Future is now:
The Era of Digital Reality

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Estonian Academy of Arts
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Part 1: The Power of Seeing
Part 2: The Third Industrial Revolution
Part 3: The Power of Screen
Part 4: The Power of Drawing
Part 5: Image and Design Horizon

Lectures in Future Studies are designed as a speculative set of lectures, dealing with the current events of politics, culture and economy.

1. We are witnessing the change of a major paradigm within Western World and it is still unclear what this new paradigm is about

and

2. From the first decade of 2000 several noticeable phenomena emerged that were indicating the loosening and possible collapse of the existing paradigm – I have called these phenomena in the lack of better wording: imagospheric condition of present culture.

Part 1: The Power of Seeing


2005
Luca Bruno


NEWS
2013
Michael Sohn


2005
2013


Digital Reality and its interface to the other realities – SCREEN

Digital Reality and its interface to the other realities – SCREEN

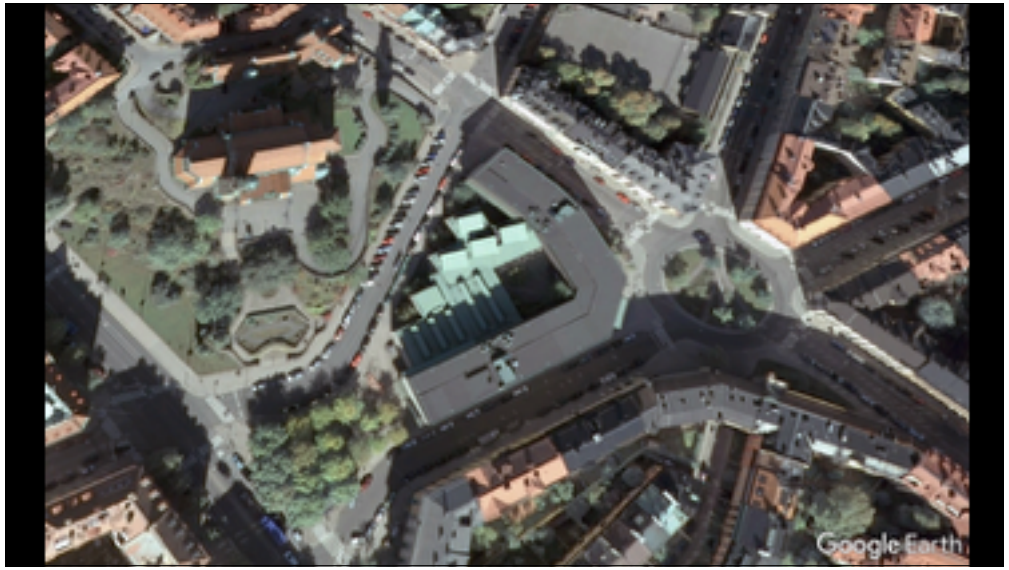
Digital Reality and its interface to the other realities – SCREEN

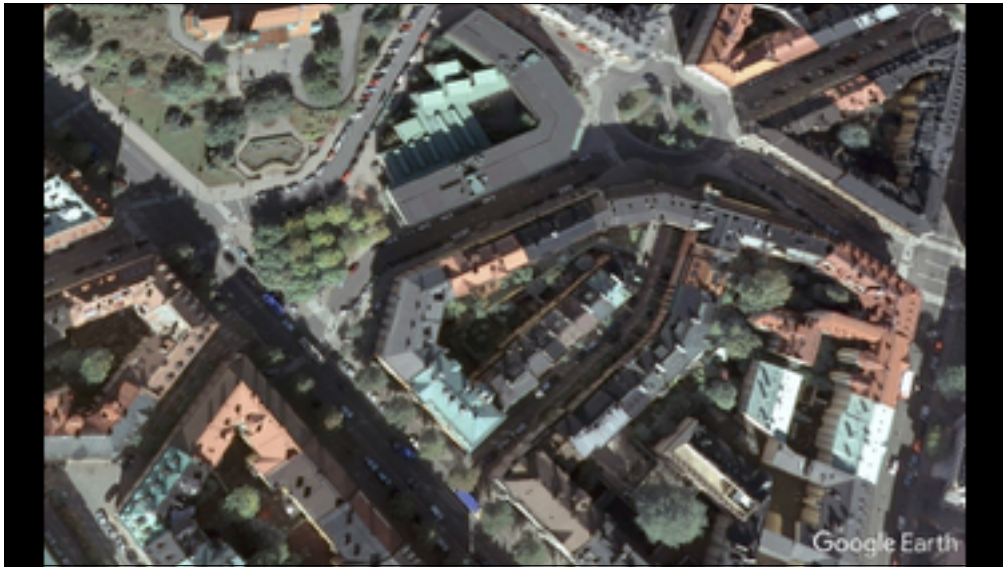

CONFERENCE
Space and
Digital Reality


Google Earth

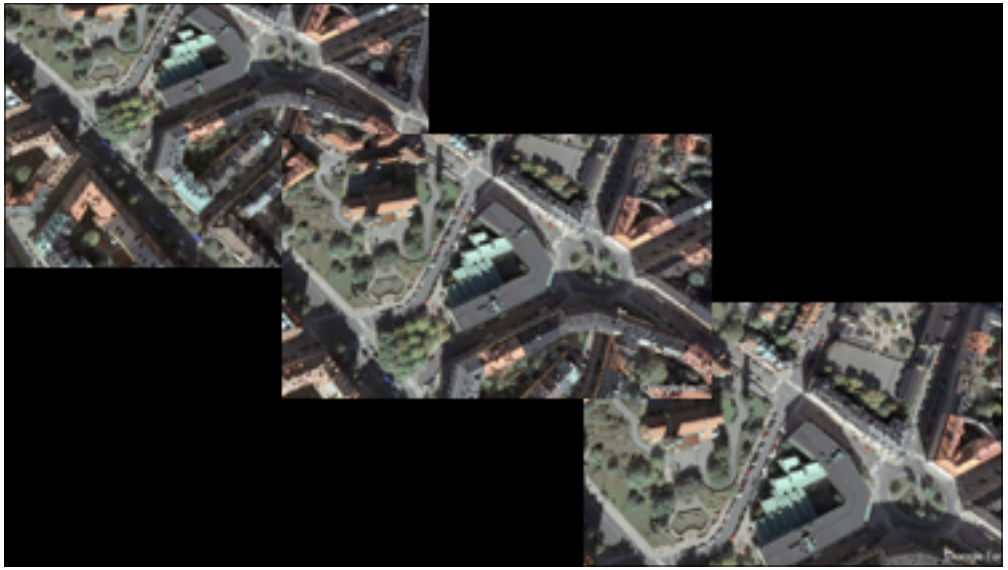

Google Earth

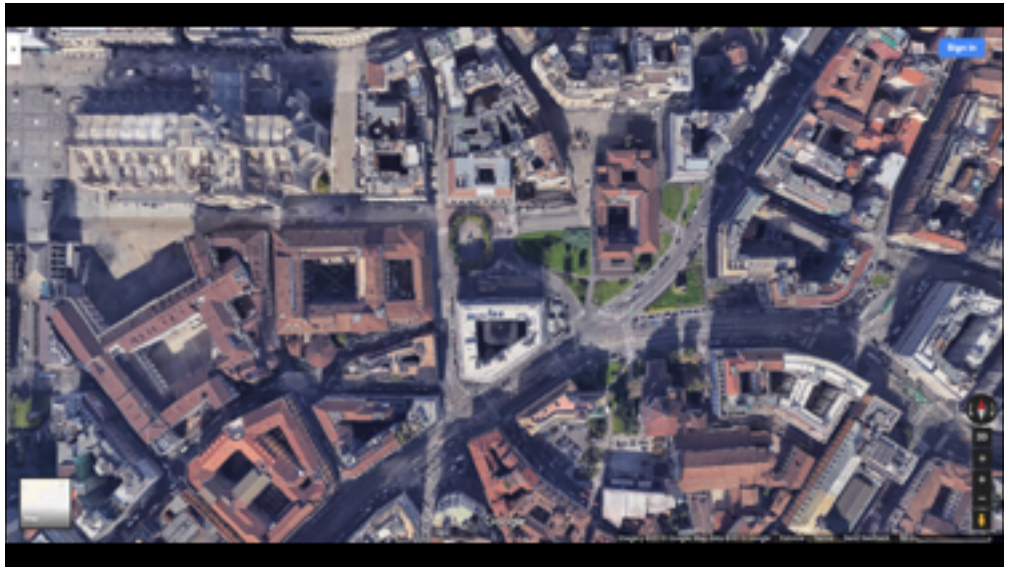

Google Earth


Google Earth

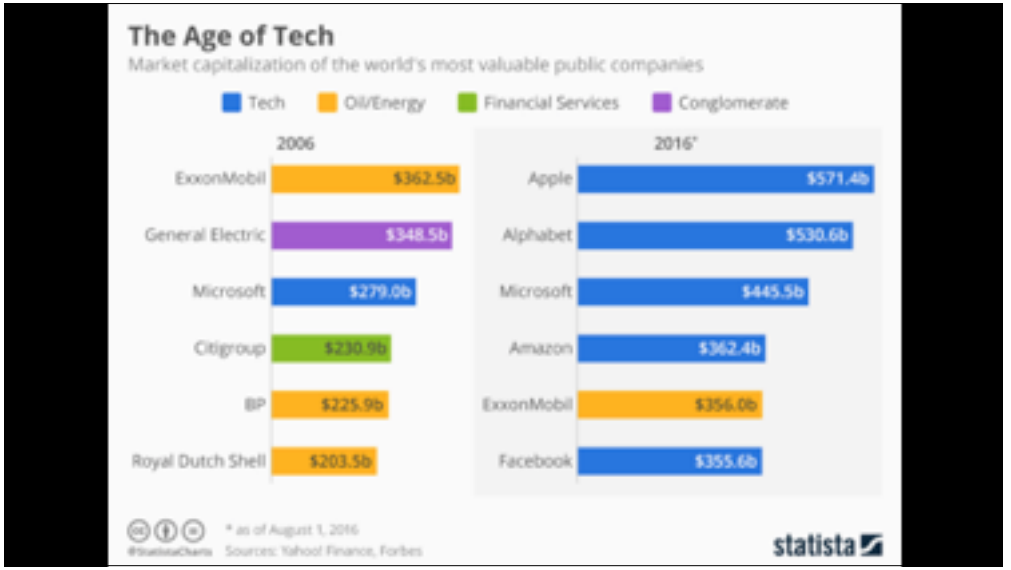

Google Earth


Google Earth






2005
2013


The Age of Tech
Market capitalization of the world's most valuable public companies
Tech
Oil/Energy
Financial Services
Conglomerate
2006
ExxonMobil $362.5b
General Electric $348.5b
Microsoft $279.0b
Citigroup $230.9b
BP $225.9b
Royal Dutch Shell $203.5b
2016*
Apple $571.4b
Alphabet $530.6b
Microsoft $445.5b
Amazon $362.4b
ExxonMobil $356.0b
Facebook $355.6b
* as of August 1, 2016
Sources: Yahoo! Finance, Forbes
statista


