

Introduction to Visual Communication

1. INTRO

2. NON_VERBAL COMMUNICATION

3. IMITATION OF HUMAN

1. INTRO

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Communication

From latin *communicare* - to share, to consult together – and *od communis* – to share something

Communication is the transfer of informations

Communication is developed social interactions, but also its premise.

Milan Nakonečný



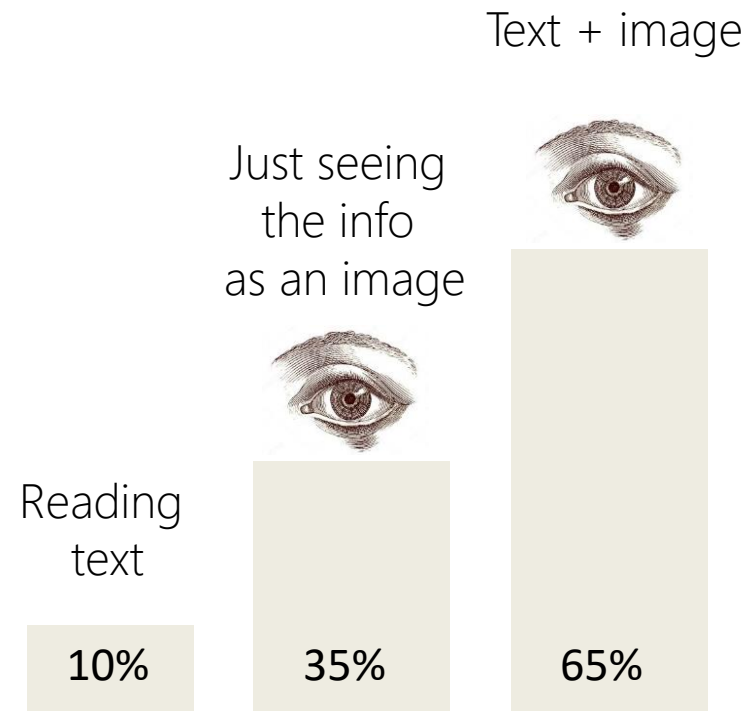
What	Updated nformation, ideas, feelings etc.
How	Through image, non verbal and verbal communication
Why	Update, for better orientation, to obtain or give the information
To whom	To other person, to the audience, to the whole world, to myself (inner dialog)

Sight

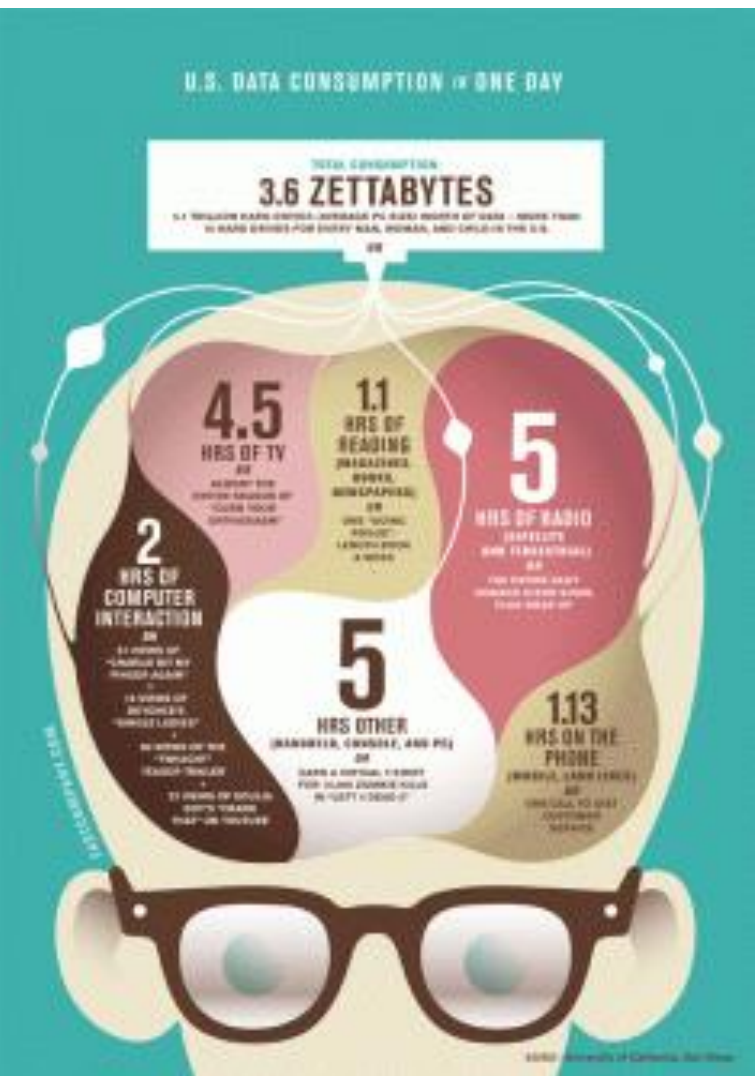
Sight conveys the most information.

It is easier to remember an image than text.

What is remembered if:



Our society is saturated with images



Thanks to digital technologies we are massive consumers and creators of visual images.

Our mind has the ability to sort information based on visual perception.



Visual Smog



An artificial, flashy and aggressive panopticon obscuring the true face of the city, destroying its uniqueness.

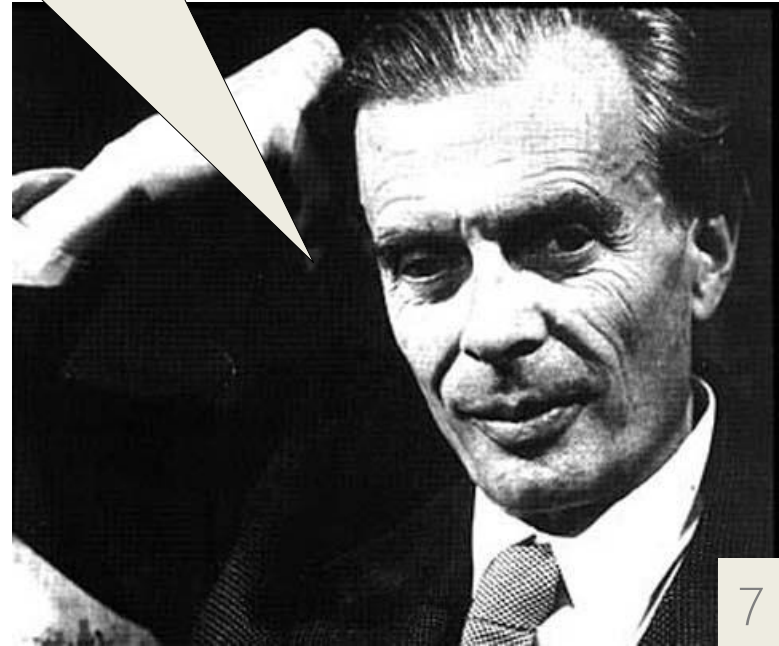
"The more you see, the more you know."

"All people have eyes but only some can see."

