

# Can robots create great art?

Review - AI: More Than Human at the Barbican

BY ALEX COLVILLE / 31 MAY 2019



Tristan Fewings/Getty Images for Barbican Centre

If you believe in first impressions, the Barbican's AI: More Than Human is disappointing. Start with MakrShakr, the robot bartender showstopper. Two robot arms programmed to make cocktails are overseen by a human bartender. Without his assistance, feeding his knowledge of cocktail ingredients and proportions into the machine, the arms couldn't make the drinks. So, what can a robot offer in the world of cocktails a human could not? "That", says the bartender, pointing at the arms as they whirl and shake for the crowd gathered round it. Spectacle. The arm in charge of the shaker suddenly slops the drink all over the floor, solemnly presenting the customer with a cocktail consisting of a few dribbles and an ice cube. The exhibit is closed, an engineer called out, the customer served by an apologetic human replacement. Man: 1, Machine: 0.

Arriving nearly a fortnight into the run I noted that many of the exhibits are designed for limited and personal interaction, not the relentless contact of a popular exhibition. A drained robot dog is slumped face down in its holding pen, having once again run down its batteries, a frequent occurrence through each eight-hour day shift. iPads have been thumbed through so often they have started freezing. Your Data Faceprint, an exhibit which pixelates your face into

a collage of internet windows and emojis, has imploded into an empty black void with a few blipping grey squares.

The most pitiful is a lifelike robot named Alter 3, designed to replicate human movement as it "learns and matures by interacting with its surroundings". But it's a jerking wreck, rapidly flailing its arms at the viewer, like a drowning man reaching for a life-ring. By interacting with the exhibition's busy surroundings, it's possible the robot's sensors have been overwhelmed by the human onslaught. Children scream in fear and adults laughingly take pictures at what has accidentally become a 21<sup>st</sup> century freak show. AI: less than human.

The visual art offerings have also taken a battering. Jonathan Jones has branded them in The Guardian as "boring" and "irrelevant", a lack of self-awareness making them incapable of genuine creativity. But Jones comes from a fairly traditional artistic viewpoint, abruptly dismissive of AI-based art, with a slightly one-track idea of what Artificial Intelligence constitutes. Pieces on display by Anna Ridler, Mario Klingemann and Memo Akten are in fact one of the exhibition's strongest points.

The current face of AI-based art is a smudged one, the Portrait of Edmond de Belamy. It sold at Christie's in October last year for \$432,000, produced by an algorithm that merged a collection of 15,000 pre-20<sup>th</sup> century paintings. It's a strange output. An androgynous face, blurred and whirled out of shape, staring out of a black void. Ground-breaking and innovative technology was squeezed into the starched collar of traditional (buyable) art, in a gilt frame with the algorithm's signature at the bottom. It's understandable this AI-based art didn't look like much, nothing that a human couldn't have done, and done better. But that was because the technology was being forced to conform to pre-set rules. And since when has great art ever conformed.

AI: More than Human lets the medium show its potentials. Memo Akten's Learning to See demonstrates how the art of the future can transform its surroundings. When a camera is presented with a mundane item like a cloth or ring of keys, Akten's software transforms the shape of the objects into an array of flowers, patches of clouds or lines of fire. Like the Impressionists, mundane realities are transfigured into something magical. The resulting images, as even Jones admits, are a "nice effect".

This effect is unique to AI-based artwork. It creates a blurred image, as if seen through a fogged window. Just about recognisable, yet lightly melted out of shape to infuse an element of the unknown, setting the imagination ablaze. Flowers, clouds and fire never stand still, creating an experience entirely unique to each individual viewer.

The same is true with Anna Ridler's Myriad (Tulips). Ridler has uploaded images of 10,000 tulips (a 'data-set') onto a software program, known as a neural network, which blurs and melds the tulips together into countless different combinations. The data sets of some AI-based artworks are so large that each viewer can be presented with an artwork that is truly unique – once the image has changed, it will never return, lost in the infinitely changing patterns.

Watching the progress of Ridler's tulips is to be hypnotised. They branch and swirl, imitating the movement of plants when sped up in nature documentaries, shifting through a striking variety of colours. This creativity is possible through the data set, the machine's equivalent of an imagination. Some point out a program that can only create tulips is hardly 'imagination', but remember this is the only thing the software has ever seen. Can you conjure up an object in your own imagination, which is not a merger of things you have seen before? That would be to try and work outside your own data set. It may be on a smaller scale, but the system works on the same basis as our own human imagination.

When it comes to the creative process, everyone forgets the critic. When a painter creates, who is the person who judges whether or not it is good art, worthy of preservation? Many artists don't read their reviews, but those who do sometimes respond to commentary and criticism, adapting their work accordingly to create something new. Within the world of machine lear-

ning, this is known as a generative adversarial network (or GAN). A 'generative' neural network randomly creates images from a data set and a 'discriminative' network judges them, altering the original algorithm in the process. Over time, this leads to adaptation and improvement.

Viewers have the chance to be the critic in an installation by Mario Klingemann (artist in residence at Google Arts and Culture). Several pictures are taken of an individual (once again resulting in the blurry, frisked images seen in Akten's work), which can then be swiped left or right on iPads according to preference. Not only is highly personalised artwork being created each time, but the viewer alters the program for those that come after.

There are only around 40 artists world-wide who currently create artwork using AI, armed with laptop and code rather than easel and paint. There's a panoply of different ideas as to what AI can and should do for the art world. Will AI one day, as Klingemann believes, "be able to create more interesting work than humans"? Will it be an artistic tool, augmenting rather than replacing human creativity? Or will a balance be struck, humans and machines pooling their resources in collaboration?

An old maxim of hazy origin, supposedly a favourite with Einstein, is that "anyone who has never made a mistake has never tried anything new." Klingemann, Akten, Ridler and others are feeling their way through an uncharted landscape shrouded in fog. Not even the experts know what lies ahead. There are a few stumbles in this exhibition, but like any good neural network, such mistakes can be learned from. Rather than the 'great art' Jonathan Jones is so used to these are artworks designed to explain AI and show its potential. Look at the technology behind the art. These programs are not yet capable of the flexibility of human intelligence, or 'creativity' on a par with Picasso. But all the systems that underpin creativity are here – creation tempered by criticism; transformation of the exterior world by an interior view; the creation of a unique image through imagination and experience. Laying the foundations is always the hardest part. But once they're there, they can be built on.

*AI: More than Human is at The Barbican until 26<sup>th</sup> August.*