The Age of Tech
statista
Market capitalization of the largest U.S. internet comp
billion U.S. dollars)


Market capitalization of the largest U.S. internet compiarket capitalization of the largest U.S. internet comp
billion U.S. dollars)
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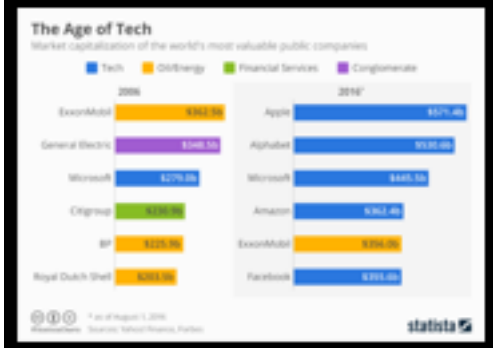
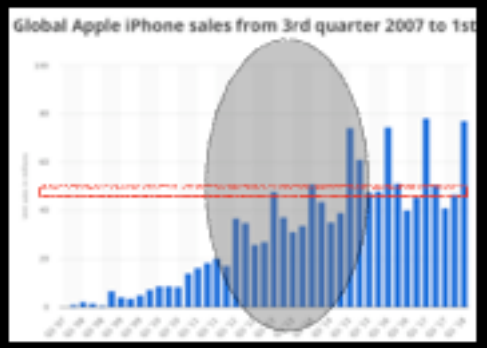
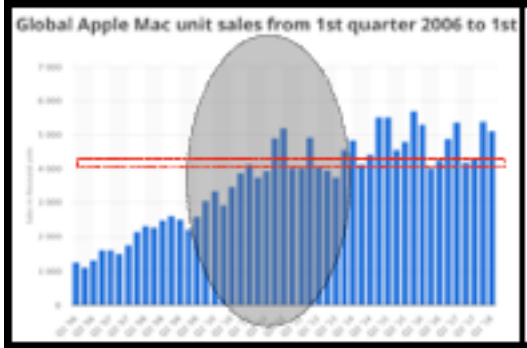
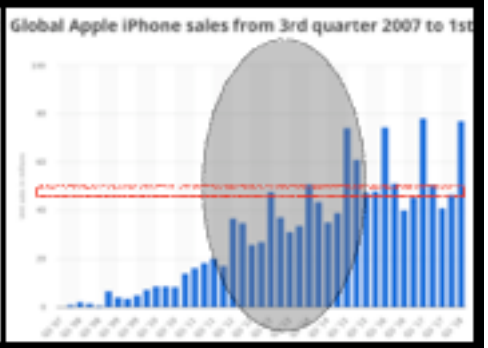








2010/2012

2013/2014

IMAGOSPHERE

Imago/Imagines –

Representations of ancestors. In the case of Romans, portraits molded from wax as death masks. An actor carried such a portrait at the funerals of higher officials. Representations of ancestors were also carried in the funeral processions of deceased relatives.

Imago:

Figure, image, picture, representation, portrait, bust/.../ *imagines maiorum* wax figures or masks of ancestors/.../phantom, figure from dreams, vision, apparition, semblance/.../

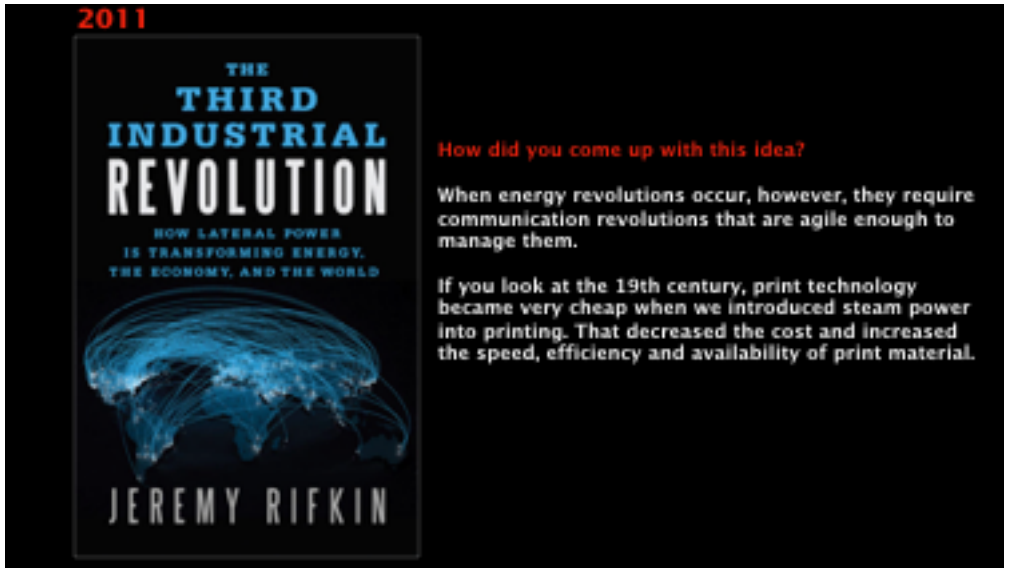
PIE: similarity, resemblance
Sanskrit: pair, twin

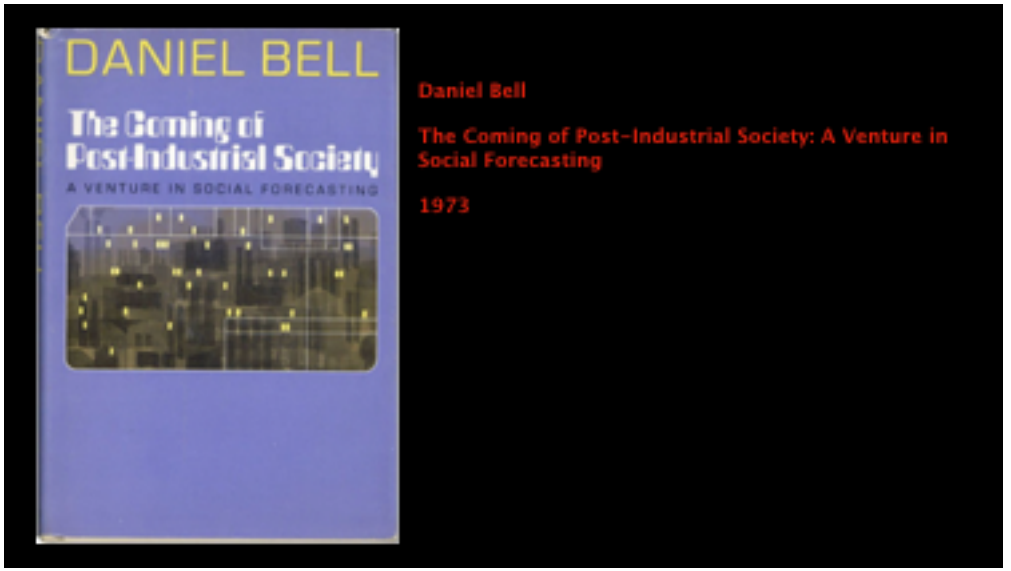
The words *imagino, imaginatum, imaginare* also derive from this – to depict, to express, to reproduce.

Part 2: The Third Industrial Revolution


The Economist
SPECIAL REPORT
THE WORLD ECONOMY
The third great wave


2011
THE THIRD INDUSTRIAL REVOLUTION
HOW LATERAL POWER IS TRANSFORMING ENERGY, THE ECONOMY, AND THE WORLD
JEREMY RIFKIN
The Economist
SPECIAL REPORT
THE WORLD ECONOMY
The third great wave


2011
THE THIRD INDUSTRIAL REVOLUTION
HOW LATERAL POWER IS TRANSFORMING ENERGY, THE ECONOMY, AND THE WORLD
JEREMY RIFKIN
How did you come up with this idea?
When energy revolutions occur, however, they require communication revolutions that are agile enough to manage them.
If you look at the 19th century, print technology became very cheap when we introduced steam power into printing. That decreased the cost and increased the speed, efficiency and availability of print material.


DANIEL BELL
The Coming of Post-Industrial Society
A VENTURE IN SOCIAL FORECASTING
Daniel Bell
The Coming of Post-Industrial Society: A Venture in Social Forecasting
1973

Daniel Bell

The Coming of Post-Industrial Society: A Venture in Social Forecasting

1973

Daniel Bell

The World and the United States in 2013.

Daedalus. Vol. 116, No. 3, Futures (Summer, 1987), pp. 1-31
1987

Bell was quite sure that the Third Technological Revolution is on its way and predicted that quite accurately:

"By 2013 the third technological revolution – the joining of computers and telecommunications (image television, voice telephone, data information computers, text facsimile) into a single yet differentiated system, that of the "wired nation" and even the "world society" – will have matured" (Bell 1987, 10-11).

He then proceeded to name the first technological revolutions. The first was based two hundred years ago as application of:
- steam power to transportation,
- deep-shaft mining (steam driven pumps) and
- factory production.

The second was based one hundred years ago on:

- the spread of the electricity (telegraph, telephone, lighting and electrical machinery) and
- synthetic chemistry (petrochemicals and plastics).

