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Life
Rewired
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Image: Trevor Paglen, *The Treachery of Object Recognition*, 2019. © Trevor Paglen, Courtesy of the Artist, Metro Pictures, New York; Allman Siegel, San Francisco.

Trevor Paglen

From 'Apple' to 'Anomaly'

(Pictures and Labels)

Selections from the ImageNet dataset
for object recognition

GUILD
SCHOOL

Overview

Trevor Paglen: From 'Apple' to 'Anomaly' presents approximately 30,000 images from a data-set called ImageNet.

ImageNet is a collection of over 14 million images that are organised into roughly 20,000 categories. This categorisation happens through online workers, called Amazon Mechanical Turkers, attaching labels to images that they think describe the content of the image, such as labelling an image with 'apple'. The data-set is then fed into a computer, from which the computer can draw on its wealth of images to recognise and 'see' things in the real world.

The exhibition presents a series of different image-categories from this data-set. Beginning with categories of simple nouns such as 'apple' or 'pizza', the categories progressively become more complex, subjective terms, such as 'traitor'. Through being able to interrogate these image-categories, we are drawn to the representational problems in unambiguous labelling: is this really an image of a traitor? With AI and computer vision increasingly used to make judgements on people, the exhibition brings forth a series of political and ethical questions that demand discussion.

About Trevor Paglen

Trevor Paglen was born in Maryland, USA, in 1974, and currently lives in Berlin, Germany. He is the recipient of the MacArthur Fellowship (2017) and the Deutsche Börse Photography Foundation Prize (2016). Paglen has a PhD in Geography from UC Berkeley, and a Master of Fine Arts degree from the School of Art, Institute of Chicago. Previous exhibitions include, among others, solo shows at the Smithsonian American Art Museum (2018); the Nevada Museum of Art (2016); and Kunsthalle Oslo (2010).

Paglen's work straddles the disciplines of art, geography and investigative journalism, while he could be described as an image-maker he often works across multiple mediums. Paglen sees the value of art in being able to help us better see the historical condition that we find ourselves in,¹ in order to reveal hidden or covert narratives. He has a declared interest in investigating and exposing systems of power – such as political, state and financial power – and how these relate to the individual. His work is often considered to be attempting to bring to light the invisible forces that systems of power use to bend and shape us as individuals. However, Paglen veers away from the idea his work documents a clearly visible 'truth', stating that it's more about "showing what invisibility looks like" This leads to artworks that embrace the incompleteness and murkiness of trying to reveal the underbelly of power structures.

Paglen's previous work includes photographs of unmapped military sites, classified satellites, and undersea internet cabling. Recently, Paglen has turned his attention to the role of machine vision, which provides the context for this current exhibition.

Before You Visit

Children under 12 should be accompanied by adults. It is most appropriate for pupils studying at Key Stage 4 or higher. A pre-visit is recommended for teachers intending to bring students to the exhibition.

Your Visit

Trevor Paglen: From 'Apple' to 'Anomaly'

The Curve, Level G
Sat–Wed 11am–8pm
Thu and Fri 11am–9pm
Fri 4 Oct 11am–6pm
Bank Holidays 12pm–8pm
Closed 24–26 Dec

Large bags and luggage cannot be permitted into the gallery.

Free: Booking not required. Curatorial introductions may be available to school groups, please email creative.learning@barbican.org.uk with your planned visit date to check availability.

Key Questions

ImageNet was founded at Stanford University – a predominantly affluent, white, and male space. These demographics are not unusual in organisations and companies with the resources needed to build data-sets. Does this lead to data-sets and computer vision only reflecting the interests of such groups?

How can we tackle these issues so that computer vision reflects the multiplicity of ways of seeing in society? Relate this to encouraging female students to pursue STEM subjects.

Should computers be allowed to make value judgements on humans? This is already happening in real life – AI is being used to make decisions on individuals' applications for travel visas, car insurance, and overdraft facilities.

With many data-sets not publicly viewable, should this be happening when we're not all able to know the ways in which these judgements are being made?

Do you think you should have a right to know if an image of you is in a data-set?

Is art able to instigate political action, or do people simply leave an art gallery intellectually provoked but ultimately politically passive?

Data-set images are labelled with words by online workers at an average of 50 images per minute. Is this enough time to look at an image and understand it?

Identify the different image-categories and the points where categories change from one to another. Can you find conceptual links between the categories (e.g. Waverer is next to Saboteur, which is next to Traitor)?

Do you see any links that are funny (e.g. Keanu Reeves is positioned on the border of Divorce Lawyer and Wine Lover)?

Are there any categories that mean a lot to you on a personal level or that you particularly like?

Curriculum Links

Politics and Philosophy of Ethics

How would you feel if an image of you was in a data-set describing you in a way that you didn't agree with? Is this any different than you being upset that someone thinks something about you in real life that you disagree with?

Given that companies mine the internet for images and make large amounts of money from using data-sets in computer technology, do you think you should at least receive payment for being included in a data-set?

Should all data-sets be publicly available so that we can all analyse their content?

Art

The exhibition includes areas that have been left bare/are plain black. What could this mean?

Prompt the pupils to think about the idea of a system with faults and missing gaps; a system with black holes that will implode the faulty system; or what the pupils think is missing.

How does the shape of the Curve gallery affect the ideas being explored in the exhibition?

The Curve's shape can be read as an arc of history or a curve on a graph. Popular opinion sees technological progressions such as computer vision as positive. Do you read the shape of the gallery as an upward curve or a downward curve? As the Curve gallery continues, much of the content becomes noticeably more problematic, questioning if this technological development is positive.

Compare the presentation of images in this exhibition with other artistic forms of classification, such as cabinets of curiosities. What are the similarities and differences?

Trevor Paglen writes about how "everyday life is sculpted and modulated by forces that are usually invisible to us". This is a role-reversal of the artist and a traditional artistic medium such as clay, with Paglen helping us to see how we are the sculpted clay. How could you take this idea and extend it to explore performance art?

Though the exhibition appears simple to produce (it's just some pictures on the wall!), think about what it would be like to install. If the images are even half a degree off being perfectly aligned horizontally and vertically, the knock-on effect 20 metres further down the gallery wall is significant.

Computer Technology

Is the ambiguity of individual images circumvented by the computer's overall image-category?

History

Value judgements based on the visual analysis of people have a long history that covers racial theories, and nineteenth-century physiognomy and phrenology. Does the way in which computer vision is being programmed raise these problems again? Connect the exhibition to the study of Nazism and the study of Empire.

Media Studies

Trevor Paglen chose to present the information in this exhibition visually, rather than as a text. Is some information intrinsically better suited to being presented visually, or does it depend on the characteristics of the person creating or receiving that information? Would the exhibition work better as a novel, a non-fiction book, or a newspaper article?

Barbican Guildhall Creative Learning

This Teachers' Resource was prepared by Barbican Guildhall Creative Learning, which supports people of all ages and backgrounds to access and participate in world-class visual arts, music, theatre, dance, film and spoken word. We regularly work with schools and colleges to create unforgettable learning experiences that help to embed arts and creativity across the national curriculum.

For more information please contact:
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