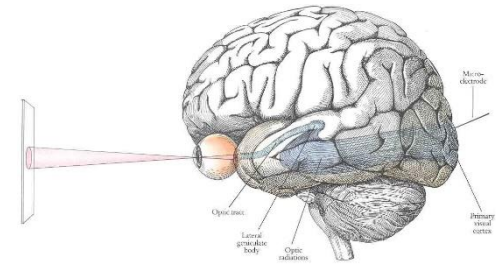


Jan Kaplický

Aldous Huxley

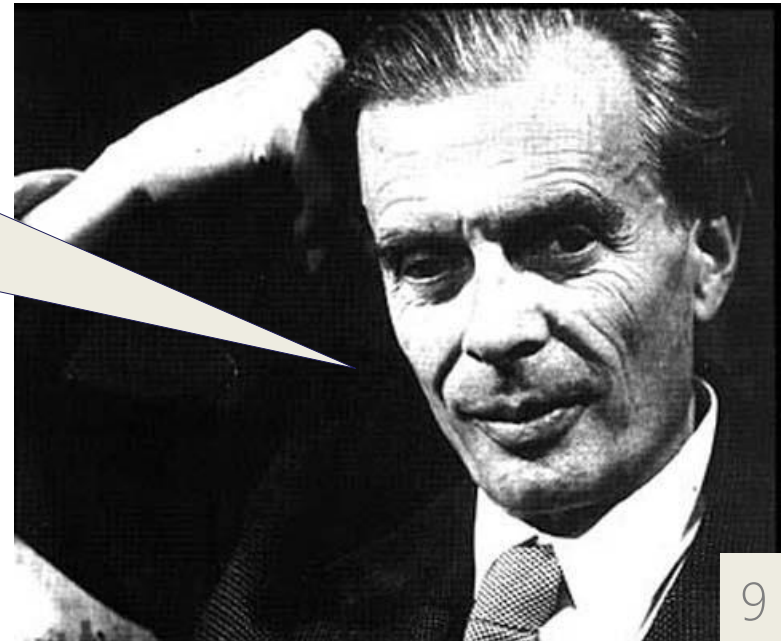


Aldous Huxley



The eyes and nervous system perform perception (sensing), the mind corrects the visual perception and attributes its interpretation.

Sensing is not the same as seeing.



Aldous Huxley

The image is perceived through the eyes and nervous system and mind does the interpretation.

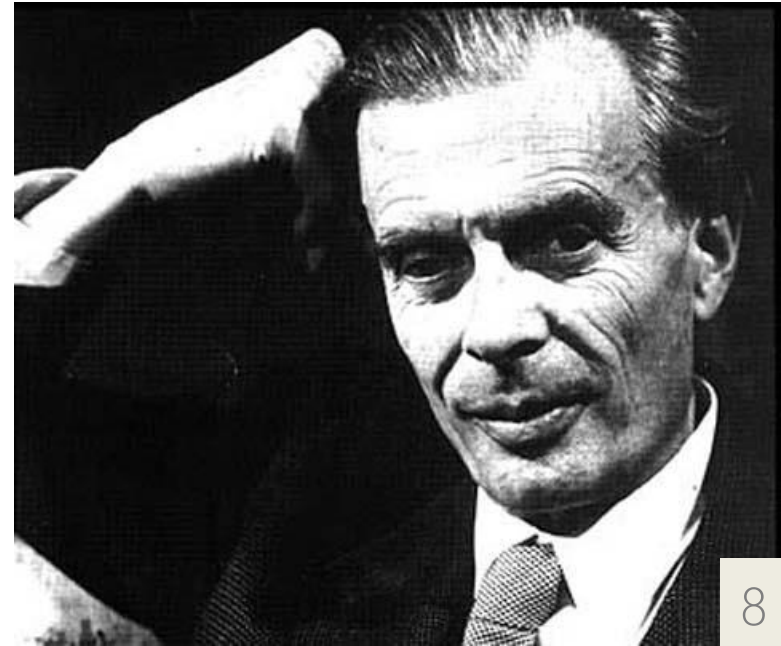
The ability to see is related to the individual supply of experiences, etc. in memory.

Pure vision is the result of accurate acceptance of sensory perception and vision.

The Art of Seeing

book, 1943

Huxley attributes great role to a **meaning** that is communicated through sight.

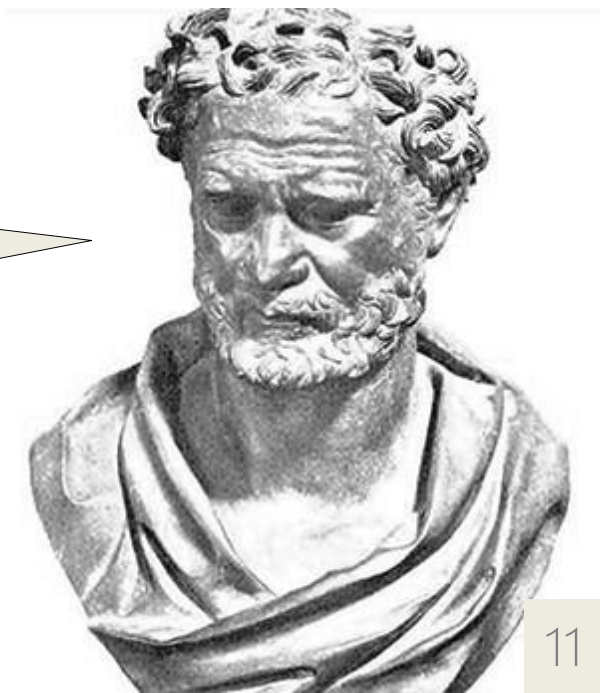


Demokritos

The eye is made of water, which makes it transparent. The soul or its perceptual component is not located on the surface of the eye but inside, so the eye must be transparent.

Vision is actually a reflection of what is seen in the eye. In reality, however, the eye is not what it sees. Vision does not take place in the visible eye, it takes place in what he sees.

If vision were to occur as a reflection in the eye, it would be necessary to explain why other objects, which are shiny and therefore reflective, do not see.



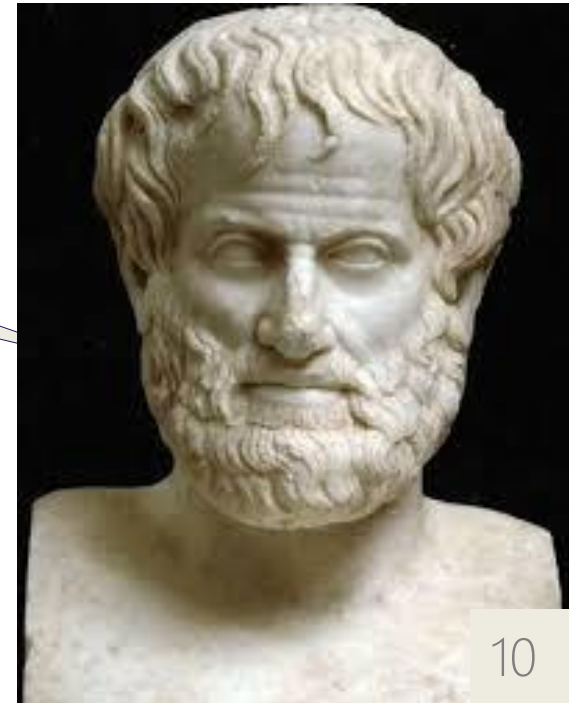
Aristoteles

Animals endowed with reason use the senses to obtain information from which the consciousness of truth is then formed in the soul.