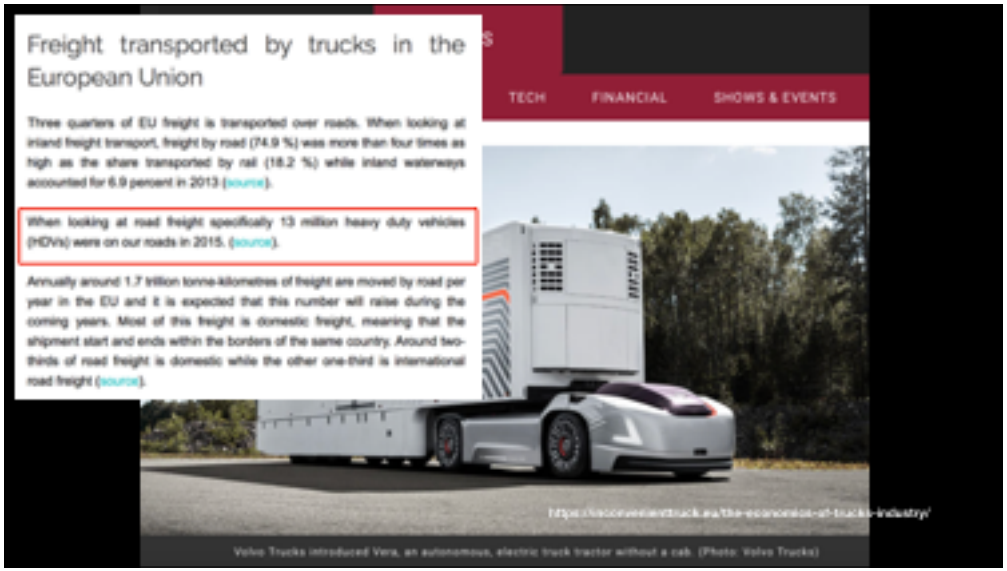
The third technological revolution Bell described as following:

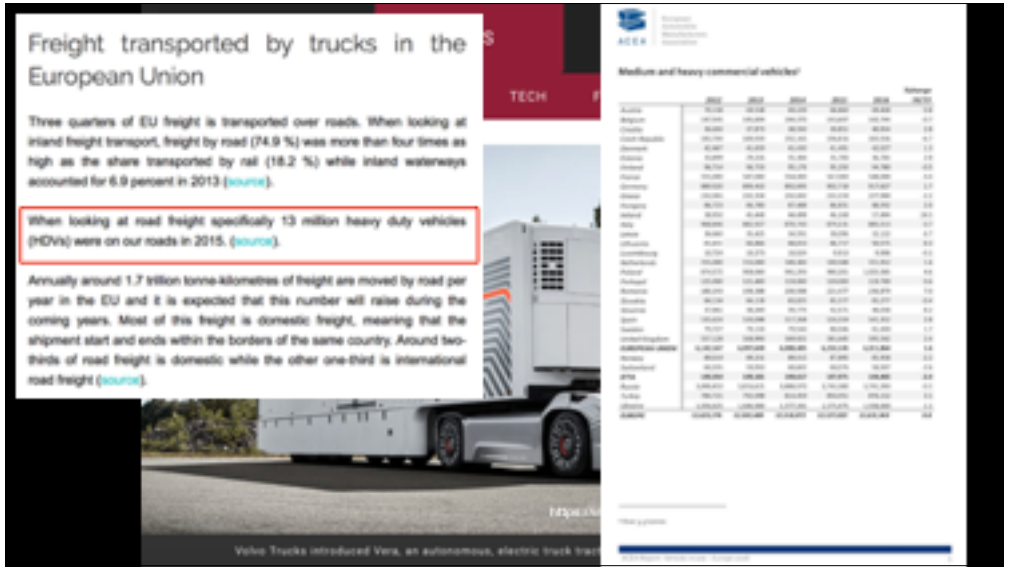
"The third technological revolution will be aided by natural language communications, machine translation, and certain expert systems. We will have widespread robotics, electronic mail and messages, information retrieval on call, service organized through interactive terminals. The range of possible and probable changes is enormous; /…/" (Bell 1987, 11).


The Economist
SPECIAL REPORT
THE WORLD ECONOMY
For richer, for poorer
GDP per person, average annual % change over 25-year periods
Britain
United States
Industrial revolutions
FIRST
SECOND
THIRD
STEAM ENGINE
STEAM LOCOMOTIVE
ELECTRICAL GENERATION
LIGHT BULB
AUTOMOBILE
RADIO
MOBILE
WEB
MACHINE INTELLIGENCE
2.5
2.0
1.5
1.0
0.5
0
1750
75
1800
25
50
75
1900
25
50
75
2000*
Sources: Maddison Project; The Economist
*To 2030
The third great wave


Germany launches world's first autonomous tram in Potsdam
The Guardian
Sonder fahrt
400


TRUCKS
NEWS
REGULATION
SAFETY
LABOR
TECH
FINANCIAL
SHOWS & EVENTS
September 13, 2018 by Chris O'Brien, @jobrien
Volvo Trucks introduced Vera, an autonomous, electric truck tractor without a cab. (Photo: Volvo Trucks)


Freight transported by trucks in the European Union
Three quarters of EU freight is transported over roads. When looking at inland freight transport, freight by road (74.9 %) was more than four times as high as the share transported by rail (18.2 %) while inland waterways accounted for 6.9 percent in 2013 (source).
When looking at road freight specifically 13 million heavy duty vehicles (HDVs) were on our roads in 2015. (source).
Annually around 1.7 trillion tonne-kilometres of freight are moved by road per year in the EU and it is expected that this number will raise during the coming years. Most of this freight is domestic freight, meaning that the shipment start and ends within the borders of the same country. Around two-thirds of road freight is domestic while the other one-third is international road freight (source).
TECH
FINANCIAL
SHOWS & EVENTS
Volvo Trucks introduced Vera, an autonomous, electric truck tractor without a cab. (Photo: Volvo Trucks)



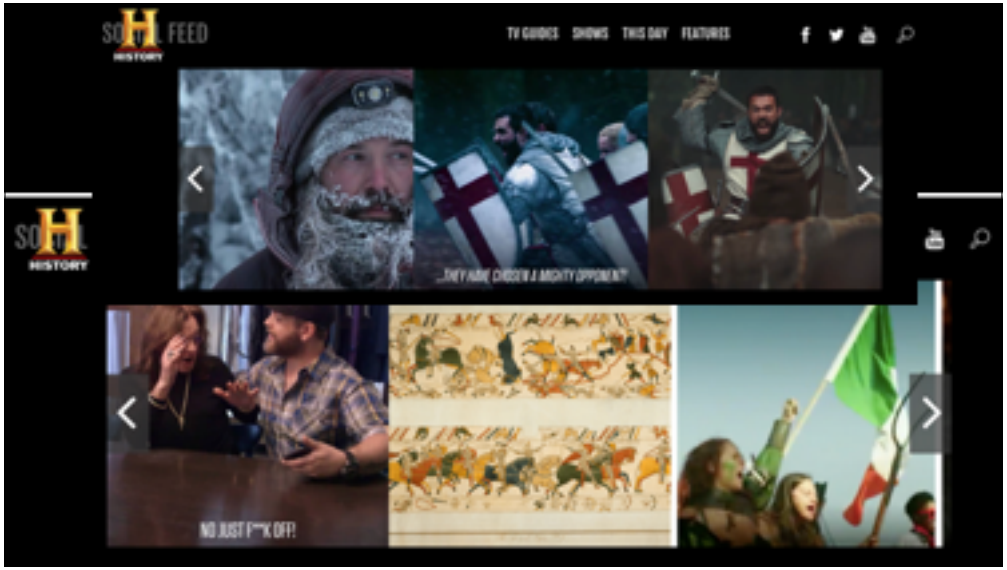
The ongoing Third Technological Revolution has altered us and the world around.

A new reality can be seen emerging with its own sovereign substantiality, structure and will. It can be called Digital Reality.

It consists of informational and communicative networks, complex hierarchy of computational algorithms and the meaning system of its projections, often called simply content.

Firstly, the plenitude of information. Plenitude of information in the Digital Reality deals with an infinite abundance. Information can create, interpret, mutate and copy itself limitlessly. Currently the Big Data is available only for digital megacompanies.

Secondly, Digital Reality has transformed documents, fiction, advertisement and news into a unified field undermining the public broadcasting and printed media. The previous typology of genres disappears or merges. As a start, the public and private divisions in politics, culture and space disappear. After that, the knowledge of reality and fiction of imagination become intertwined. One can witness a strong **amalgamation of public and private**, but within it also of **reality and fiction**.



Secondly, digital platform has transformed documents, fiction, advertisement and news into a unified field undermining the public broadcasting and printed media. The previous typology of genres disappears or merges. As a start, the public and private divisions in politics, culture and space disappear. After that, the knowledge of reality and fiction of imagination become intertwined. One can witness a strong **amalgamation of public and private**, but within it also of **reality and fiction**.

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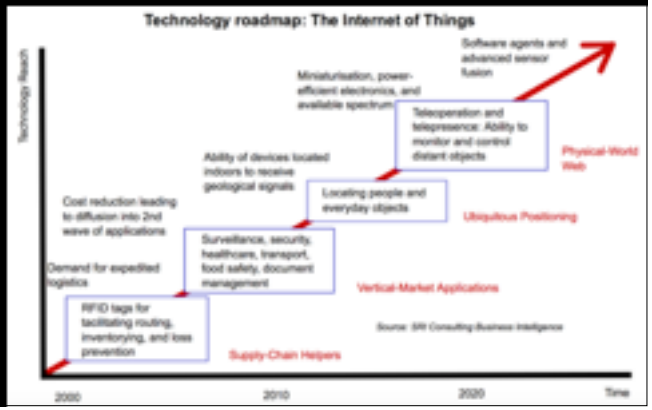
Thirdly, the hybridisation within the different genres has produced the confusion in evaluating Modernist empirical as well as theoretical sciences. Science has lost its credibility. This condition has been recently described as **era of post-truth, post-statistics, post-facts and post-public media.** Social networks and private messenger apps have taken over the news and information outlets of public media, thus amplifying the amalgamations in "echo chambers" producing perfect conditions for massive public opinion manipulations.

Fourthly, the Third Industrial Revolution has advanced the idea of Internet of Things (IoT, Web of Things, Internet of Food). It is based on the possibility of embedded digital devices and communication between physical objects. This has created a parallel digital universe, which gradually stops being parallel, as it becomes an integral part of the material being. Thus one can witness a strong **hybridisation of material and digital.**



Wiki

Fifthly, biocular human vision and awareness of space allow us to sense the surrounding world in a stereoscopic way – the way we apprehend the space. The Digital Reality so far was interfaced mostly through screens, but now we see digital/hybrid image production with immersive virtual reality devices with **the capacity of massive usage – the Virtual Presence.** These amalgamate together the existential reality and the wildest imagination. Both can be approached in the minute detail through digital simulation. Thus one can witness a strong **hybridisation of informational and existential.**

Sixthly, the development of neuro-sciences and digital bionics/prosthetics might lead in not so distant future to the direct links between **digital and conscious.**

Ray Kurzweil

From Wikipedia, the free encyclopedia

Raymond Kurzweil (/kɜrzwaɪl/ *KURZ-wyle*; born February 12, 1948) is an American author, computer scientist, inventor, and futurist. He is involved in fields such as optical character recognition (OCR), text-to-speech synthesis, speech recognition technology, and electronic keyboard instruments. He has written books on health, artificial intelligence (AI), transhumanism, the technological singularity, and futurism. Kurzweil is a public advocate for the futurist and transhumanist movements, and gives public talks to share his optimistic outlook on life extension technologies and the future of nanotechnology, robotics, and biotechnology.

