

NEW WAYS OF SEEING

Ep2: MACHINE VISIONS

BBC Radio 4, Wednesday 24th April 2019

Now on BBC Radio 4: 'NEW WAYS OF SEEING', with the artist James Bridle. His series builds on themes from 'Ways of Seeing', a landmark 1970s TV series and book, in which the writer John Berger revealed how images – from paintings to photographs – can influence our perceptions of society, and of ourselves.

This week, James Bridle explores how *digital* images have become so much more than mere pictures...

0'00"

FX – UKRAINE MUSEUM TANK (VIDEO)

HITO: Two or three years ago, when the military actions in Eastern Ukraine were still ongoing, I saw a YouTube video of a couple of people who didn't belong to any regular army, um, starting up a tank, and driving it away! (laughs) ... But the unusual thing was that the tank was actually set on a plinth inside some sort of military museum or something! ... They seemed to have managed to drive that historical tank down its plinth and basically abduct it from the museum, to engage in actual warfare, which the tank did apparently – it went straight into battle and managed to wound three people... So, basically, the sphere of culture, or of the arts embodied by the museum, is just a step away from real world politics, or even military violence.

MUSIC: Takao – Sweet Dreams (from album: Stealth) (EM Records)

1'24"

Something has changed in the nature of images today. They seem to have taken on a life of their own. Instead of staying on the page or the screen, instead of just showing us something, they're flowing into every part of our lives, and affecting not just what we see, but how we see.

For the artist Hito Steyerl, the tank which drove itself out of the museum and back into battle is an example of the collapse of this relationship between images and what they represent.

FX – TV FOOTAGE OF ROMANIAN REVOLUTION, 1989

Romania, December 1989. The first revolution to be televised – live.

HITO: in the Romanian revolution, something seemed to have changed in relation to TV in particular! ... The Romanian protesters, they didn't storm parliament or the palace of the dictator Ceaucescu, they went and stormed the TV station. They occupied the TV station, and took over the broadcast for a couple of weeks. ... Images changed their function. They didn't record events any longer. On the contrary, they projected history – in the sense that whatever the image showed, tended to realise themselves. The image became, sort of, an agent, an active substance within history – not some sort of impartial and passive, or objective, record of it.

3'16"

I'm James Bridle – I'm a writer and artist, and I think that technology fundamentally changes the way we see the world. In this series, I'm talking to other artists who use digital technologies in their work – and asking them to explain how they're using this "new way of seeing" to change the world itself.

CONSTANT: What does it mean to have – what's the effect if an artist can actually alter the context of an image? I think to find new types of materiality is my challenge, to see what I can manipulate, how I can prove that reality is a construct.

3'57"

FX – DRONE

A few years ago, I was reading about the unmanned aerial vehicles – the drones – which the British and American armed forces were deploying in Afghanistan, Iraq, and elsewhere. I was astonished by the idea of these flying death robots, which seemed like something out of science fiction. I was trying to understand them, and in order to do so, I needed to see them. I started collecting pictures of them, because back then they were still pretty hard to see.

One image in particular fascinated me. It seemed to be everywhere. It was a picture of a reaper drone, firing a missile, high over mountains in Afghanistan. I realised it was everywhere, because it was the number one Google image result when you searched for "drone", and so it was widely reproduced: I saw it on the front page of newspapers, on the television news, on pacifist websites and protest posters in Pakistan. And after a while, I realised something else: it wasn't real.

MUSIC: Ellen Fullman & Okkyung Lee - The air around her, part 1

I tracked down the person who made the image: an amateur 3D modeller, who'd created the image from scratch and posted it online, from where it had proliferated endlessly. In doing so, it had become our shared mental image of the drone: an emblem not just of a new kind of weapon, but a new kind of warfare, and a new global situation characterised by automation, machine intelligence, pervasive surveillance and endless conflict.

What does it mean when our most recognised image of the global situation is itself a fabrication, an electronic dream, untethered from reality?

5'57"

JOHN BERGER: The camera, by making the work of art transmittable, has multiplied its possible meanings and destroyed its unique original meaning...

MUSIC: 'New Ways Of Seeing' theme

In 1972, the writer and critic John Berger created "Ways of Seeing", a landmark TV series exploring the role that images, from oil paintings to photographs, played in society. He believed that these images didn't merely tell us something about what they represented, but because our way of seeing had changed over time, they also told us something about ourselves, and about the society in which we lived.

JOHN BERGER: With the invention of the camera, everything changed. We could see things which were not there in front of us...

That was half a century ago. Today we have many more machines making images... but what Berger said of the camera remains true of our technology today:

JOHN BERGER: The invention of the camera has changed not only what we see, but how we see it.