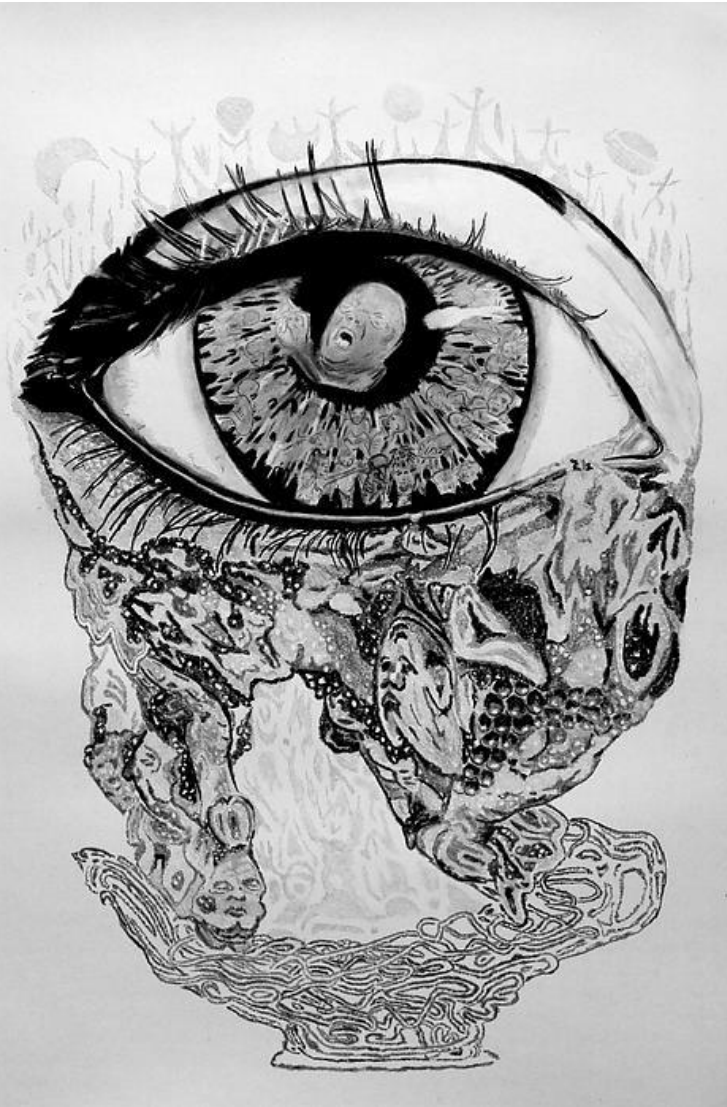
Sight primarily provides the primary necessities of life, but hearing is more important for the development of intelligence.

Symbols of thoughts - words are communicated in an audible form.

Perception arises in the soul through the body as a mediator.



Visual = related to visual perception



The physiological structure of our eyes makes us looking at one point, and thus pushing everything else into the background of an attention. We focus our consciousness at the most important. We do selection: we pick up and reject, moving and focusing our eyes constantly.

The evaluation of "good visual communication" is primarily an appreciation of the ability to deliver audience information.

Visual communication

Philosophy..... epistemology (theory of knowledge), phenomenology
(examination of own experience)

Semantics..... the science of the meaning of expressions from different
structural language level

Semiotics.....the science of sign systems

Psychology.....cognitive theories

Anatomy.....anatomy, brain studies, neuroscience

Sociology.....media studies

cultural anthropology, theory and history of art, theory of photography and film,
graphic design aesthetics, advertising...

2. NON-VERBAL COMMUNICATION

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The most important visual perception that determines our behavior is the perception of non-verbal communication.

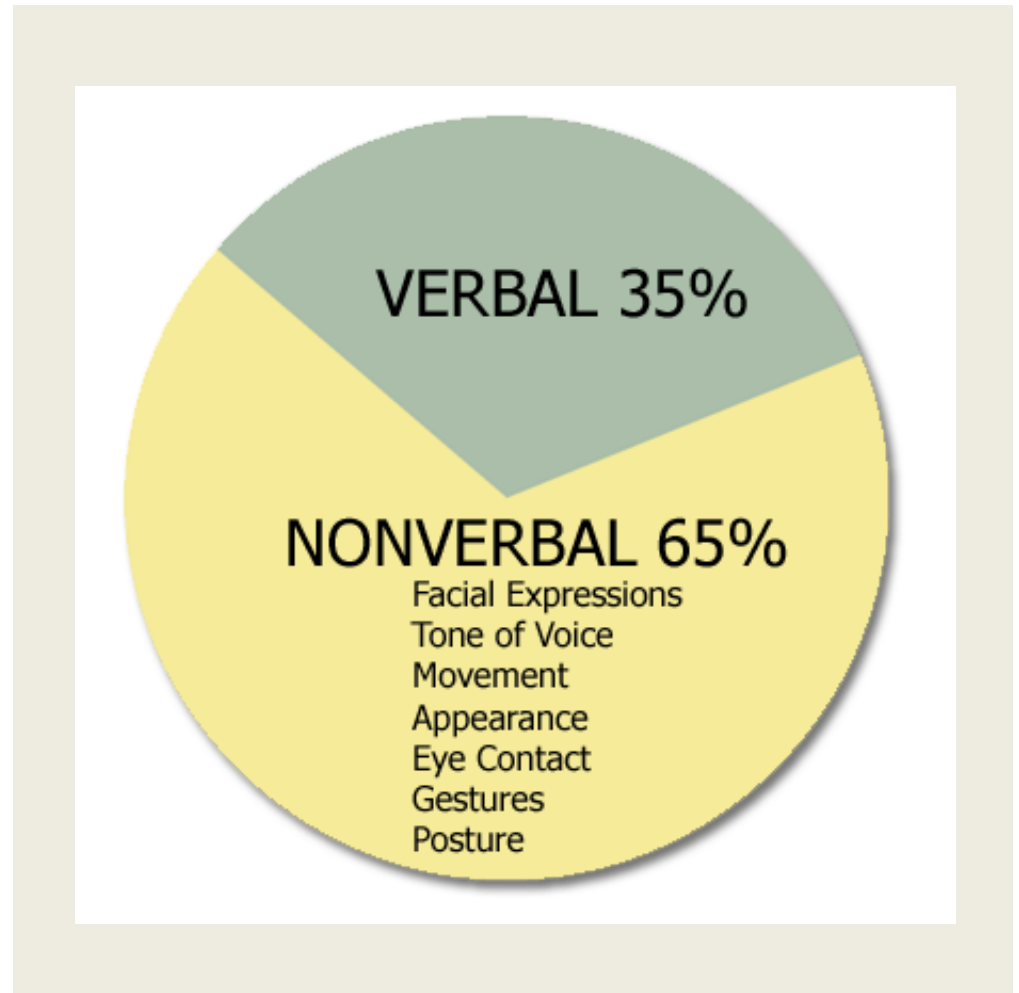


Non-verbal

non-verbal communication,
conscious or unconscious

Verbal

through language and speech



metacommunication vocal intonation, eg. ironic coloration of the voice, accent (also called as paralinguistic characters)

proxemics spatial distance, speaker approach

kinesics movements,

posturology position of the body

gesturing hand movements

mimics facial expressions facial expressions eye language

haptics touches

To study the body language:

First – setting up

the **Norm** - setting a standard for a specific person by studying it. If this is not possible, then what is normal in the given situation.



Debate between candidates Jack Kennedy and Dick Nixon, 1960. Kennedy managed a television appearance, was powdered and tanned. Nixon refused makeup and obviously he was sweating, he also came out of the hospital shortly before the debate. People who saw the debate on TV in the poll voted for Kennedy. But for those who were listening the debate on the radio voted for Nixon.