Kurzweil was the principal inventor of a series of firsts:

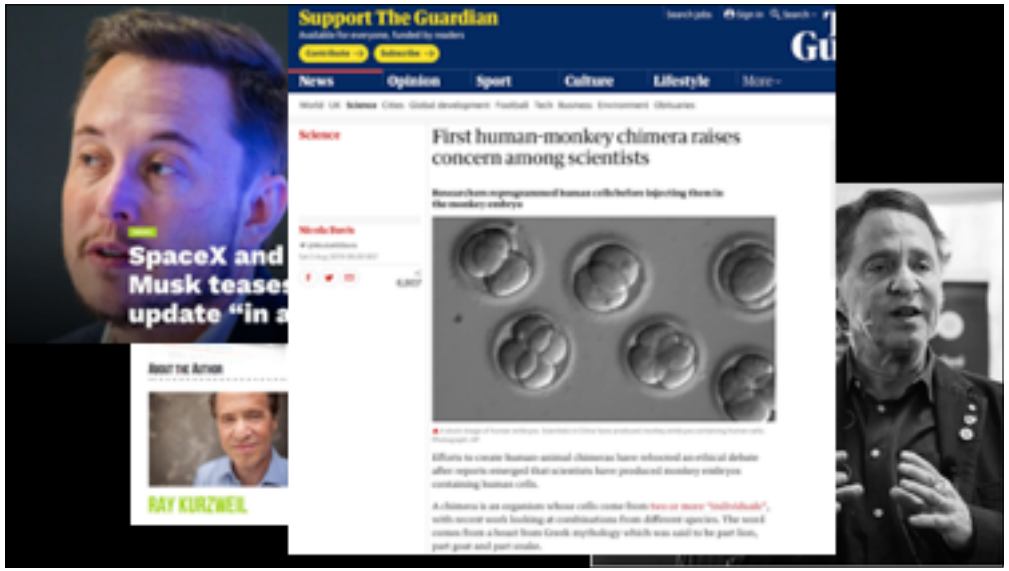
- the first charge-coupled device flatbed scanner,[2]
- the first omni-font optical character recognition,[2]
- the first print-to-speech reading machine for the blind,[3]
- the first commercial text-to-speech synthesizer,[4]
- the Kurzweil K250 music synthesizer, capable of simulating the sound of the grand piano and other orchestral instruments
- the first commercially marketed large-vocabulary speech recognition.[5]

Kurzweil received the 1999 National Medal of Technology and Innovation, the United States' highest honor in technology, from President Clinton in a White House ceremony.[6] He was the recipient of the $500,000 Lemelson-MIT Prize for 2001,[7] the world's largest for innovation.[citation needed] And in 2002 he was inducted into the

Ray Kurzweil

Kurzweil on or prior to July 5, 2005

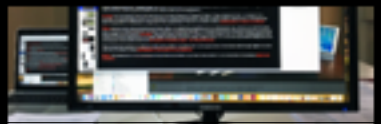
Born	Raymond Kurzweil February 12, 1948 (age 70) Queens, New York City, U.S.
Nationality	American
Alma mater	Massachusetts Institute of Technology (B.S.)



The image on the screen has become the favourite access device for Digital Reality and

Even in its most simplistic form it obtains the four dimensions of space-time continuum:

up and down,
left and right,
in front and in back,
as well as temporal duration in the form of moving image.



Part 3: The Power of Screen

NATIONAL GEOGRAPHIC

Cave paintings on the Indonesian island of Sulawesi were found more than 50 years ago, but until now the dates of origin were not known. The art shown here has not been dated, but is stylistically similar to other art in the area now found to be around 40,000 years old.

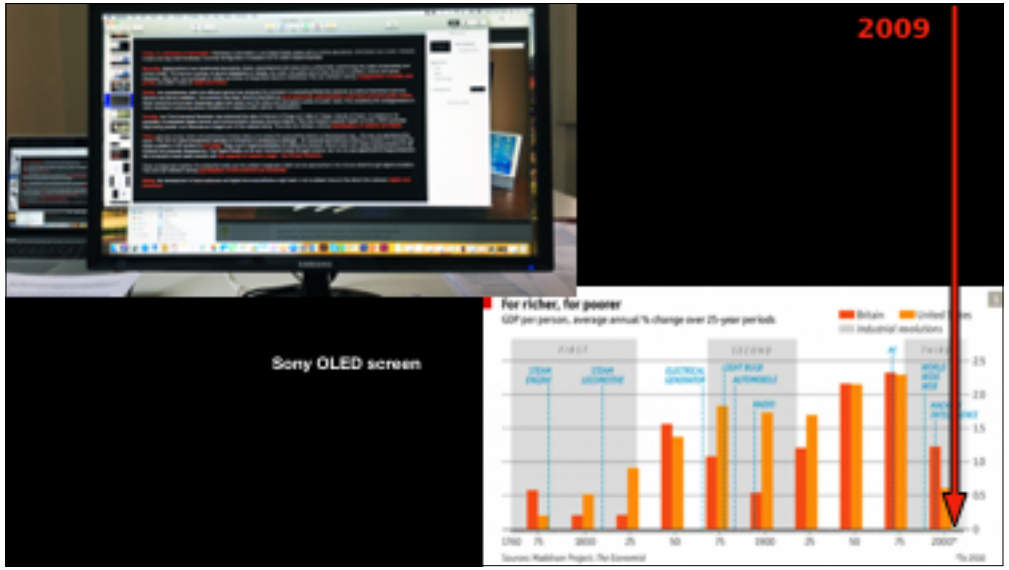
PHOTOGRAPH BY MAXIME AUBERT, GRIFFITH UNIVERSITY, AUSTRALIA

The oldest date given to an animal cave painting is now a pig with a minimum age of 35,400 years, at Timpuseng cave in Sulawesi, Indonesia.

Dürer
Leonardo
Vasari

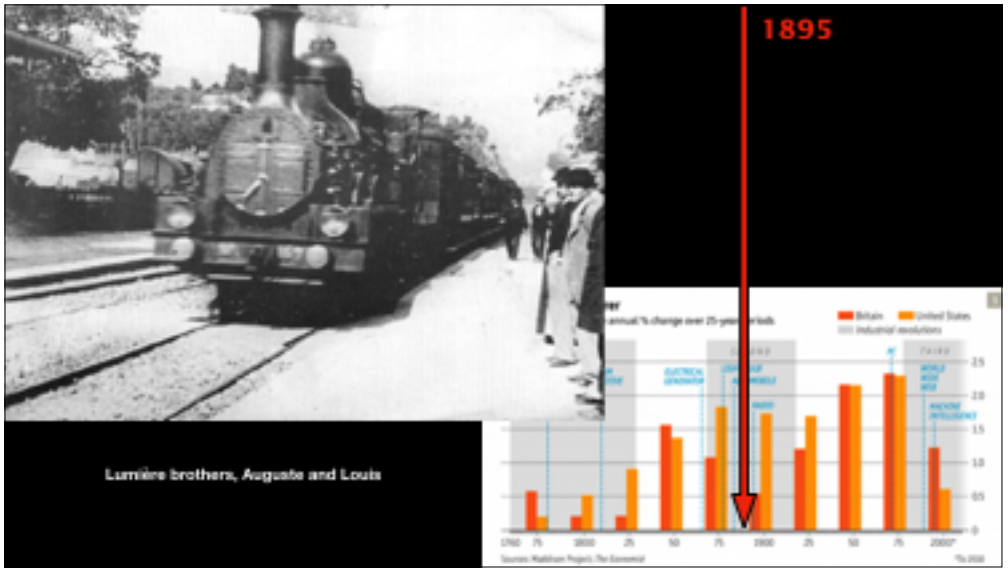
Eduard Daege. The Invention of Painting (1832)