7'00"

GATWICK DRONE NEWS COVERAGE, DEC 2018

Radio 1 Newsbeat - 2018-12-20 8.00am

I thought about the image of the drone again recently, when Gatwick airport was virtually shut down for three days because another kind of drone was spotted near the runway. Or was it?

Five Live News - 2018-12-23 10.00pm

There are no pictures, or videos, of that drone – although you wouldn't know it by looking at the newspapers. They were filled with images of drones hovering over runways – more fabrications, I soon discovered – so-called "artists impressions", which nevertheless linger in the mind, reinforcing the idea of an event that might never have occurred.

The availability of images, divorced from their original context, has changed their very nature. And this process, which has been ongoing for more than a century, has only been amplified by contemporary technology. Images have continued to proliferate while digital networks have

caused them to travel further and further from their original source. As a result, their meanings seem to have become almost infinite. Here's Hito Steyerl again:

HITO: Obviously, images have become much easier to circulate, to copy or to modify, or spread around... but the consequence is that many people are trying to create their own version of events, but also their own idea of how the world should look in the future. What we're seeing is a kind of "fragmentation" – we now live within a lot of splintered and fragmented "communication bubbles" that are isolated from one another, across which communication – paradoxically – seems less and less possible.

MUSIC: Visible Cloaks & Yoshio Ojima and Satsuki Shibano – Stratum (RVNG Intl.)

8'56"

So, images might even be responsible for much of what seems paradoxical and confusing about the world today. While we might have expected the incredible availability of images and information online to allow us to see more clearly what's happening – and to act accordingly – in fact, the opposite is true. The more images we see, the less we know. The result is fear, confusion, and often anger – the dominant tenor of our present politics.

Another strange thing about images today is that it's no longer just humans who produce and look at them. Increasingly, machines are making images and looking at them too. The advent of digital images changes not just how we see the world, but how the world sees us.

9'55"

If you drive in any major town, or on a motorway, you'll almost certainly be photographed by a machine – a surveillance camera, or a speed camera, or probably a licence plate reader. This machine takes a picture of you and your vehicle, it looks at the image, it reads and stores the licence plate... it "understands" the image, in much the way that a human operator would. But it can also make use of the information, and it can do that millions of times a day. And it's not just road cameras doing this.

TREVOR: The "machine to machine images" are actually most all images at this point.

Because almost all images are digital now, they pass through "seeing machines" all the time. The artist Trevor Paglen thinks a lot about how these images are used.

TREVOR: When we look historically at how images have functioned in societies, they've required humans to look at them – whether they're paintings or advertisements or images on televisions... in a way, they didn't really exist, except in relation to humans reading them. Now, with the advent of digital images, we are increasingly training machines how to see the world for us. And that can be as simple as something like a guided missile, or a self-driving car, or something far more

complex that is perhaps watching you watch television, and try to understand what emotions you are feeling when you're watching different shows... or algorithms that are looking at your photos on Facebook, and trying to understand something about what kinds of behaviours you engage in, what kinds of products you enjoy... what are the dimensions of the house that you live in, what kind of clothes do you like to wear. And there's a whole substrate of looking at images that is being done by autonomous systems, that have particular agendas.

12'07"

If an insurance company has access to your Facebook feed, for example... it suddenly knows all these things about you, just by looking at your photos: if you play sport, if you smoke, if you're on the phone when driving. All this information can be extracted at scale, automatically – almost instantly – and then used to decide how much you pay for insurance, or if you get it at all.

MUSIC: DJ Krush – Just Wanna Touch Her (Stoned Jazz mix)

Like that tank we heard about earlier, driving off the pedestal, your own photos, and everyone else's – and every picture taken by a camera, anywhere – become mobilised into streams of information. They become active agents which shape the world and our experiences directly. Every one of us stands at the centre of our own TV studio, watched over by legions of machines capable of extracting meaning from ever smaller and more private moments of our lives.

What are artists supposed to do when it's machines that are making images, and machines that are looking at them? Adam Harvey started out as a photographer, and he soon realised that photographers today wield a lot of power over the people around them:

13'32"

ADAM: A photographer, you have to realise, is a surveillance artist. In the early 2000s in New York, there was a huge push towards digital photography and digital publishing at the same time. What happened, I became very aware of at night, there were a lot of people with cameras taking photos. Not your friends, but kind of random "party photographers" that would take photos at parties, post them online... it's a lot of fun looking at them the next day but then you realise they're not going to go away. And then there's this huge archive of evidence of what happens at parties, which is not always meant to be put into public view.

