

What is the role of the designer/maker in the 21st Century and how might this role change in the next 10 years?

Research In Context (ADAD5003)

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Design and craft is an integral part of life, whether it is the ceramic mug we drink from or the family heirloom jewellery we attach so much sentimental value to; these objects directly reflect the times they are created in, and can be used as an indicator of our culture, politics, and economy. Craftsmen and designers “experiment with materials techniques, forms, colours, and imagery” to produce beautiful pieces (Walker & Attfield, 2013). However technology, including mass production and Artificial Intelligence, is developing exponentially, and is becoming threatening competition for craftsmen and designers. Technology is growing more sophisticated and AI is more commonplace and accessible as a means of design, furthermore computer led processes such as 3D printing and CAD (computer-assisted design) are replacing traditional craft and design methods. However, it can be argued that there is a personal quality that craft and design offers that cannot be replicated easily by technology. Throughout this essay I will explore what designers can do to stay relevant and central in their field and discuss how craftsmen can prepare against the growing competition by taking inspiration from the past.

Artificial Intelligence can be defined as “the theory and development of computer systems able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages” (Oxford Dictionary, 2007). Early Artificial Intelligence is often associated with the work of Frank Rosenblatt from Cornell University, who, in the late 1950s, developed a machine, using the human nervous system as inspiration, that could recognise the alphabet (Fradkov, 2020). Since then the field has developed to the point where computers are performing medical procedures, analysing biometric data, recognising faces, and acting as personal assistants. It is now also being used to develop work that would normally be created by artists and designers. An AI text-to-image generator won a prize in a 2022 art competition at a state fair, causing worry amongst the other competitors, including the notion that “the rise of AI-based image tools like Dall-E, Midjourney and Stable Diffusion, which rapidly generate detailed and beautiful images based on text descriptions supplied by the user, pose (an) immediate concern” (Salkowitz, 2022); these tools can also be used to replicate certain artists styles to an outstandingly accurate degree. Dall-E, an AI programme created in 2021 by Boris Dayma, is accessible to anyone and can create artworks in a matter of minutes (Carson, 2022). Figures 1, 2, and 3 are three artworks I have created using Dall-E, with the stimuli “modern style vase”, “Georgian inspired wallpaper”, and “decorative teapot”, to illustrate the ease in which art can be made using AI. This mainly threatens the role of designers, instead of craftsmen due to it creating digital products, instead of physical ones. Greg Rutkowski, a prominent commercial illustrator, who specialises in fantasy design for the gaming industry, has stated a strong level of concern on the matter. In a week “Rutkowski’s name turned up hundreds of thousands of times in image prompt searches, which means that hundreds of thousands of images have been created sampling his distinctive style” on the website Librarie.ai, leaving Rutkowski wondering “how long till the AI floods (his) results and is indistinguishable from (his) works?” (Salkowitz, 2022). This demonstrates how AI has the potential to take designers’ trademark styles and replace them, possibly leading to them being pushed out of work. On the other hand, this use of AI can lead to some interesting artistic insights. Lacuna 5 and Ken Bromley Art Supplies teamed up to create AI generated depictions of what historical artists might have created in response to the current climate crisis (Evans, 2022). You could argue that a good artist or designer could create similar

work, however AI has the ability to analyse thousands of images and word prompts and save this information as data used to then create the most accurate outcome.

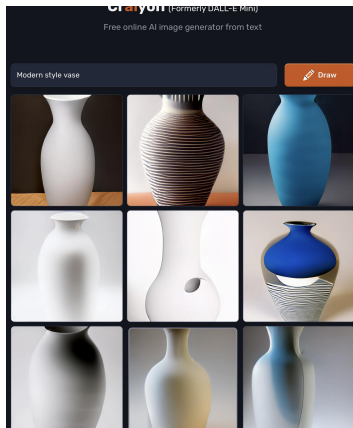


Figure 1.

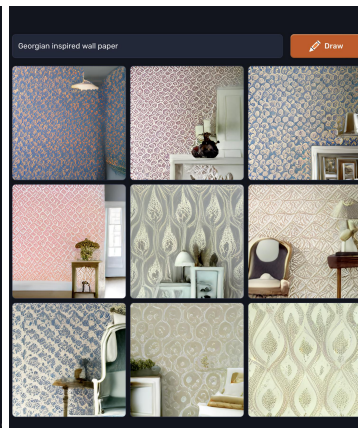


Figure 2.

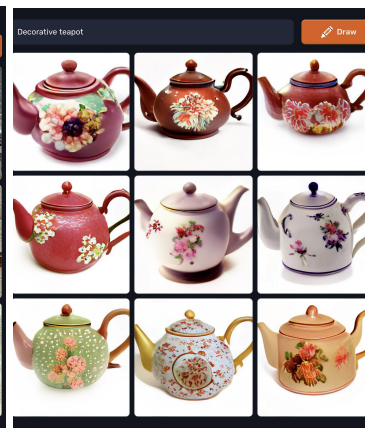


Figure 3.