Secrets of Body Language

Documentary

<https://www.dailymotion.com/video/x3oeave>



Is there such a thing as universal human expressions - "language of facial expressions"?

FACS

Facial Action Coding System

Paul Ekman a S.Friesen (r. 1971)
define six basic universal facial
expressions:

Basic Emotions



Fear

Anger

Sadness

Disgust

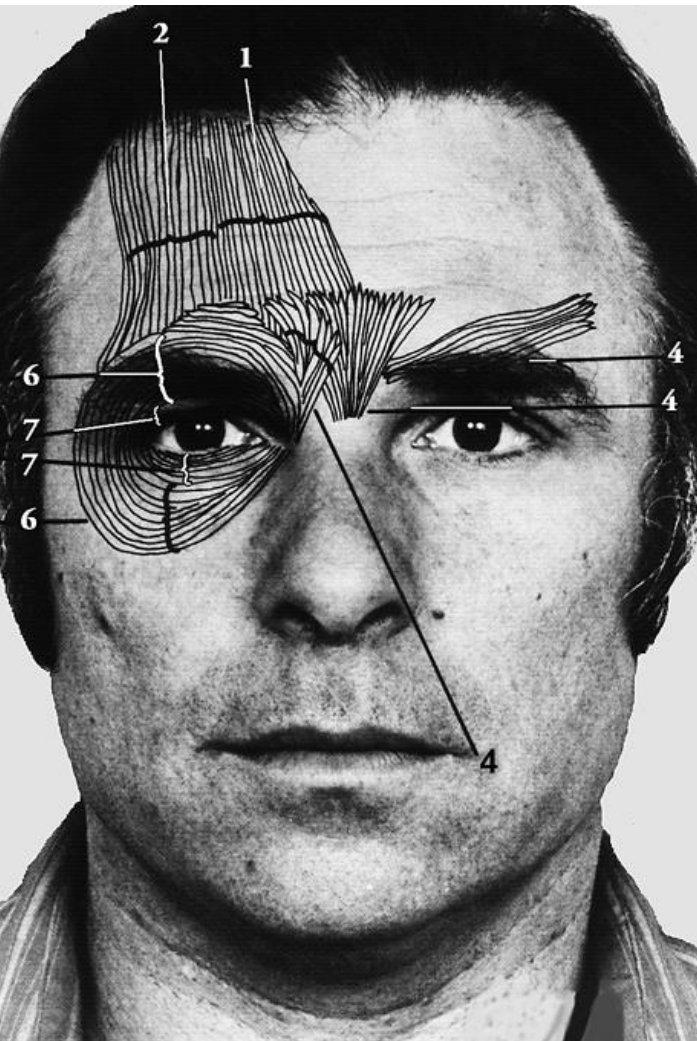
Joy

Surprise



FACS

Facial Action Coding System



Action units describes the movement of individual facial muscles. Thanks to the combination of defined units, we can determine a large number of facial expressions

FACS has become the basis for most **FER (Facial Emotion Recognition) systems**.

F E R

Facial Emotion Recognition

The ability to recognize faces on a computer and the definition of emotions using FACS gives rise to software that recognizes emotions.



83 percent happy
9 percent disgusted,
6 percent fearful
2 percent angry

eMotion - Facial Expression
Recognition

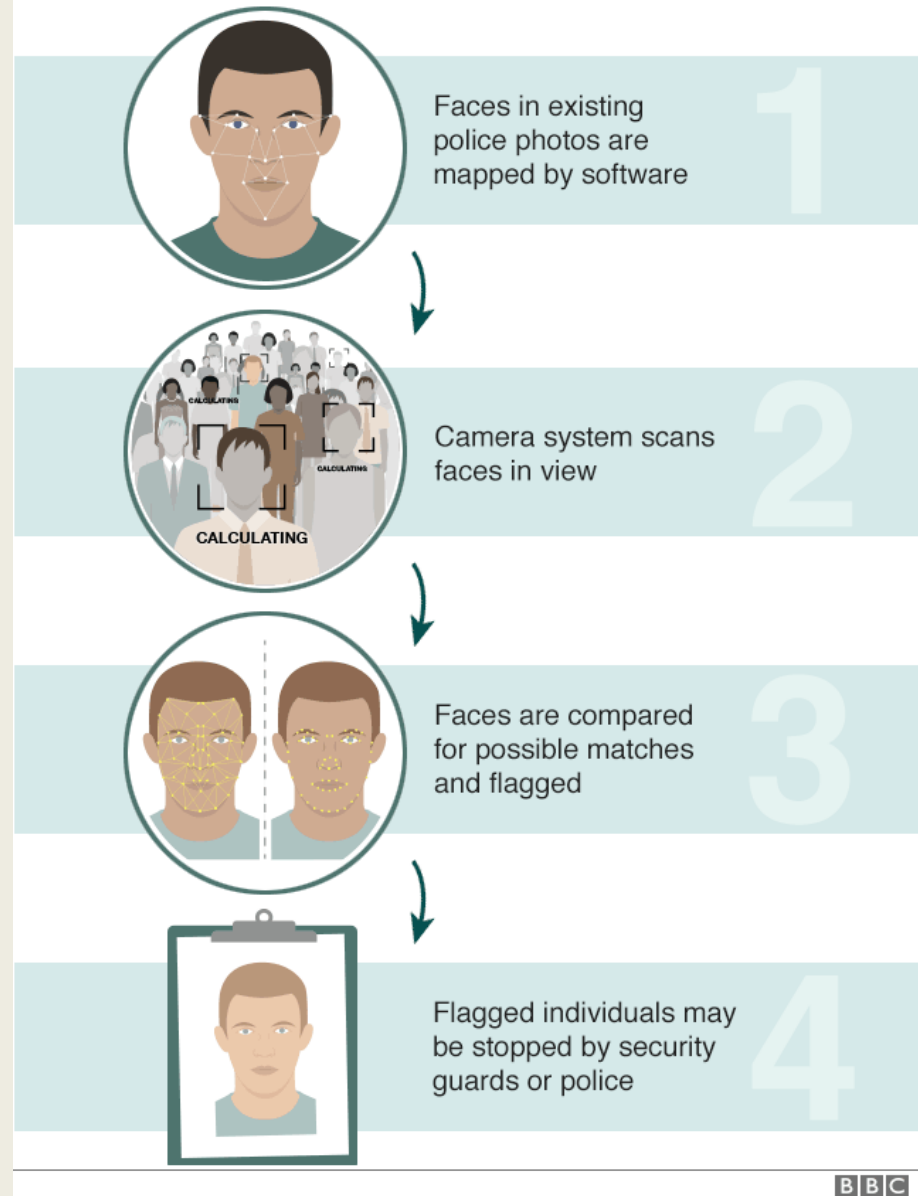
<https://www.youtube.com/watch?v=n8wJ8tjnmU>

Facial Recognition

Identifies individuals based on digital image or video.