MUSIC: Mhysa – Strobe

LYRIC: "You know that feeling when you go into the club and start shakin' ya ass... and people start taking pics..."

Adam Harvey saw a future fast approaching in which every detail of our lives would be placed online – from where you were last night, to who you spoke to. He understood it would be

almost impossible to control this data – even if you’re not on Facebook, your friends and relatives are still posting photos of you, which software can mine for information.

MUSIC: Mhysa – Strobe

LYRIC: “...so many pics it’s like I got my own strobe light, click click click click click...”

He started looking for ways to counter the power of this machine vision. First, he created a kind of strobe light which detected unwanted camera flashes, and immediately flashed so brightly that it “whited out” photographs – a kind of self-defence against paparazzi. But when he discovered some of the ways we’re all being watched constantly by machines, he realised he needed to go much further. Face detection software means that machines can recognise people in photos as easily as they can read licence plates. Adam Harvey’s response this time was to create something he called “CV Dazzle” – where CV stands for “Computer Vision”.

15’34”

During the First World War, the admiralty employed artists to paint warships in dazzling stripes and colours. These looked more like futurist paintings than traditional camouflage – but the idea was that these patterns would confuse enemy gunners peering through periscopes and rangefinders, and they’d be unable to determine which way the ship was heading, or how fast it was going.

MUSIC: Visage – Yesterday’s Shadow

Likewise, CV Dazzle proposed painting people’s faces in startling make-up – all bright blocks and unexpected shadows, like goths from the future – in order to confuse and deceive facial recognition software, and the systems of control that employ it. To come up with his designs, he had to think like an artist, and as an engineer:

ADAM: Thinking about the problem, you can figure out something that would block it 100% of the time, but you would never be able to wear it. How do you mediate those two objectives where you want something functional enough, but something wearable enough? If you can make a little progress towards the objective – that’s better than none. The project CV Dazzle is not a solution, it’s kind of a proposal, it’s a prototype. As fanciful as it is, it’s basically really avant garde, kind of Cubist makeup combined with colourful hair. It’s functional enough that it caught the attention of government agencies that I’ve... received feedback from!

MUSIC: Visage – Yesterday’s Shadow

The way that Adam Harvey’s work asserts political power – the right to privacy, even the right to self-determination – is a visual strategy. How we see the world, and our understanding of the way machines see the world, determines precisely how free we are to operate in it. And this depends on expanding our definition of what it means to ‘see’.

17'48"

ADAM: Photography we can all see, we understand what it means to take a photo, and then store it as a photo on your phone, or on your computer. But then, it's not a big step to think about taking a photo in the ultra-violet spectrum, or even in the thermal spectrum this is becoming much more common. But it IS a big step to think, well, what does it mean for someone to take a snapshot, in a much different spectrum. Because there's so much information that's being transmitted, or received and captured, in these peripheral spectrums.

JAMES: But you're kind of thinking of something like Facebook as a camera, but its eye – as you say – is so much wider than just the glass lens pointed at us. It's something that's capable of reading so many more aspects of our daily lives than just our physical appearance. And yet, what it can do with that information is so extraordinarily powerful.

ADAM: Yeah, that's a nice way of thinking about it. Facebook is a very very large psychological, behavioural kind of camera, that extends to many many many lenses throughout the world.

It might sound like we're at the mercy of technology all the time. But, as Hito Steyerl tells me, there's a lot we can learn from this new understanding of images:

HITO: This ability of reading is developed when people start to do things with images. I keep repeating, don't look at what they show, look at HOW they show. Or even, what they DON'T show, that's much more interesting. The metadata tell much more about images, I guess, than whatever can be seen in one photograph.

MUSIC: Michael Tauben / Simon Richard Benson – Dreamworld (Music House MHA0022)

HITO: I was just thinking back to cave paintings, for example... I think if you were able to read cave paintings from all sorts of different layers, different analysis of materials, then a quite extensive picture would emerge of the cave painting period. And in a similar way, people have to learn to read digital images, layer by layer, step by step, by all sorts of different levels of analysis, for this truer picture to be revealed.

20'07"

The modern equivalent of the cave painting is, let's face it, Instagram, where millions of people upload millions of images every day – and where the data around those images – the times, locations, and even faces, become a kind of code to be cracked.

Instagram has its own form of power, as those with more likes and more followers gain bigger and bigger audiences, resulting in more fame, more success, and more money. And if this system

seems unfair, particularly when it just rewards those who are already powerful or successful, how do we change it?

