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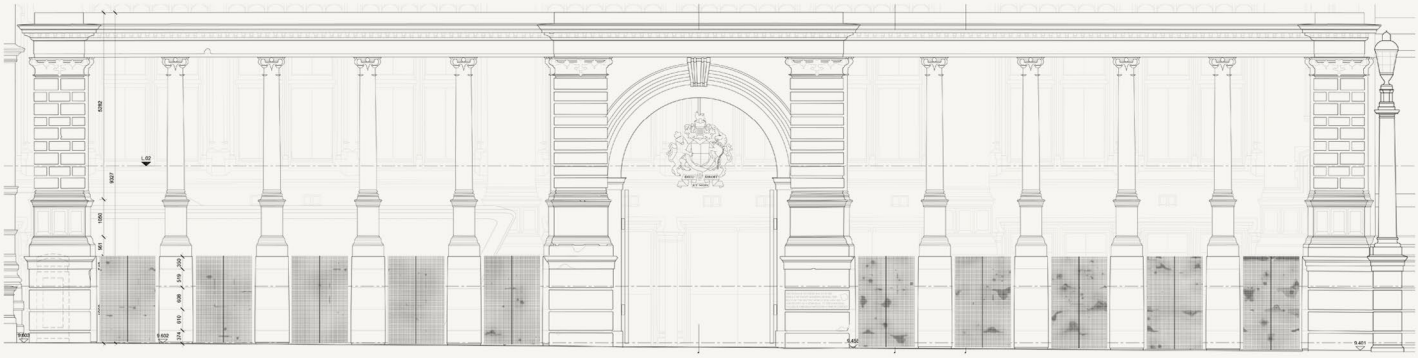
OCTOBER 2017



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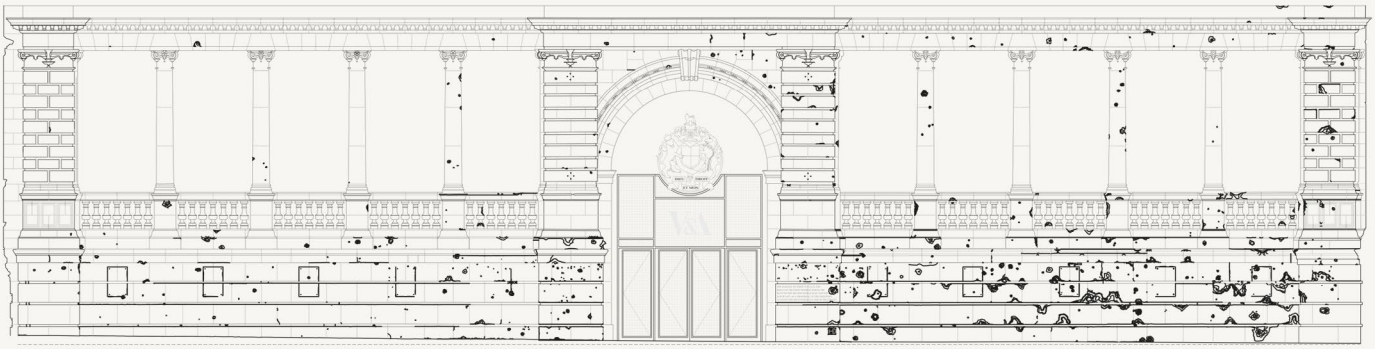

FUTURE PERFECT? DEFINING AI | M&O TRENDS, TALENTS

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AI: Friend or foe?

The rapid development of artificial intelligence is matched only by concerns – some well-founded, some not – about its impact on human creativity and more generally our society. Two Hong Kong creatives – product designer **Johan Persson** of C'Monde Studios and architect **Alexander Wong**, founder of his eponymous practice – eschew fears of a Kubrick-esque cybernetic takeover to consider a vision in which AI plays an increasingly important and complementary role, at least in the design process

Johan Persson

JOHAN PERSSON

Designers often pride themselves on their creative ingenuity and ability to translate complex abstract thoughts into real objects. As artificial intelligence (AI) becomes more pervasive, designers are becoming nervous – for good reason. *Fortune* predicts the value of AI to grow to US$70 billion by 2020. We are living in an AI boom, where machines mimic the human brain and, in many cases, outperform it.