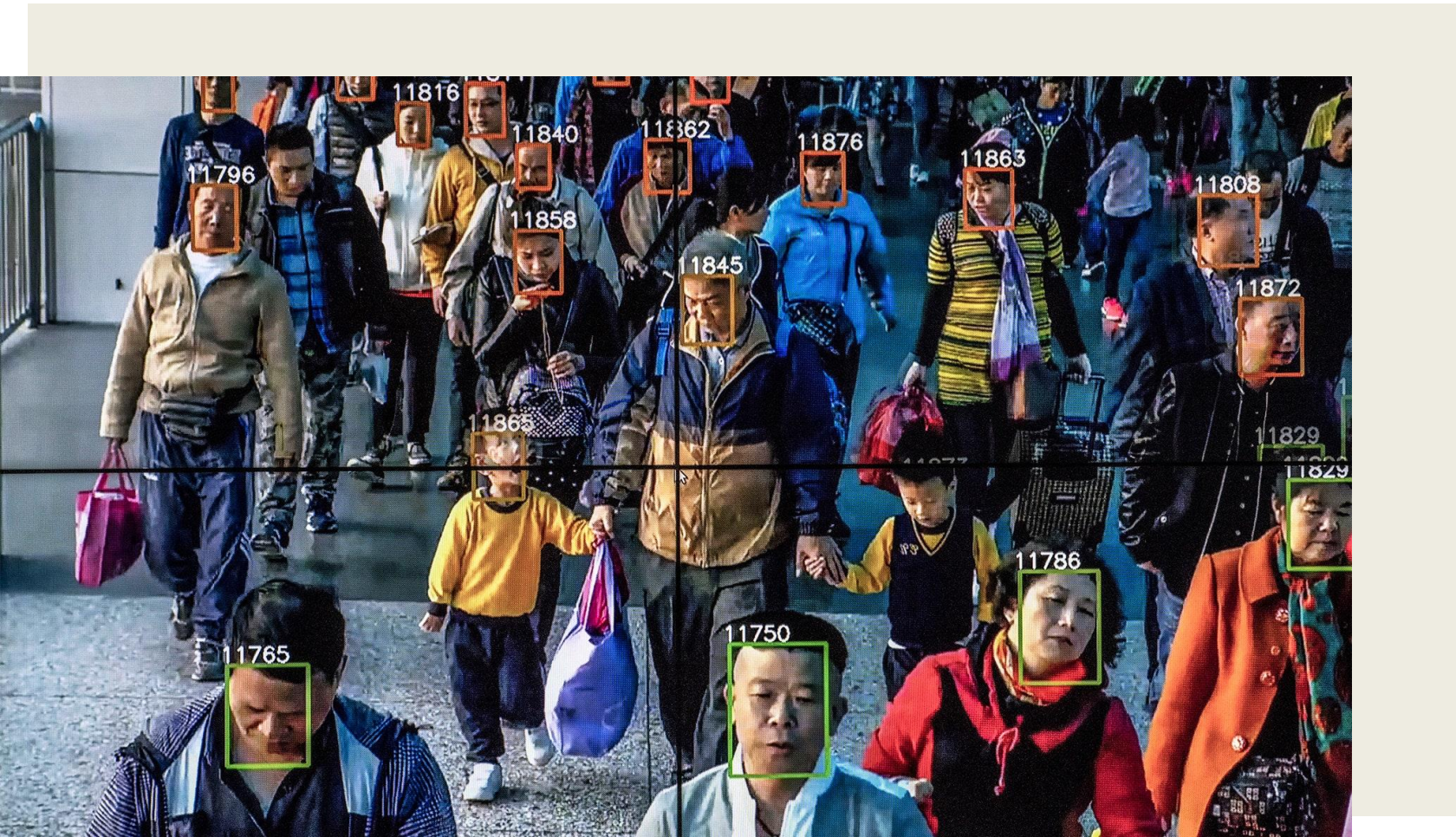
This technology may have great implications on surveillance and control on the large scale.

How does live facial recognition work?

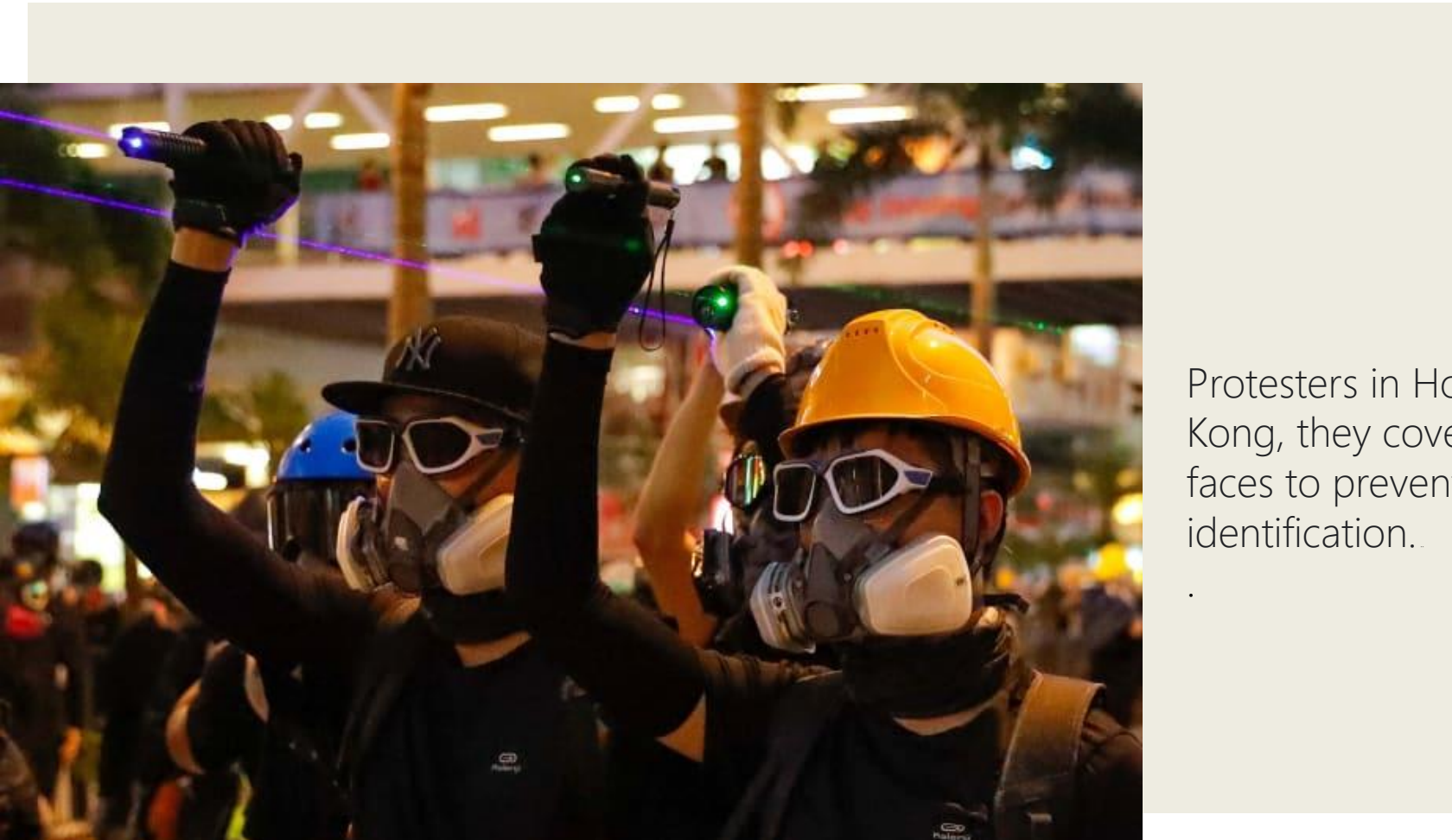


Facial Recognition

Police in China use facial recognition to identify people of interest from the crowd. Latest method are wearable Google Glass-style devices that allow a police officer to scan the face of everyone they look at.