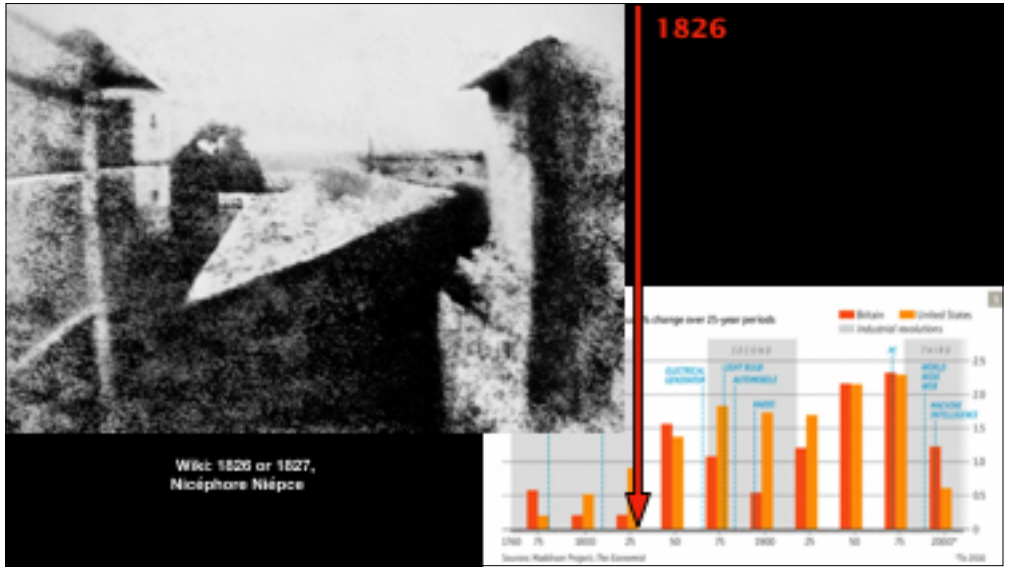
Retina screen


2009
Sony OLED screen
For richer, for poorer

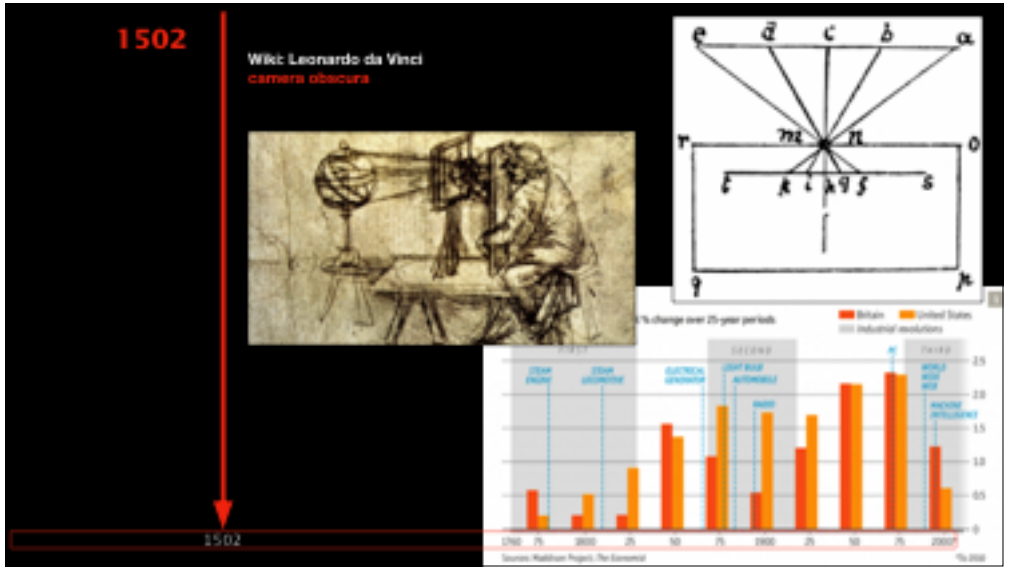

1977
Monochromatic LED
For richer, for poorer


1926
Wiki: Takayanagi projection
NHK Broadcasting Museum, Atagoyama, Tokyo

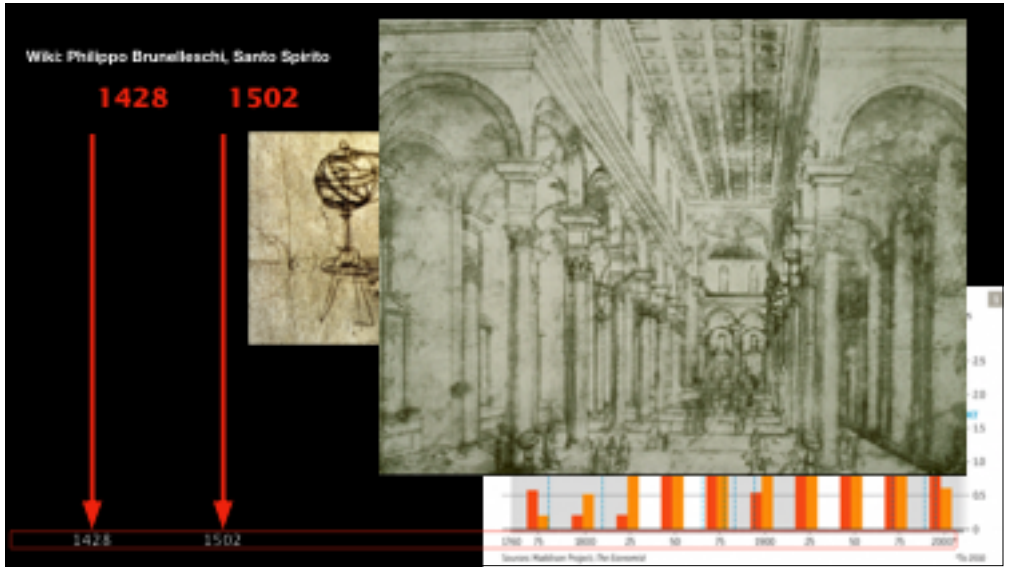

1895
Lumière brothers, Auguste and Louis

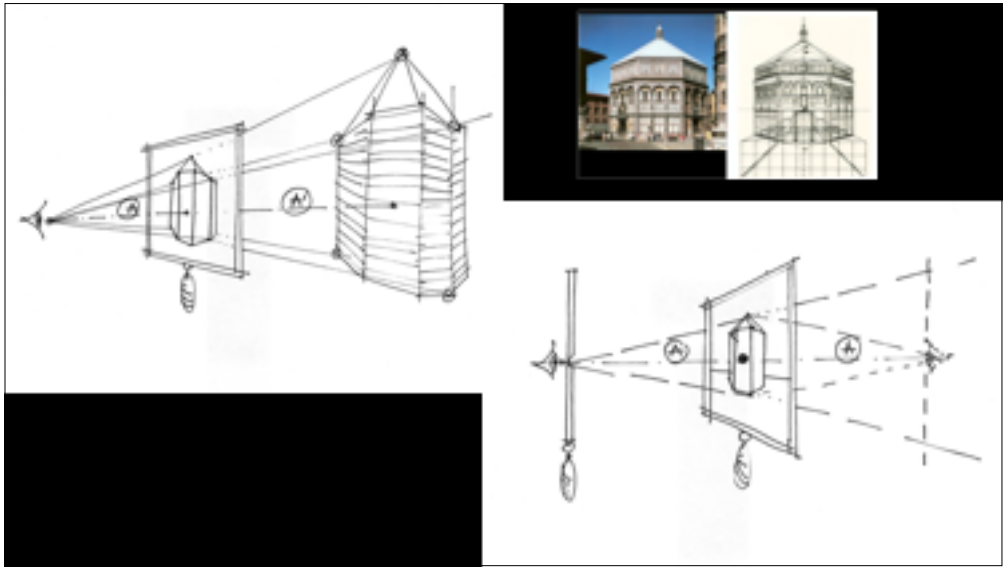

1826
Wiki: 1826 or 1827,
Nicéphore Niépce


Daguerreotype

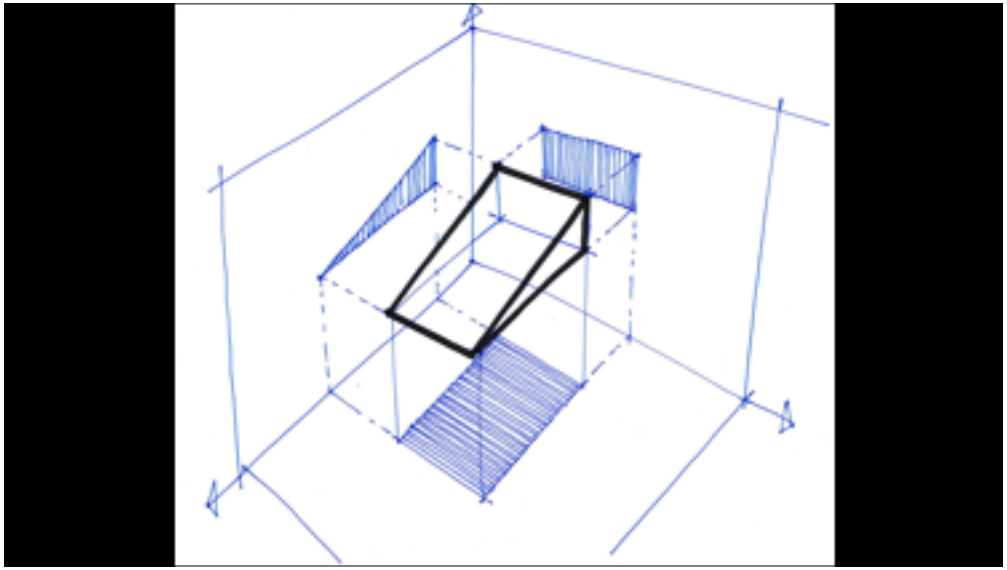

1502
Wiki: Leonardo da Vinci
camera obscura
1502

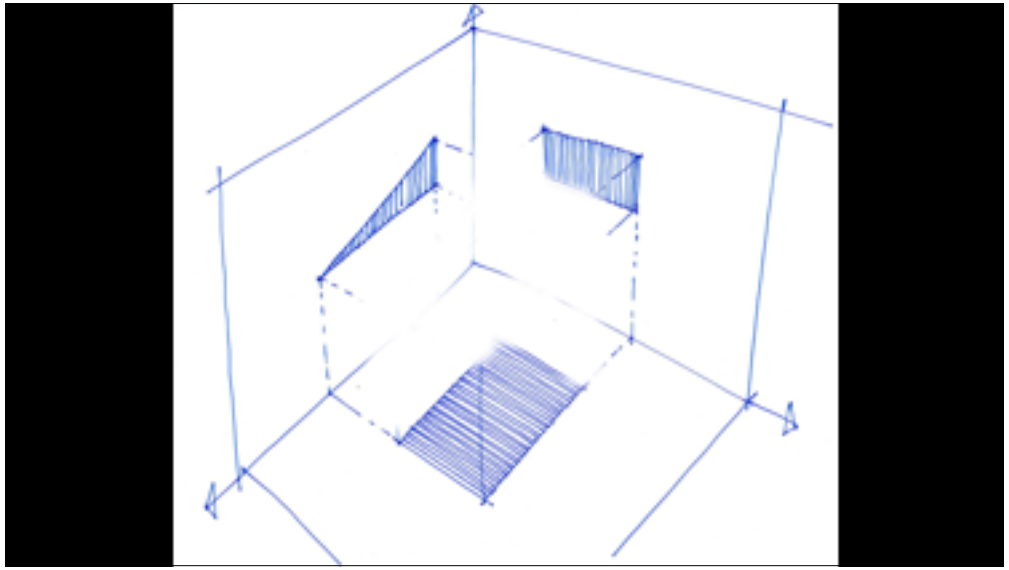

Watch a fascinatingly intricate camera obscura showing Greenwich and the Thames in real time.
The Royal Observatory Greenwich camera obscura is housed in a small summerhouse in the Meridian Courtyard.
There have been a number of camera obscuras at Greenwich, dating from the late 17th century till the mid-19th century. The current one was installed in 1994 and shows a close-up, moving panorama of Greenwich and the Thames, the National Maritime Museum and the Royal Naval College.
View from Camera Obscura at Royal Observatory, Greenwich