TOOL FOR VALUE INNOVATION

Human-centred innovation with true competitive value begins with developing an understanding of customers' unmet or unarticulated needs. One of the greatest struggles for designers has long been creating objects that work well for individuals, all of the time. Enter AI.

AI stretches innovation by allowing designers to cater to, and anticipate, individual users' needs. Emotion-sensing AI technology built into products detects users' emotions and drives positive behaviour change. A brilliant example is Emospark, a cube-shaped AI home device that uses language analysis and facial recognition to assess human emotions and map an emotional profile to deliver selected music, video and images to enhance the mood.

Products are no longer just performing basic functions, but are aware of their surroundings and users' emotions, and can act upon them.

Hack Rod hopes to be the first generatively designed, 3D-printed car. A hot-rod chassis was scanned and digitised, and imported as a 3D model into a computer that produced many design options before printing

MECHANISM FOR TRENDSPOTTING

Sifting through immense amounts of data and finding patterns is something AI is particularly good at. It can explore every nook and cranny of a product by reaching out its tendrils to all attributes of the product, such as colour, pattern, cut and silhouettes, crunching more data faster than anything else. Because AI can both comprehend product catalogues and collect behavioural data from consumers' interaction with them, it can extrapolate from existing data, spot underlying patterns and draw conclusive correlations and comparisons as to which products and styles are hot and which are not. Women's high fashion brand Marchesa, for example, enlisted IBM's supercomputer Watson to design a high-tech dress embedded with LEDs for the annual New York Met Gala. To select the material and colour, Watson analysed 200 Marchesa dresses, ranking them in terms of colour and number of times they were photographed. AI effectively created a best-selling dress before a stitch was sewn.

Using AI in discerning trends will provide designers with powerful insights to stay ahead of both the trend curve and the competition, allowing them keep abreast of the latest category demands and react quickly to them.

THE SKY IS NO LONGER THE LIMIT

As we approach a new AI era, there will be a paradigm shift for the role designers play: the transition to being a high-level visionary. Designers will become more than producers, because AI automation makes them more efficient and allows them to focus on aspects moving our society forward. Many creativity-stifling, repetitive yet necessary tasks of design production can be delegated to algorithms and computers.

For example, so long as the designer lays out the logic and patterns that produce content, AI can then generate thousands of designs iterations on its own. Hack Rod, the world's first car designed by AI, does exactly that. The car and the driver were fitted with hundreds of sensors, the data from which was then fed into a computer powered by Nvidia processors capable of machine learning. The generative design software Autodesk Dreamcatcher then took the information and used it to design a better car. Essentially, the computer was given a set of parameters and AI drew up the most suitable design.

Another area where AI comes in handy for designers and architects is 3D printing. Rapid prototyping becomes truly rapid when 3D printers armed with AI-powered computer vision, such as the one created by London firm Ai Build in early 2017, enables 3D printing on a larger scale, at a higher speed and reduced cost. AI greatly amplifies the quality, quantity and diversity of design. A designer's ability to explore new territory, experiment, and refine over short periods is exponentially increased.

AI can augment a designer's own intelligence and unleash new possibilities. However, we are not particularly close to a world in which AI can make star-quality creative decisions extemporaneously, notwithstanding its ability to rapidly analyse and process enormous amounts of data. As it stands, AI presents much more of an opportunity than a threat to designers. It's a matter of how we tweak AI to align it with our needs and desires. In the future however, if Elon Musk's efforts to marry the brain with AI becomes a reality, AI could shake-up the design game entirely. Until then, designers should give AI a big hand.

ALEXANDER WONG

The future of design will be very much affected by the use of artificial intelligence, and it's causing a lot of undue fear and stress in our profession. People are asking questions like "Where will AI lead us?" and "Who will survive this seismic shift in our profession?"

FAST AND FURIOUS

In fact, AI will speed up the design process by solving problems faster, producing more options to choose from. It will focus on a more solution-driven or context-specific way of designing, and it give us the chance to remove all historical clichés. AI will really enhance the human ability to design and not diminish it in any way – we just have to learn how to adapt ourselves as we go along and make the most of this new technology. So being frightened of AI is not the way forward – we cannot be Luddites!

BEHAVIOUR MODELLING

This new technology will also indirectly include more people outside the design industry; they'll have a real say in "designing for the future", particularly through findings from big data. AI could also learn from – and predict – human behaviour, and aid the process of design evolution through the collection of big data at each stage of the design process. New technology will also accelerate the exchange of ideas by connecting everything globally on the net.