Facial Recognition / Civil Disobedience



Protesters in Hong Kong, they covered their faces to prevent identification.

Facial Recognition / Art Projects



Some art projects are inspired by methods that make face recognition impossible.



HKU Design, Jip van Leeuwenstein



<http://www.jipvanleeuwenstein.nl/>

Facial Recognition / Art



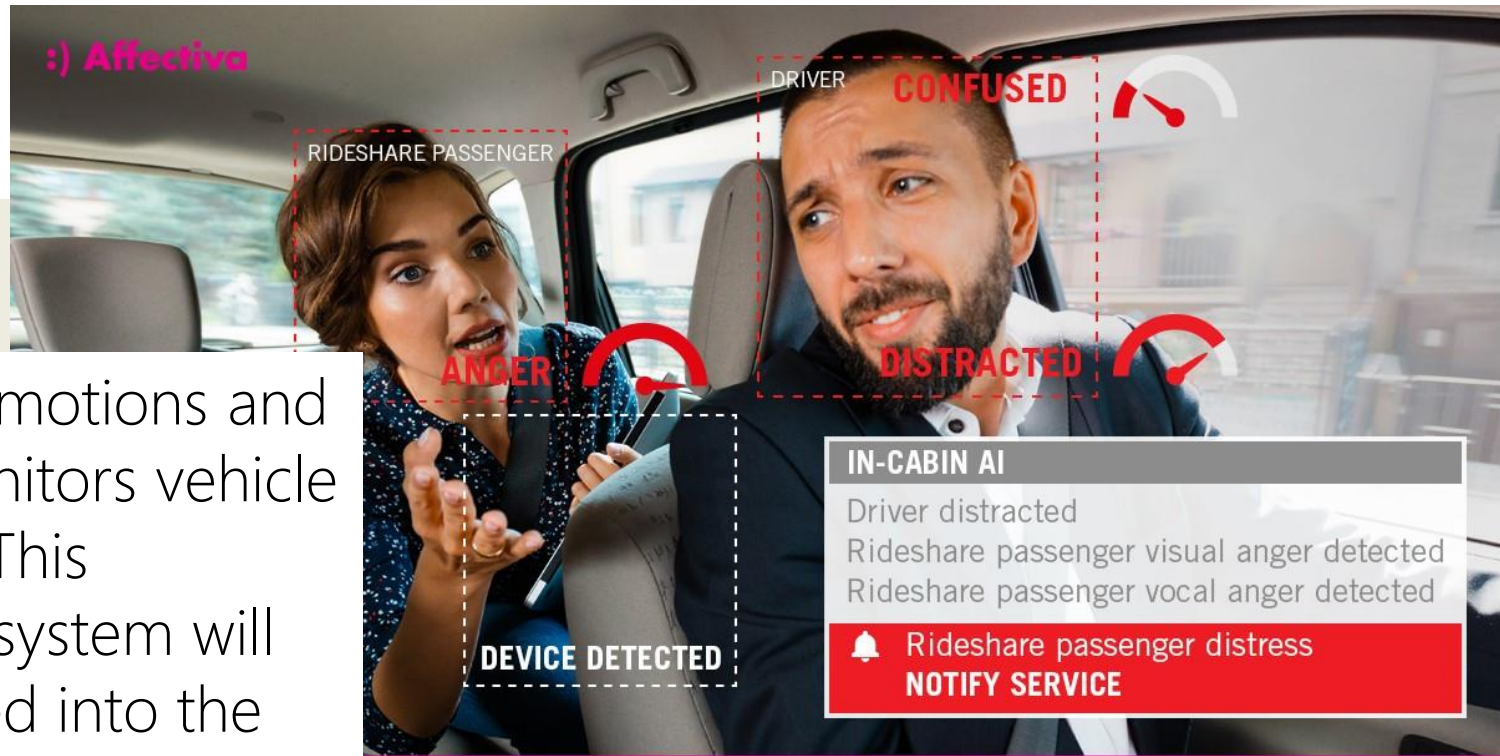
Ewa Nowak: Incognito



Zach Blas: Facial Weaponization Suite

Facial Emotion Recognition AI

AI detects emotions and objects, monitors vehicle occupants. This monitoring system will be integrated into the cameras used in car safety systems to detect when a driver is happy, sad, sleepy or frustrated.



3. IMITATION OF HUMAN

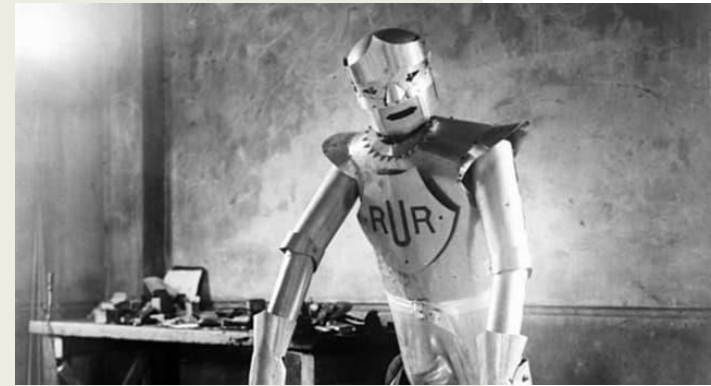
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Robots as Helpers

Robots are able to perform work, whether repetitive or in conditions dangerous to humans.

With the development of AI, they will also be able to make autonomous decisions.

At the same time, there is a fear of high unemployment in the introduction of robots in industrial production.



Robots as Helpers

The current situation with the pandemic shows the possibilities of using robots: replacement of seasonal workers in the collection of fruits and vegetables, disinfection of premises, basic care for the sick, belt production of medicines, etc.

Where the robot's task is to communicate with humans, it is an effort to give it a humanoid form.



Robots as Helpers(?)

A robot created for public order surveillance from the KnightScope company, it is equipped with a 360 ° camera, the detection of the sound of a firearm, it remembers a large number of identification marks, it is able to communicate with man. However, the public's reactions are contradictory.



Imitation of Human

The Pepper robot has a tablet attached to its chest, the aim of which is not only to compensate for its limitations, but also to reduce the pressure on users who may have never reacted with the robot before.



Imitation of Human

Is it possible to replicate a human?

A human-like appearance gives a robot a strong feeling of presence.

Hiroshi Ishiguro



Hiroshi Ishiguro a Gemonoid HI-1

Do robots have soul?

<http://www.youtube.com/watch?v=uD1CdjlRTBM>

Imitation of Human ?