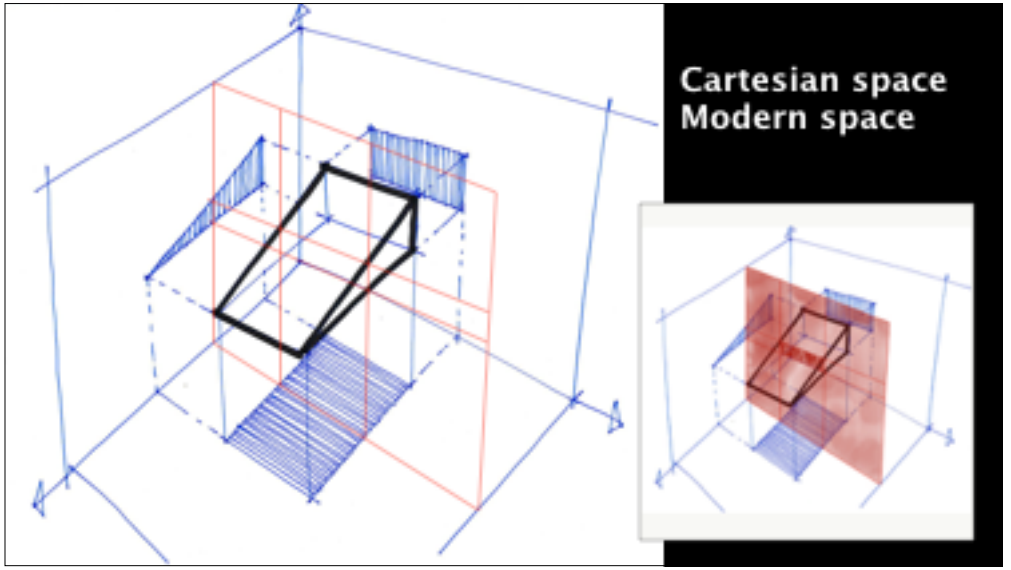

Wiki: Philippo Brunelleschi, Santo Spirito
1428
1502
1428
1502



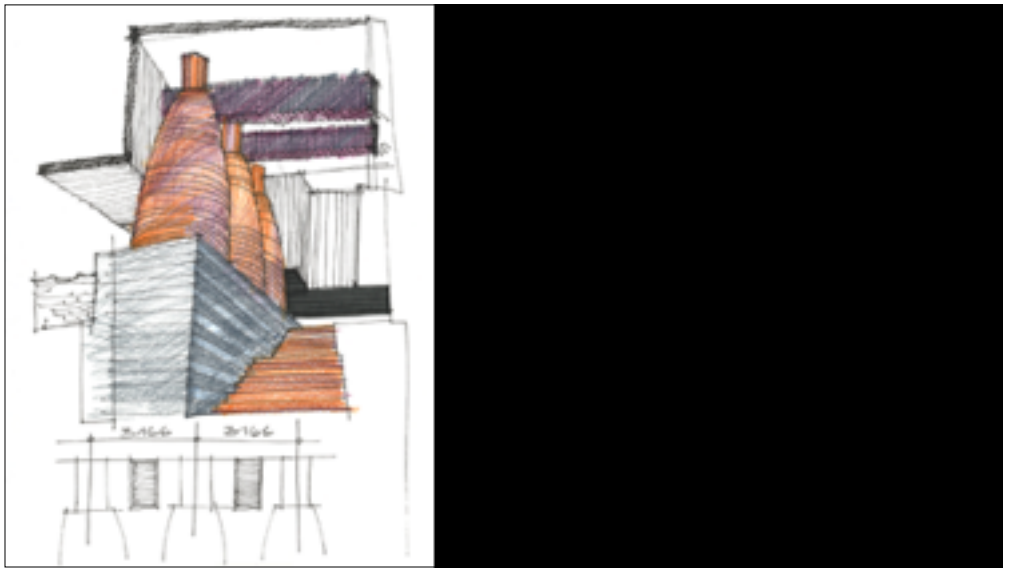

1441 - 1446 Santo Spirito, Firenze
1428

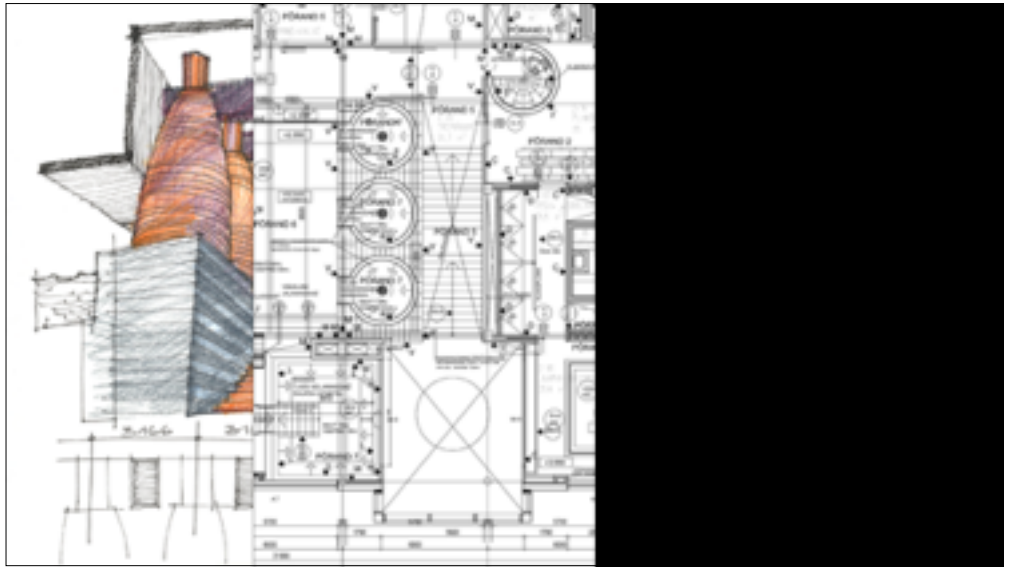


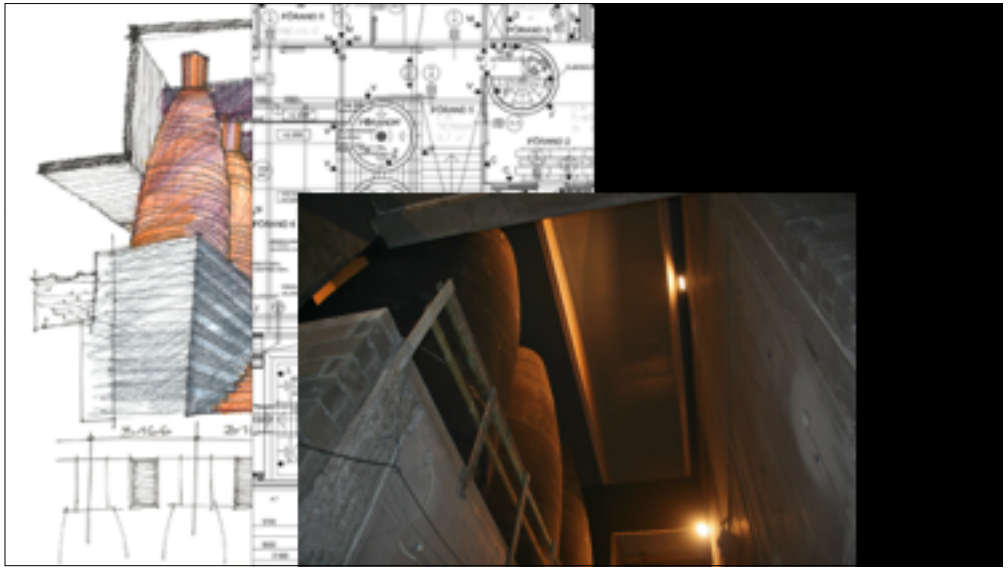


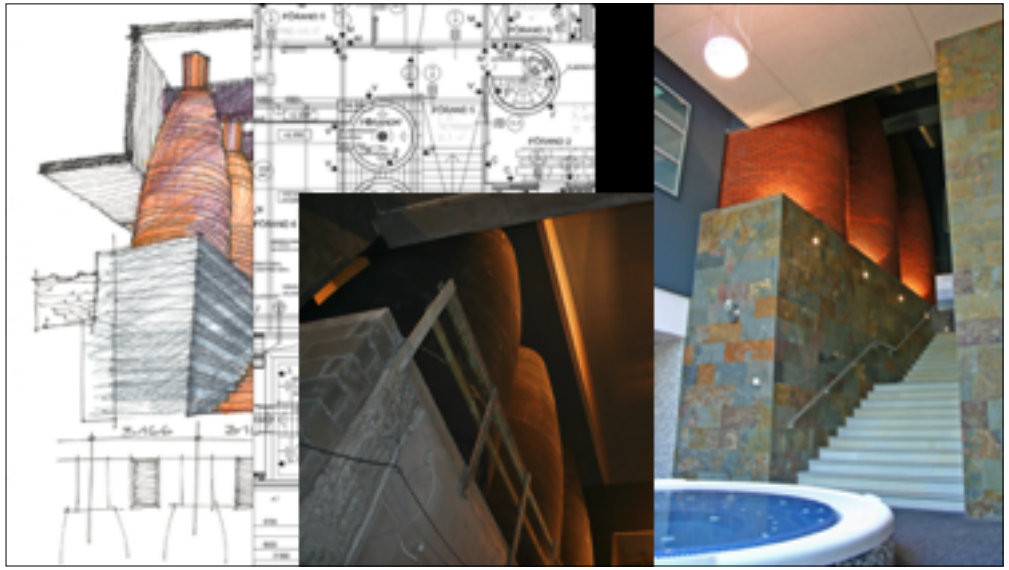

Cartesian space
Modern space

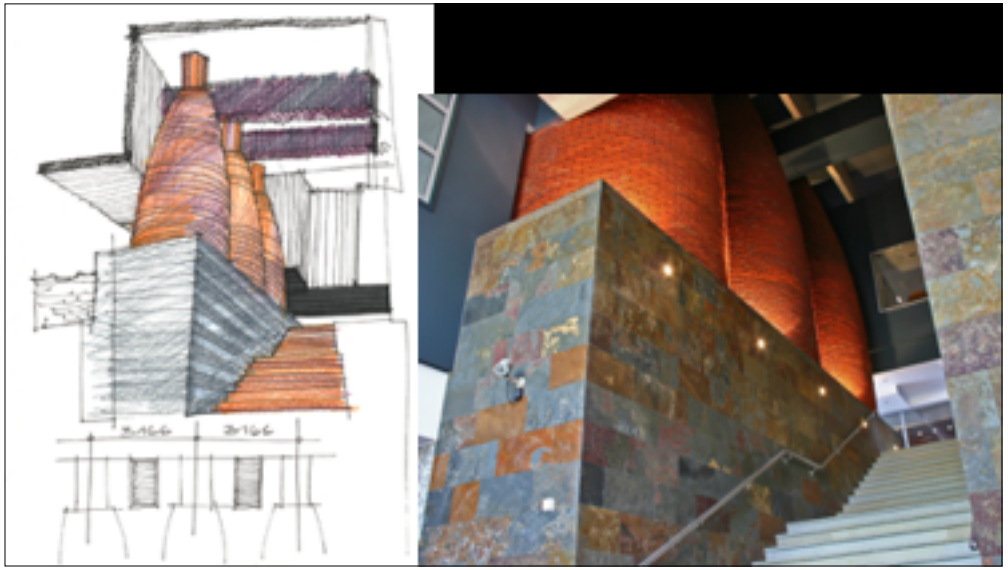

Part 4: The Power of Drawing

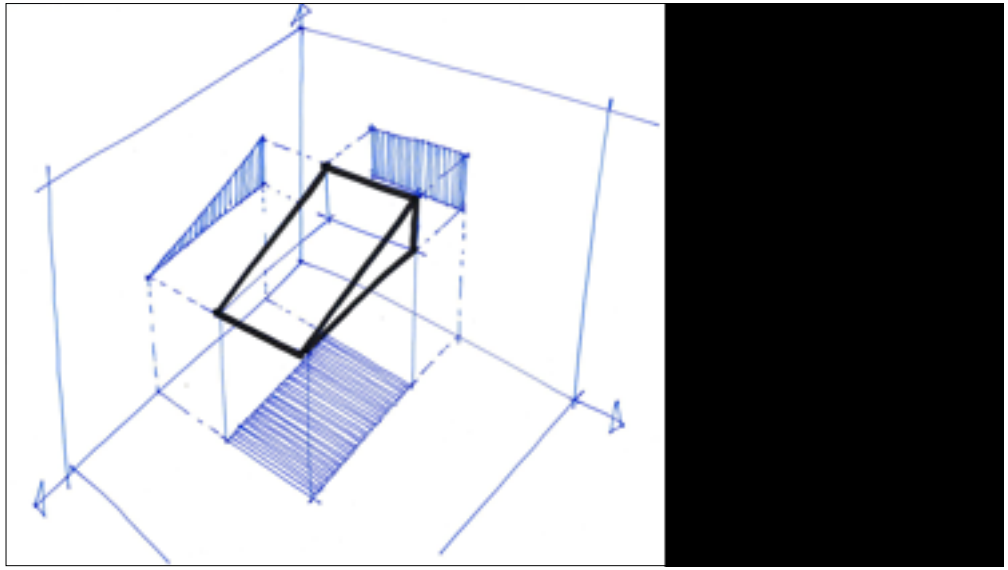