AI streamlines the design process by removing undue complexities from designers' everyday lives, so we as a profession can spend more time experiencing our own designs or those by others which will in turn improve the quality of our design thinking.

WORD ON THE STREET

The world is in the middle of an AI revolution that goes far beyond the realms of design. For example, Russian President Putin, addressing students in the city of Yaroslavl, said that the country that first masters AI will be the future world leader. His comments were darkly echoed of Elon Musk of Tesla and SpaceX fame, who opined: "Competition for AI superiority at a national level will most likely be the cause of World War Three."

It seems the time for AI has arrived. Call it transcendence, singularity or whatever you will, we can no longer ignore the facts and pretend this is science fiction. If we nurture this baby (or beast, perhaps) and give it our full attention, then we could prevent it turning into a Pandora's box scenario. Otherwise, we may have to suffer the consequences of our own making in the very near future, one not unlike some of the cinema classics we are all so familiar with.

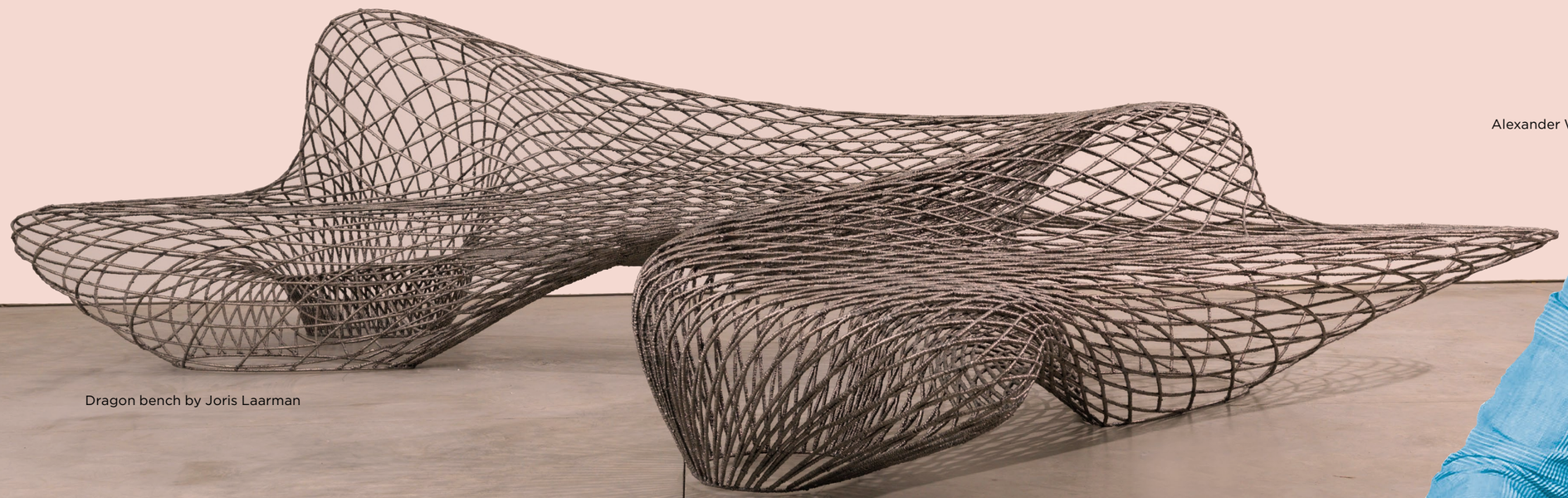
It will be tough, but fear is not the way to go!

JORIS LAARMAN

Joris Laarman is one of the hottest names in AI and robotic 3D printing – a man who has successfully married the art of design with the science of technology.

Inventor, designer and artist Laarman, from the Netherlands, is behind furniture generated by algorithms, a fully functional 3D-printed steel bridge, and chairs that can be downloaded from the Internet. A notable recent project is his Gradient screen, an object generated with the same algorithm and in the scale as his working bridge, a work that pushes the boundaries of robotic digital fabrication. His creations feature in some of the world's most prestigious art and design museums, including New York's MoMA and London's V&A.

"I think we are just beginning to understand the true potential of digital making," argues Laarman. "It is really exciting to work in a time when such powerful technologies are now within reach, and we get to explore the form-language it spawns as a glimpse into the future." P



Dragon bench by Joris Laarman

Alexander Wong