Salvador Dali: deforestation, Andy Warhol: climate activist Greta Thunberg, Pablo Picasso: meat production and cruelty, Claude Monet: Toxic power plants, Roy Lichtenstein: destruction of coral reefs, Rembrandt: burning forests, Van Gogh: melting ice caps, Frida Kahlo: plastic pollution (Lacuna 5 & Ken Bromley Art Supplies has, 2022).

Despite AI not impacting craftsmen as much as designers, mass production and 3D printing are taking over their practice with force. Mass production is defined as “the production of large quantities of a standardised article by an automated mechanical process” (Oxford Dictionary, 2007). This production method places emphasis on a fast pace with low costs so as to gain higher profit in as little time possible. Because of this the “quantity of discarded products is rapidly growing. As a result, mass production and mass consumption have revealed the essential limitations of the earth, such as natural resource availability, energy supplies, and the ability of the biosphere to accept industrially generated waste” (UMEDA et

al). As we already know, due to the low prices of the mass produced products, people are more likely to buy new replacements without there being anything faulty with their previous one. This previous object then gets disposed of and ends up in landfill, meaning that the production life cycle of this product starts and ends with a negative impact to the environment. The affordability of these products mean that it is practically impossible for craftsmen to compete; to just break even when pricing their products, craftsmen must take into account the time it took to make it, and the costs of the materials, fuel and shipping. This does not even cover the value of the creative process and artistic intelligence required in the design process. Furthermore, craftsmen can only make a limited number of products at one time. Therefore, handmade products are naturally more expensive and customers will often wish to save money so will search elsewhere. 3D printing is a slightly less prominent issue, however it can be anticipated that it will become more commonplace as a way to produce objects. The origin of 3D printing started in 1980s Japan, where Hideo Kodama was developing a "layer-by-layer approach for manufacturing, using a photosensitive resin that was polymerized by UV light." Over the next few decades, vast improvements were made, and in 2009 the patents filed for the 1980s models expired, meaning there was opportunity for further innovation and more widespread use and sale of 3D printers (Alexandra, 2022). They are now highly accessible and are frequently used to produce home decor, toys, machine parts, and more. Many of which products overlap with the craftsman's marketplace.

Technology instilling a fear in artists/craftsmen as a threat to replace them is not new; after the invention of the camera, artists had to reevaluate what their purpose was and what skills they could offer that a camera could not. In 1839 Louis-Jaques-Mandé Daguerre and William Henry Fox Talbot each created their own photographic processes. Daguerre's daguerreotype and Talbot's negative-positive process meant that photography was now commercially available. "Numerous daguerreotype studios arose and became commonplace as technologies improved, and many portraitists switched to this new technology" (Hertzmann, 2018), however some artists combatted this competition by commencing the Impressionist movement (1867-1886) (Zelazco, 2022). The Impressionists chose to use the medium of paint to "represent what they saw in an entirely different way – focusing more on light, colour and movement in a way that was not possible with photography" (Hope, 2015), instead of attempting to be on par with the accuracy of detail that could be captured by a camera. However, advancing technology also assisted the Impressionists; the invention of oil paint tubes in 1841 by John Goffe Rand meant that it was far easier for artists to emerge themselves in the outdoors, and transport their paint with ease, giving way to a whole new artistic interpretation of nature (Hurt, 2013). The parallel threat of advancing modern technology, leaves artists and designers questioning their dispensability and how they can avoid being pushed to the sidelines of their professional field, however, much like the Impressionists, there is potential to adapt accordingly to maintain success.

Design and craft history has seen yet another very similar challenge; towards the end of the 1700's and into the 19th century, as the Industrial Revolution commenced, materials and products were easily made using machinery instead of requiring manual labour, forcing many craftsmen out of work. Across the late 19th century, several prominent British figures spoke against the decline of craft, including craftsman and designer William Morris, and art expert and writer John Ruskin who criticised the poor quality machine made products churned out at these factories. This resistance to mass production and industry caught on and soon developed the Arts and Crafts movement which "aimed to promote handicrafts and

the decorative arts (and) encouraged handwork over industrial work” (Renauld, 2022). Renauld goes on to explain the Arts and Crafts artists were inspired by medieval designs, as they viewed it as an “example for honest craftsmanship”, however they modernised and simplified the motifs and art. They also highlighted elements of the products that showed the handiwork; “mortise and tenon joineries that used to be hidden were now highlighted (and) craftsmen left tool marks in wood or stone”. This set their work apart visually as well as structurally from the cheaply produced products available from the factories. This directly mirrors modern craft versus mass production, and perfectly demonstrates how people have a desire to own something that displays skill, creative genius, and a personal connection to the artist, beyond the simple functionality of mass produced objects, proving a designers role is more than making a usable and practical piece.