As we sit in his kitchen in Berlin, the Dutch artist Constant Dullaart tells me what he did to challenge this form of power:

CONSTANT: The systems can be hijacked and manipulated. There's this massive follower industry, and this massive industry to create fake "likes" for something, to create fake relevance. When I started to research this, in 2013-14, the fake follower business was already kind of a faux pas, like, you shouldn't buy followers, if people notice that it's a wrong thing to do, but... I started to buy these followers just to try that out. And then I thought, this is a tool, I can create this artificial relevance for something. And then I thought, how do I apply this tool? Do I just give it to someone else? Maybe someone who wants followers? And then, what I decided to do was apply that tool to a lot of different art world accounts, make sure they would be equal to each other. Suddenly this really important curator would be just as equal as this budding artist, and this smaller arts organisation. Even curators amongst each other that would seem to be battling for followers would suddenly all have 100,000 followers. Of course this idea of socialism within social media was interesting. People said I was the Lenin of Instagram! Which was kind of fun, because Lenin introduced this artificial capital to equalise things, and this is what I did there. But I created so much noise on these accounts that nobody knew who was actually real any more, because I just added armies of fake people. So, there was a lot of frustration there. And even now, there are people saying yes, my followers aren't real, these were bought by Constant Dullaart for me. But a few artists really appreciated the gesture. And – some friendships ended, but the intents were good, man.

22'42"

MUSIC: Steve Reich – Pulse (excerpt)

For Constant Dullaart, the role of the artist in this expanded universe of images isn't just to make more images, but to play with the image machine itself – to understand how images act, and to use this power in different ways:

CONSTANT: I think that was actually the privilege of art, to offer these altered realities, and now that's been hijacked by political propaganda, and I think we need to reclaim that realm by art, by actually showing that we need more absurdism, more other ways of seeing than just what is valid for a political agenda. We need more poetry in that, more poetic ways to alter reality, and more poetic fake news, just that kind of distraction, so we can get to focus on the people we love, and we get to hang out with, and what we enjoy and what's really important in life.

As John Berger put it: "if the new language of images were used differently, it would, through its use, confer a new kind of power."

What Constant Dullaart is describing, is a form of art that actively shifts our way of seeing in order to change the way that power works in the world – by using the contemporary tools of image-making to alter reality itself.

24'00"

Standing against this new power is a long history of bias and prejudice – one that certainly isn't limited to new technology, but that's still being enabled by it.

MUSIC: 'New Ways Of Seeing' theme

JOHN BERGER voice fades in...

In his series 'Ways of Seeing', John Berger demonstrated how the history of Western art is filled with examples of the white male gaze, of the objectification of women and minorities, which served only to consolidate the power of the viewer at the expense of the viewed. For a long time, art has been complicit in forms of representation that amplify, rather than confront, these forms of power.

JOHN BERGER:her body is arranged in the way it is, to display it to the man looking at the picture. The picture is made to appeal to HIS sexuality – it has nothing to do with HER sexuality.

Berger is talking there about the objectification of the female nude, in 17th century oil painting. But have things really changed? Just think about Photoshop – the digital manipulation tool, used now to edit most of the images we see in daily life. Constant Dullaart spent time with John and Thomas Knoll, who invented it:

CONSTANT: In 1988-9, when they were pitching the product, it wasn't called Photoshop at the time, yet... they had to include a digital image, to show people the possibilities of the software. So, John at that time used a very personal image of his wife. That was her sitting on a beach He took it one day before he proposed her to get married. And then he rebuilt the image, and that became the first image to show to potential customers of that software – what to be able to do with an image. I thought it was remarkable to choose THAT image, which included a half naked woman – anonymous because she was photographed from the back – and it's a beautiful gesture that he did that with this personal image, but it was also strange that the first gesture is to objectify the female body. And then giving that agency to his clients, saying "you can now copy my wife". Which I thought was just a very strange tool to give to people, or to sell to people.

MUSIC: Ultramarine – Equatorial Calms (Les Disques du Crepuscule)

26'20"

Today, the gaze of the artist is being replaced by the gaze of the machine. The machine eye looks differently upon those who've been historically marginalised – but this prejudice is often buried deep in lines of code, making it harder to understand and to confront.

Domination over the body – of womens' bodies in particular – seems to be still embedded in many of the technologies we use every day, whether that's the direct manipulation of Photoshop, or the ranking and reordering of society by Facebook and Instagram. Tools to manipulate images end up becoming tools to manipulate us. But some artists are confronting the biases and prejudices of these tools – radically changing those ways of seeing, in order to change not just what is represented, but who is represented... and by whom.

music fades

27'32" ends

And James Bridle will pick up where he left off, at the same time next Wednesday. 'NEW WAYS OF SEEING' is produced by Steve Urquhart. It's a Reduced Listening production for BBC Radio 4.