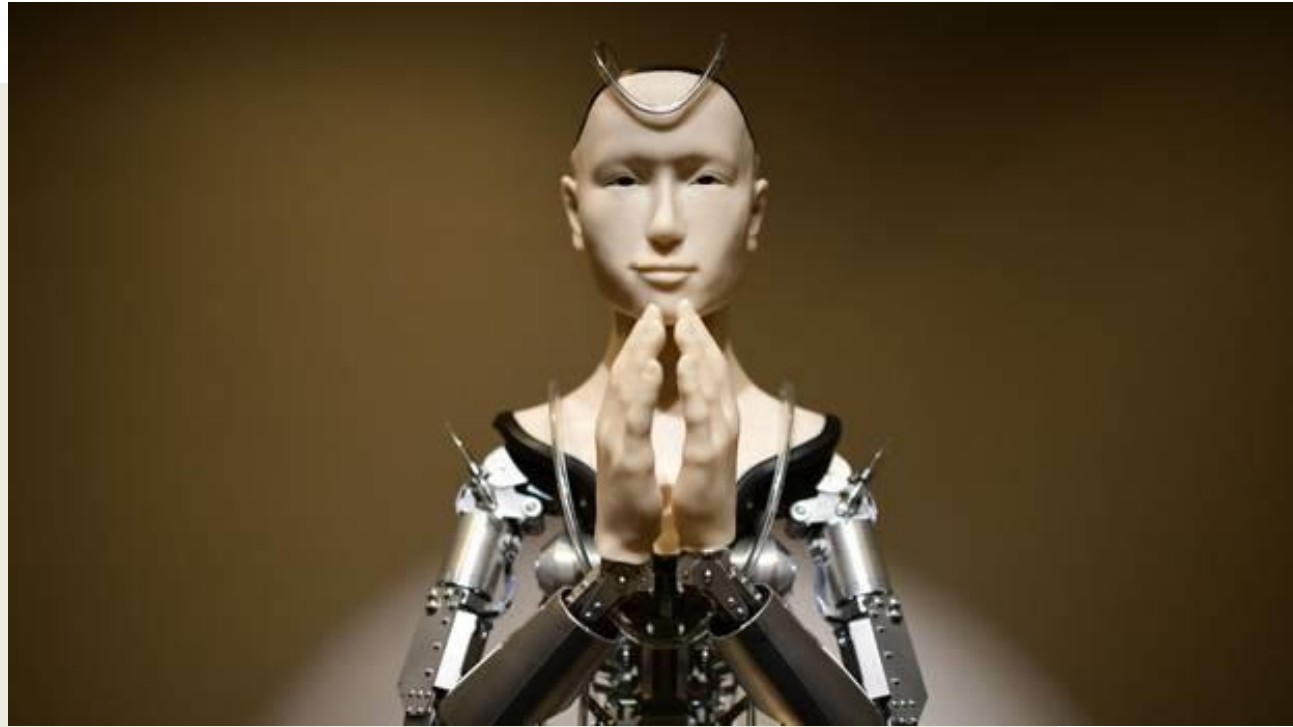


Voice of Julio David Byrne, 2008

<http://www.youtube.com/watch?v=LvN3yv7rLB8>

Imitation of Human

"If an image of Buddha speaks, teachings of Buddhism will probably be easier to understand,"



Mindar, Buddhist preacher who talks, Kyoto

Imitation of Human

Sophia is marketed as a social robot that can mimic social behavior and evoke feelings of love in people. AI system designed for general thinking.

Sophia imitates human gestures and facial expressions and is able to answer certain questions and have a simple conversation.

Hanson Robotics 2016



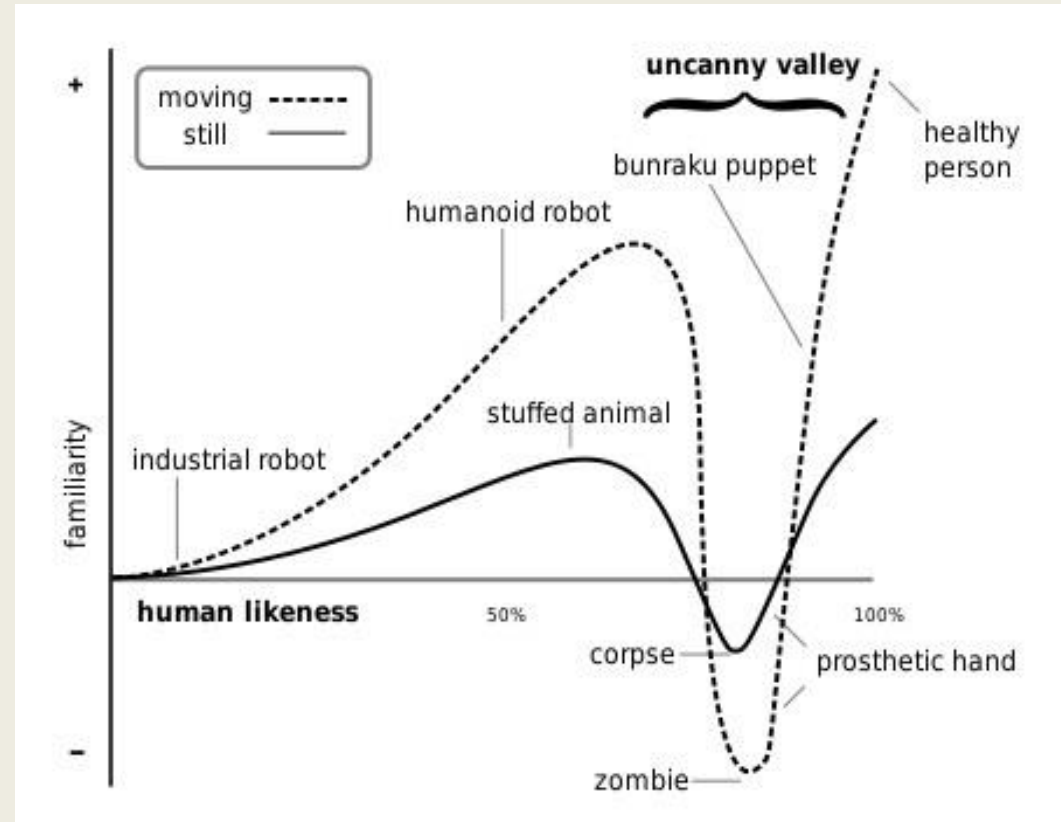
Sophia, 2015, AI, visual data processing, facial recognition

Meet Sophia

<https://www.bing.com/videos/search?q=sophia+robot&&view=detail&mid=411F691C3B469B456B9E411F691C3B469B456B9E&&FORM=VRDGAR>

Uncanny Valley

The imitation of a human being fails the most in the area of non-verbal communication.



Imitation of Human / Motion Capture

Transferring the human movement on the digital model

The method of recording the movement and facial expressions of a real actor guarantees that the digital model to which he is transferred will allegedly have a truly human behavior.



Avatar Motion Capture

<http://www.youtube.com/watch?v=1wK1lxr-UmM>

The Curious Case of Benjamin Button - (E)Motion Capture 8:50

http://www.ted.com/talks/ed_ulbrich_shows_how_benjamin_button_got_his_face.html

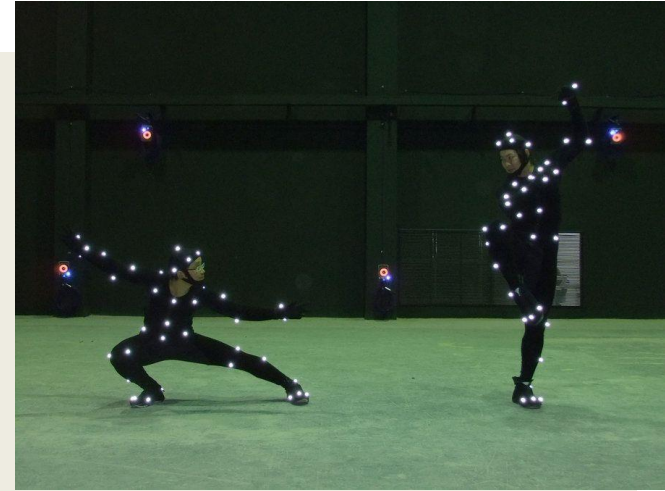
Imitation of Human / Motion Capture

Transferring the human movement on the digital model

The principle of motion detection of reflective points on the body / face. Their movement is recorded by set of cameras as the trajectories. Those are applied to a digital model.