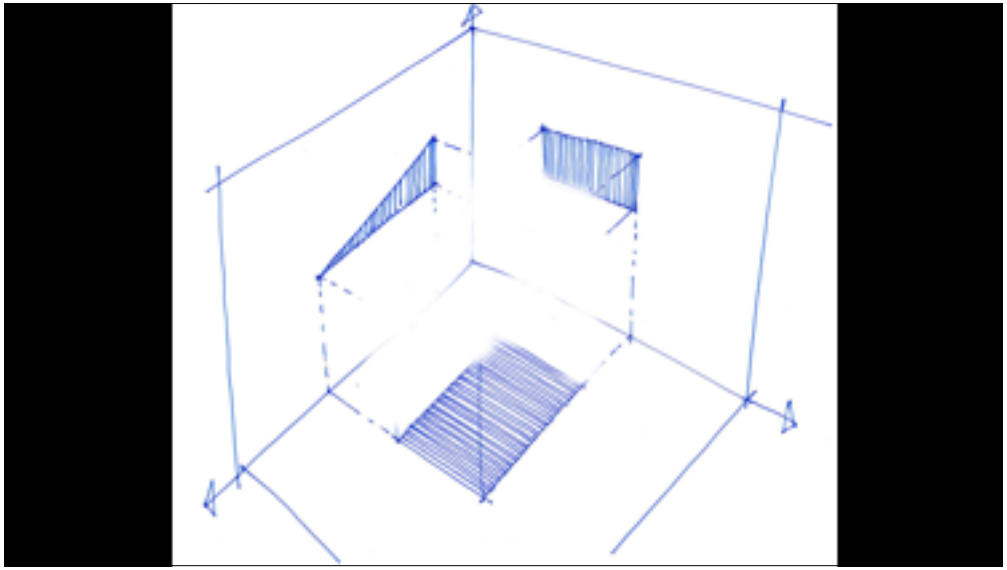


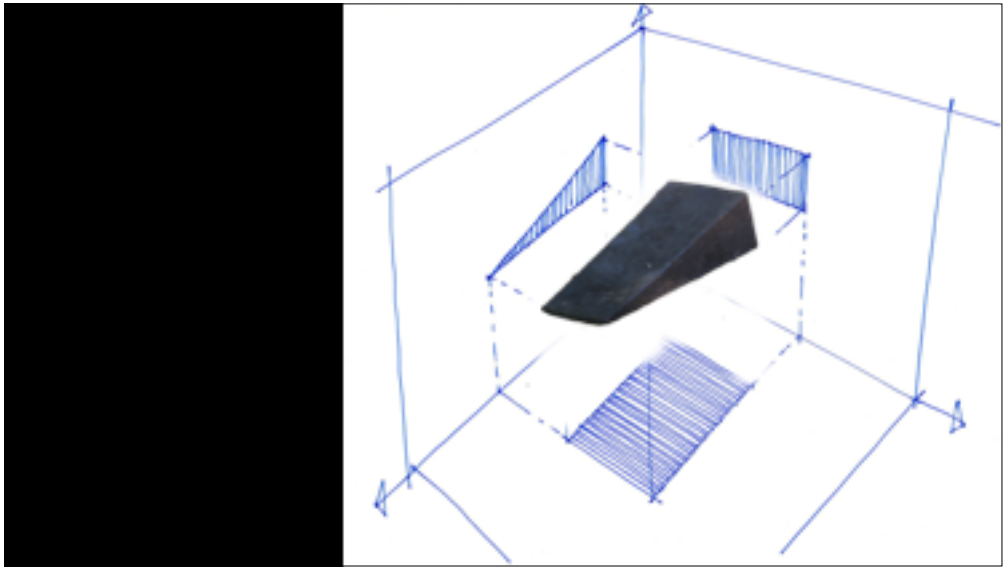


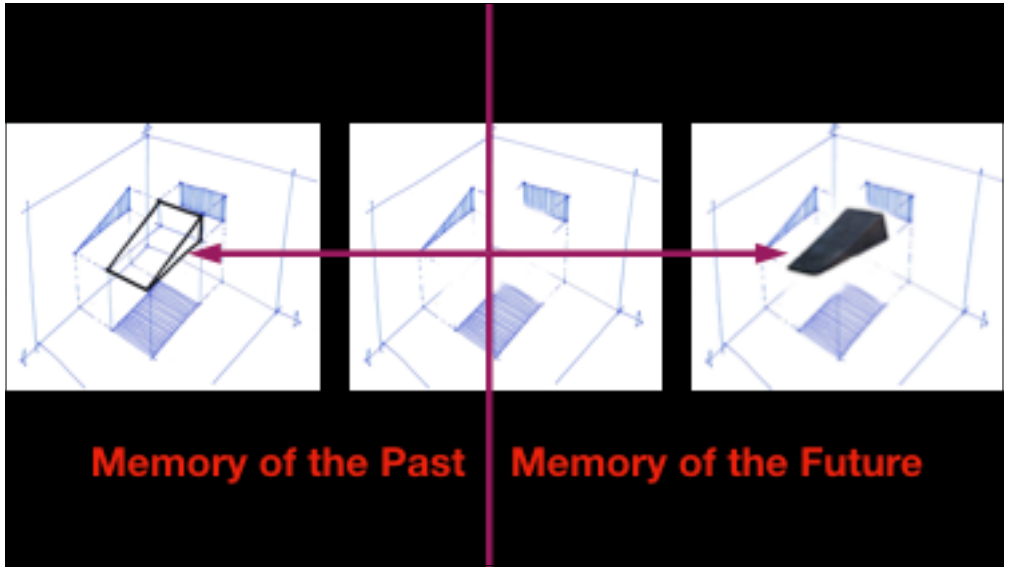


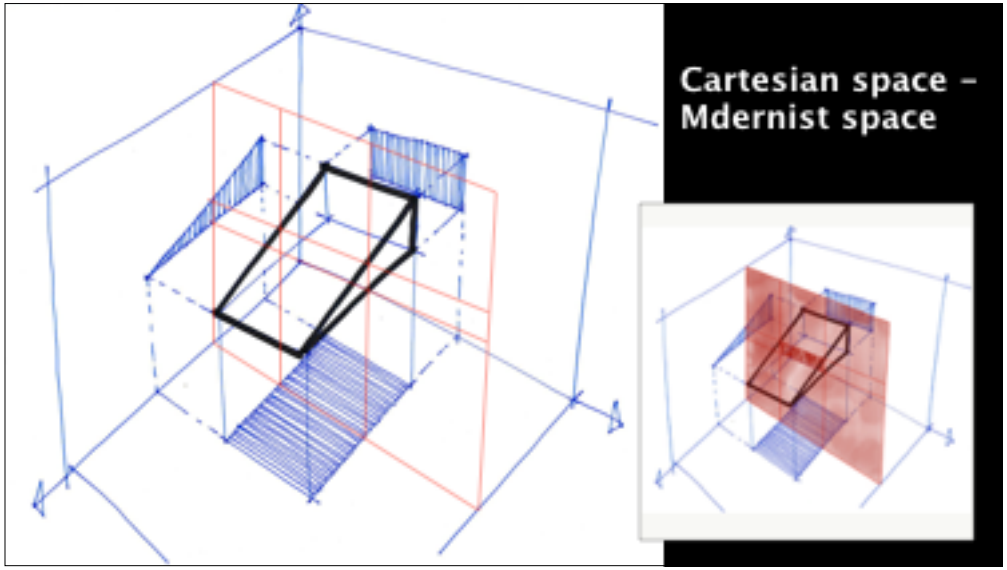












There are three major elements in the current paradigm that might be at the state of disappearing or mutating:

- the representational system of architectural design,
- the means of producing architecture designed and
- the authorship/isolation of an architect designing.

