natural or human-caused then this is a highly desirable capacity to encourage. Whether it is developments driven by biotech products, nanotechnology or environmental tipping points, the future requirements for creative and responsive innovation will very likely need more rather than less variety in the potential number of design solutions that can be generated in response.

Variety in a system can be encouraged by using more or less differentiating design methods, but also by using methods that encourage more diverse concepts and creative outputs as opposed to those that reduce and discourage. Concepts from second order cybernetics including those of feedback loops [10] and requisite variety [11] could help us understand and govern the amount of design creativity in a given system. Understanding how heterogenising and homogenising design methods can be deployed for designing products has been suggested by the author in a simple cybernetic model [4]. The principles can also apply to design education and suggests educating designers in a wider variety of design methods.

4 ENCOURAGING EDUCATIONAL VARIETY

The training of designers is a key stage in influencing creating outlooks, design methods and studio practices. Over the past decade cross-cultural educational collaborations have become a desirable experience for training designers to cope with the demands of global design practice. The natural assumption with collaborative projects is to explore the spaces between collaborators but dangers lie in too much assimilation and homogenisation without consideration of the longer-term impacts. In terms of design education we must ask which organisations are tasked with considering the current capacity of global design education verses the future needs of tackling the large wicked problems facing society that require sustainable and flexible approaches. One of the key considerations is the way in which we collaborate and the assumptions by which we exchange design methods. Another homogenising feature of our educational landscape is the teaching of form generation and how this has been shared

and disseminated widely through international design conferences, academic exchanges and publications. An experience judging a design competition with over 1,200 design works from 17 countries showed that although there were many high-quality designs it was very difficult to discern the country of origin for the vast majority of the entries. One has to ask why we are normalising design approaches and what is preventing design educators from encouraging national identity and cultural expression in design? Is it the fear of a parochial nationalism, or limiting the career opportunities of our graduates by reflecting local rather than global values? Or is it something more prosaic relating to the mechanisation of having to teach design and form generation to increasing numbers of students?

A further challenge is brought into the frame by the recent decolonising design debate described by Diethem [12] amongst others that emerged at the DRS 2016 conference. Looking around the auditorium on the first day it was clear that the Anglo-domination of design research was evident and historically it was predictable. Further evidence of this can be found in design university league table where for example the recent QS survey [13] ranking top world universities by subject indicate that all the top 10 in Art & Design are European and North American. Only two universities in the top 25 are outside this area in Asia. Many of the design methods, research approaches, tools and even our fundamental epistemologies are rooted in the western mass production ethic. Yet the making cultures, social preferences and resource availability in vast tracts of the planet are unsuitable for this approach. A growing group of academics are highlighting these issues of how we can broaden the scope of design education so that it is more inclusive of the need to function and provide sustainable methods in diverse environments. Brezing *et al* [14] find that western design engineering methods fail to match cultural learning modes in Asia and that exchange programmes between Asian and Western universities may be exacerbating the teaching and exchange of unsuitable approaches. At its core, this is another call for more variety, for more ways of doing things and to recognise the limitations of our current principles and that these approaches are limited when facing the challenges ahead.

Design training is the main route for encouraging cultural conformity or diversity in artefacts and we may need to radically revisit our ideas of preparing students for future design careers on the global stage. While there are advantages for normalisation by democratising product and technology ownership through reducing costs in global markets and enhancing communication and mobility the potential disadvantages of reduced cultural diversity and choice are also apparent. In the same way teaching the same or very similar design methods to students across the world encourages academics to take up posts in new locations which can also bring new insights and experiences or norm the academic landscape. Industrial design has traditionally been reluctant to embrace ideas that are seen to politicise design practice and is still largely driven by the design for industrial production mind-set. If the industrial trends examples cited earlier and arguments for more diversity carry some weight then we need to find new mechanisms for diversification and consider the global cultural role of design.

Design Education has developed through two different stages [15]. Initially people were recognised and selected for having talent in design, however talent resides in few people and to meet the increased demand for trained designers in the latter part of the 20th century we began to train creativity as an educational practice. The current process of democratising creativity is an issue that leads to the contention in this paper that we have become overly efficient and this has led to too much conformity and a lack of variety across the globe in how we teach industrial design. Effectively we need to redesign design to move away from ubiquitous destruction towards creative destruction.

We need a third revolution in design education, one that develops and celebrates global variety and networked differentiation. However returning to national stereotypes or visual cultural characteristics is undesirable for a number of reasons. As we evolve further into globalised transnationalism differences appear from new areas of interest and networked collective ideas rather than traditional ideas of national, cultural and institutional differences. Two strategies that emerge from the conversation can further this development.