However, if you did reduce a designer’s role to just creating something purely functional, it can be argued that their being replaced with mass production technology and Artificial Intelligence can only be good; it is a faster process, the production costs are lower so the products are cheaper, it requires far less manual labour, and computers are perhaps more reliable for consistency. However there is still a stronghold of handcrafted products that take up a large portion of the gift market place. Websites such as Etsy and Not on the High St. sell predominantly handmade items with a higher price mark than most standard, high street, factory supplied stores, however both businesses remain successful. We must then consider what it is that makes a gift more appealing and worth more to us if it was created by an artist, instead of a machine, not just financially but also emotionally; someone may consider a hand thrown ceramic vase to be more of a sentimental and meaningful gift than one mass produced by machines. Is it the tactility of the object, and knowing that the product was born of human creativity then constructed with care? There is also the aspect of uniqueness; if an object is designed and hand crafted by an artist then there will never be an exact replica of that piece, the object tells the story of its creation and creator by showing their imagination and technique. Or is it that in a capitalist society we are raised with an understanding that time is money, and therefore a hand crafted gift is worth more than one churned out in a factory. Karl Marx held the belief that “communism would rekindle the spirit of craftsmanship” (Sennet, 2008) perhaps because it would allow a lessening of the pressure for personal monetary gain, and the drive for fast mass production would be less prominent.

A study into the perceived value of handmade versus machine made products was conducted by Christoph Fuchs, Martin Schreier, & Stijn M.J. van Osselaer in 2015. They hypothesised that “handmade products may often be more attractive, at least in part, because they are perceived as being made with artisanal love” with reference to Karl Marx’s belief that the mindless repetition performed by machines provide “little intrinsic satisfaction” whereas artisans “control and execute the entire production of a product, (...) often devote years to master their craft, and (...) invest some of their selves in their craft and their products, deriving intrinsic satisfaction from the production process and from the product of their labor”. In the experiment, they used a “3 (production mode: handmade vs. machine-made vs. no production cue) x 4 (product replicates: greeting cards, jewelry, scarf, knives) mixed-model design in which the first factor is manipulated between participants and the second is manipulated within each participant”. They then got the participants to rate the products attractiveness, which provided results which supported their original hypothesis. They concluded that the presentation of objects as being handmade can increase attractiveness to customers due to a perceived care and love that was interpreted as absent

in machine based products (Fuchs et al., 2015). This proves how people are naturally drawn to the handmade, and view more value in a craftsman's work than technologies', which means their place in the market is perhaps secure due to a preference for crafted pieces.

Also, machine and computer based processes can be seen as stunting creative development within design; "machinery is misused when it deprives people themselves from learning through repetition. The smart machine separates human mental understanding and repetitive instructive hands-on learning. When this occurs conceptual human power suffers" (Sennet 2008). The direct path that technology uses whilst creating differs from the more organic process used by designers. Designers and craftsmen can assess their work throughout its development; their creation is formed by responding to each stage and following new ideas that emerge when engaging with the materials. The instantaneous production by machine skips past this crucial stage, and therefore cannot develop ideas organically and is stuck. Sennet goes on to explain "Drawing in bricks by hand, tedious though the process is, prompts the designer to think about their materiality, to engage with the solidity as against the blank, unmarked space on paper of a window." This is not something computers are capable of offering, resulting in a design that is less considered, and perhaps less successful.

An alternative to viewing technology as competition is to consider the possibility for potential collaboration. Craftsmen and designers have the possibility to use their skills alongside AI and technology to reach a level neither one could create independently. Already designers have united in the creation of scientific breakthroughs. Artist and designer Karina Thompson, worked with robotics scientist Dr Matthew Howard, of King's College London in their project entitled *Muscles: getting a stitch* to design a way to embroider electrical sensors into clothes which can detect muscular activity. Howard is continuing the exploration of its possible applications, one of which uses the embroidered sensors to control robotic prosthetics for amputees (Warburton, 2019). The wider project Parallel Practices has been running since 2014 and also included other collaborations between makers and scientists including "Thrishantha Nanayakkara, principal investigator of the Laboratory for Morphological Computation and Learning, Les Bicknell, book artist, and Naomi McIntosh, jeweller, (who) explored extending current soft robotics through model-making and looked at ways of controlling movement and articulation of objects in order to build new structures." (Parallel Practices, no date). These scientific advancements have required the knowledge and skill of expert designers, proving that designers will be a crucial part of our future, even at the forefront of technological development.

In conclusion, the role of the designer/maker can be described as more than simply meeting functional requirements, which would leave them vulnerable to be replaced by modern technology. They offer a higher, more personal quality of work to the buyer. Designers and makers care deeply for the process and the product of the work and this intention is communicated through the end result. In comparison, computer and machine based processes do offer speedier rates of production and cheaper products however it won't ever be able to develop past the need for human craft. Moving forward, there are exciting opportunities for collaboration with technology, however designers and makers will always have an independent role to play in craft and design, due to the emotive sentimentality and personal quality that brings them above the passive technological production, combined with the fact that humans are "consumers of meaning not matter" (Chapman, 2005).

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