In the case of facial expressions, a camera is placed directly in front of the face.

A new method is the absolute effect of covering the entire face with a reflective powder.



Imitation of Human ?

Is it possible to perfectly imitate reality?

To what extent is hyperrealism compatible with fantasy?

Isn't presenting a hyperrealistic image a rape of our imagination?

What happens if we do not distinguish the simulation from reality?

Deepfake

Chinese technology giant Tencent, owner of WeChat, has publicly announced its intention to invest more in advancing the latest state of commercial applications in AI.

Deepfakes are not bad in essence. Artists, educators and others have already used this technology as a powerful new tool for creative expression. In February, for example, Time magazine used deep false reports to recreate the experience of Martin Luther King Jr., who delivered his "I Have a Dream" speech in virtual reality. It is also possible to use this technology for dubbing.

How the perception of the world will be destroyed if we would not be able to distinguish fake from real?

MIT
Technology
Review

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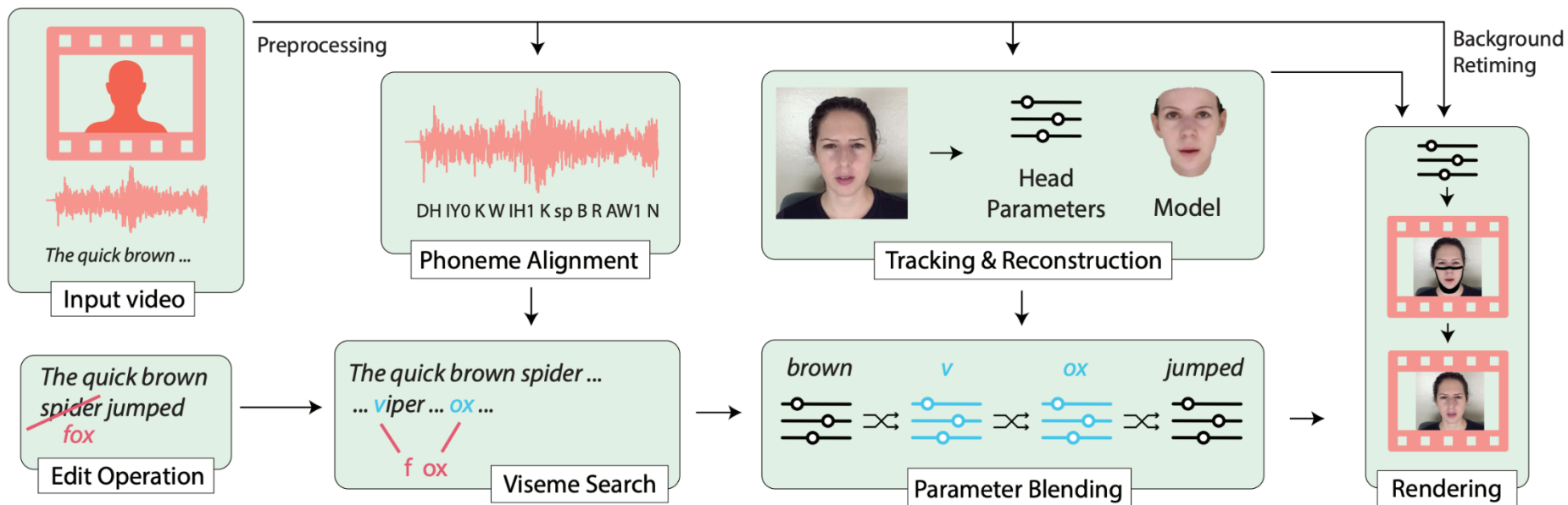
Topics Magazine Newsletters Events



Together with advancing of Deep Fake new forensic methods are developer to spot fake video.

<https://www.technologyreview.com/2020/08/28/1007746/ai-deepfakes-memes/>

Deepfake



In the latest example of deepfake technology, researchers have unveiled new software that allows machine learning to allow users to edit a text transcript of a video and add, delete or change words coming from someone else's mouth.

<https://www.theverge.com/2019/6/10/18659432/deepfake-ai-fakes-tech-edit-video-by-typing-new-words>

Aldous Huxley

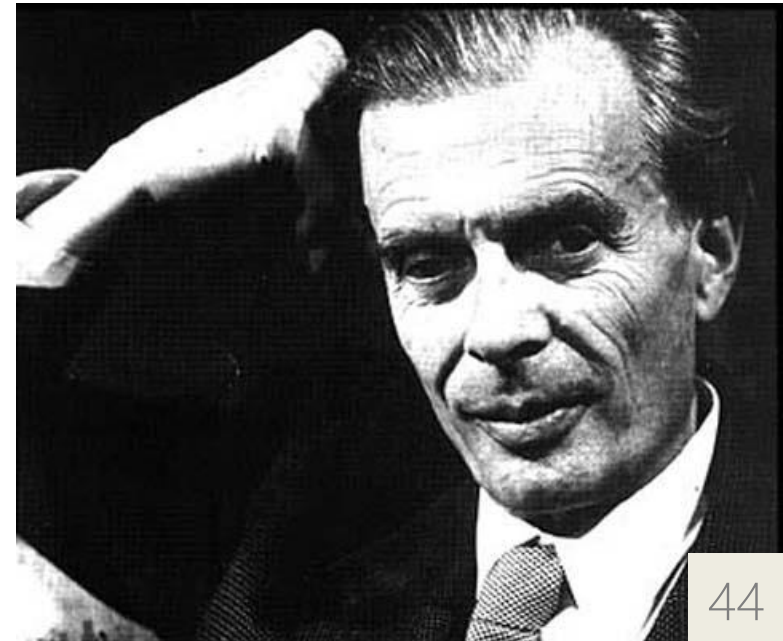
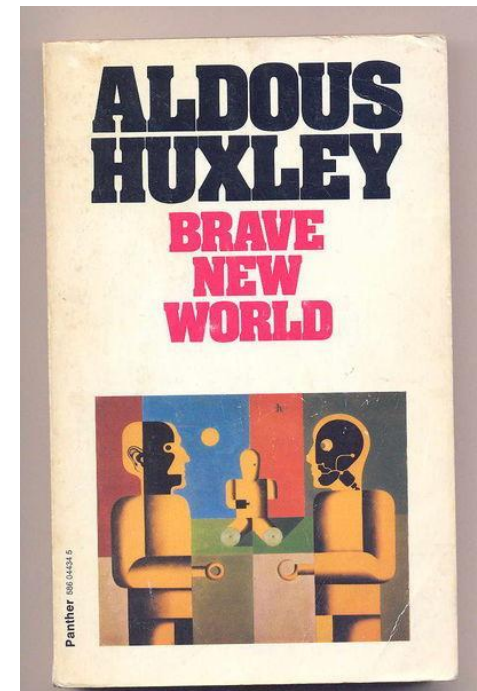
By the way: Huxley wrote the well-known dystopian short story Brave New World (1932), where society uses reproductive engineering, sleep learning, psychological manipulation, etc. It is therefore a vision of a totalitarian society based on advanced technologies.

o Brave New World

<https://aeon.co/videos/aldous-huxley-on-the-dangers-of-being-caught-by-surprise-by-our-own-advancing-technology>

Interview 1958

<https://www.youtube.com/watch?v=alasBxZsb40>



...to be continued