Recognising that we have moved from talent spotting to democratising the teaching of creativity [15], the next phase involves shifting to the power of the networked group. All of our world universities recruit individuals, largely we train people as individuals and we graduate people as individuals. Who then go out to work with an individual creative model in a workplace environment where the recipe for success comes through group based teamwork and networked creative activity. The lone creative genius model is defunct yet our academic institutions continue to recruit and graduate individuals in who then go out into a group based networked world much of which is moving towards interdisciplinary cross-cultural teams. The third revolution for design needs to embrace a creative

environment that balances the teaching and capitalisation of individual strengths whilst allowing those to be shaped and informed by a variety of group working situations. The days when we all run the hated token group project are over and a much more ambitious proposal of courses that have over 50% of work in a variety of group scenarios must be the way forwards. Fifty per cent is significant. Once group work becomes the majority of activity students shift mind-set and see that they are on a group based course, their interchanges shift and a co-learning ecology evolves where interdisciplinarity and cross-cultural exchanges stop being the barrier and start becoming the creative fuel [16]. This was recognised as long ago as 1979 by Robinson [17] who applied cybernetic thinking to classroom control and made the argument that group work and exchange between students was far preferable and accelerated learning as opposed to the singular top-down educational control model. After teaching for more than a decade on a programme where around two-thirds of the projects are in groups this observation is drawn from personal experience.

A key challenge at the heart of this shift is also the same challenge for design education conferences. Why do we collaborate to share and what is its impact? There is a liberal assumption that all sharing is beneficial in the same way that 'travel broadens the mind'. However sharing best practices can also lead to a homogenisation and lack of variety across our global design education landscape. Collaboration for differentiation must be at the heart of why we come together. To use this experience to understand what we have in common and how that can be enhanced, but also to ask what we have that is different and whether it should remain so? Returning to creative destruction it is clear that design is at the heart of this process [4] yet we have no methods yet for understanding how much design should accelerate or retard change. Ideally it is both the agent of change and part of the social and cultural filtering necessary to enable the adoption of new designs and technologies with an ability to foresee impact.

When considering at this scale the law of requisite variety is very useful in stating that a system can be in balance only when the governing mechanism has equal or more states than those possible in the system being controlled [10]. As technologies continue to accelerate and diversity, big data, the IoT, biotechnology, nanotechnology and sensing networks deliver more complexity design education will need to increase its number of potential states in order to support the stable governing of our systems. In terms of global design education this also applies to the whole ecology of teaching design and ultimately whether we have enough variety in the ways we teach design across the world and whether that variety is enough to tackle the wicked problems of migration, food security, clean water, climate change, social care, healthcare and extremism in the Anthropocene [18].

5   CONCLUSIONS

The ultimate aim of this paper therefore is to make a contribution to discussions about the readiness of design education to cope with future change and to recognise its capacity as an agent of globalisation and creative destruction. Acknowledging the risk of ubiquitous tendencies both in the visual language and in the teaching strategies we employ internationally is an important consideration for design's future strategic role in a whole range of design disciplines that focus on product, industry, service, experience and interaction. The risk inherent in ignoring this could produce less variety in products which go on to deliver less differences for influencing populations creativity, but also impact on the types and diversity of creative methods that designers draw on in their work. As design is drawn into more influential levels of planning and strategy this becomes an increasingly important issue. What we seem to be missing is an observatory that helps us regulate differences by producing enough design variety to reduce instability and unsustainable behaviour.

We could use our international conferences, exchanges and collaborative projects to think more strategically about how and why we exchange and to be more conscious about which things we accept and assimilate and which things we need to push even further apart through differentiation. These differences however may not be defending our national, cultural or institutional borders but instead recognising the new emerging groups that form in the transnational sphere.

Drawing together the recognition that ubiquity reduces essential creative capacity for design to deliver on its role to produce greater creative variety in the future leads to the recommendation for a third revolution in design education. One that harnesses the power of networked interdisciplinary cross-cultural groups who are educated in new supportive group based learning environments. On a practical level, we can increase our design variety in three ways from visual and functional products through to

teaching a wider variety of design methods for our graduates and ensuring a healthy cooperative landscape of differences in global design education.

Implementing the third revolution will involve a shift to recognising the value of networked group based education as the basis from creative education but also a fundamental shift in how we collaborate from assuming it's about coming together to build similarities to celebrating and enhancing the right kind of differences to maintain creative breadth and diversity.

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