They have been triggered and brought forward by advances in computing, information and communication technology as well as by imagospheric development that has formed on top of the new media technologies.

MODERISM 1
since RENAISSANCE

Some parts of the Digital Reality are already so well organised, presented and exact that they can be used as a parallel reality or hybrid reality.

Most of our everyday work cannot even be done without this new layer of Digital Reality.

The simulating capacity of Digital Reality has transformed itself into a specific design horizon.

Most of the work done within the Digital Reality has become a design work.

- "discovery of knowledge",
- "integration of knowledge", - design
- "sharing of knowledge" and
- "application of knowledge"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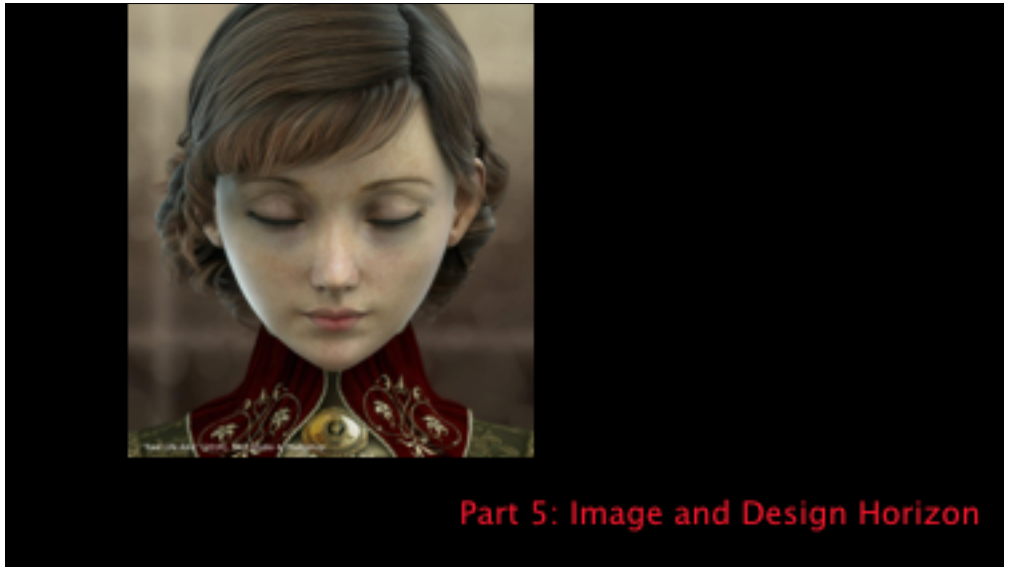
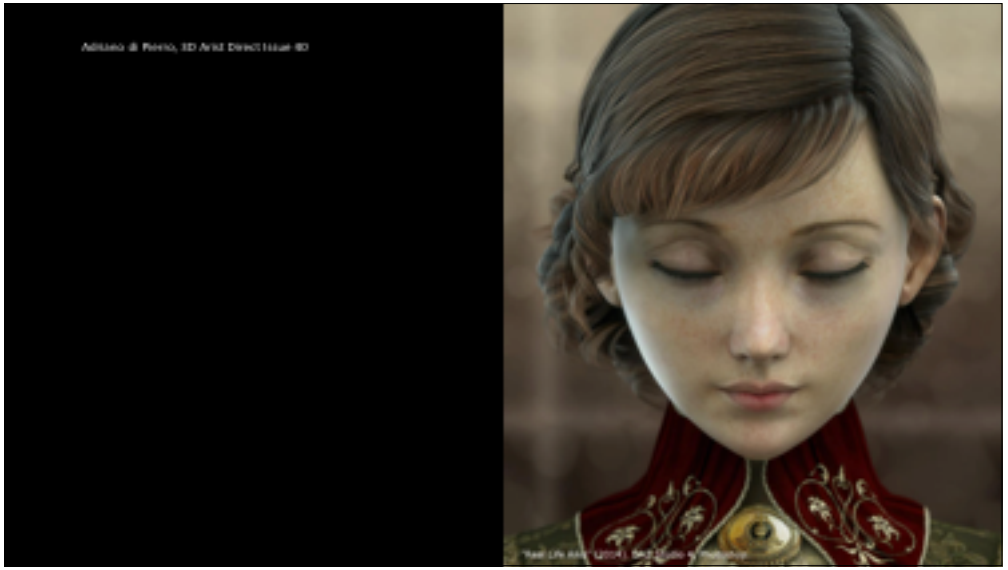
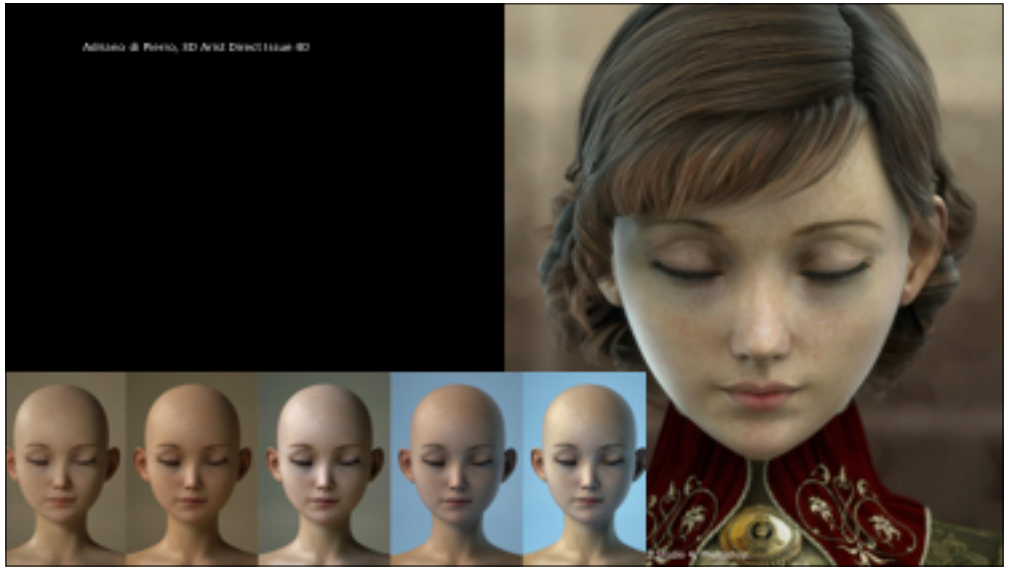
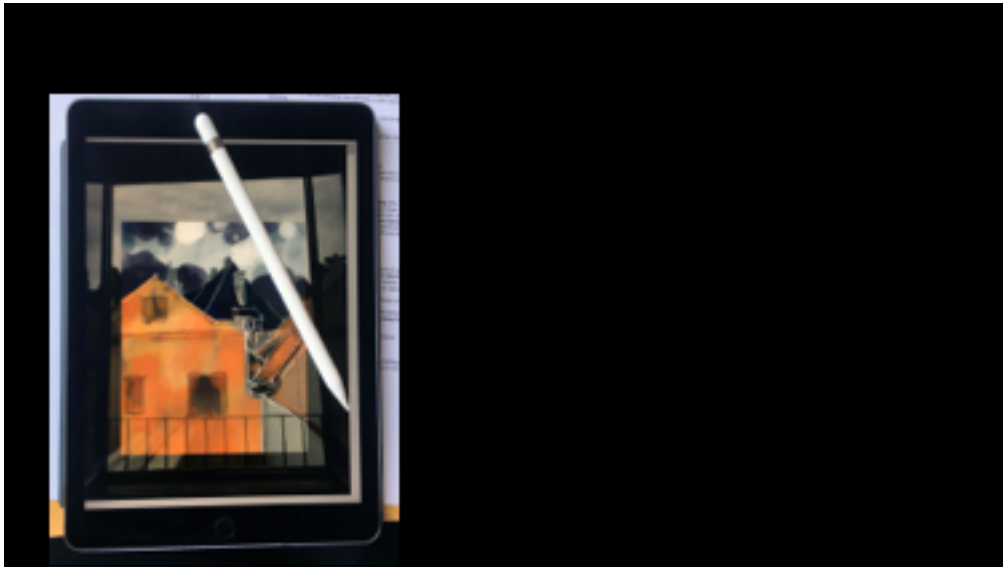
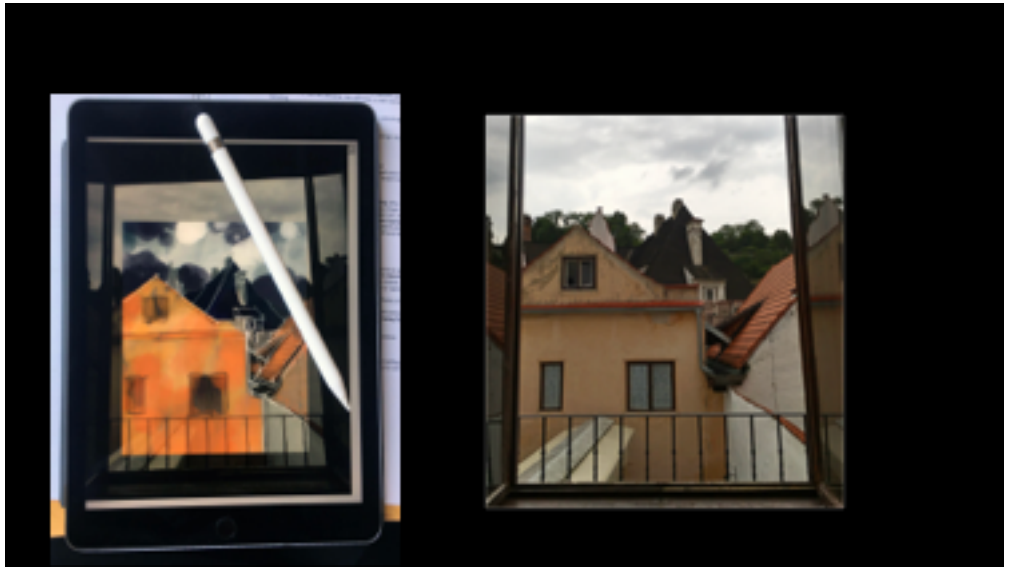

Part 5: Image and Design Horizon






Robert Moran's *Relics*





Part 1: The Power of Seeing
Part 2: The Third Industrial Revolution
Part 3: The Power of Screen
Part 4: The Power of Drawing
Part 5: Image and Design Horizon
EXTRA: Migration of Meanings

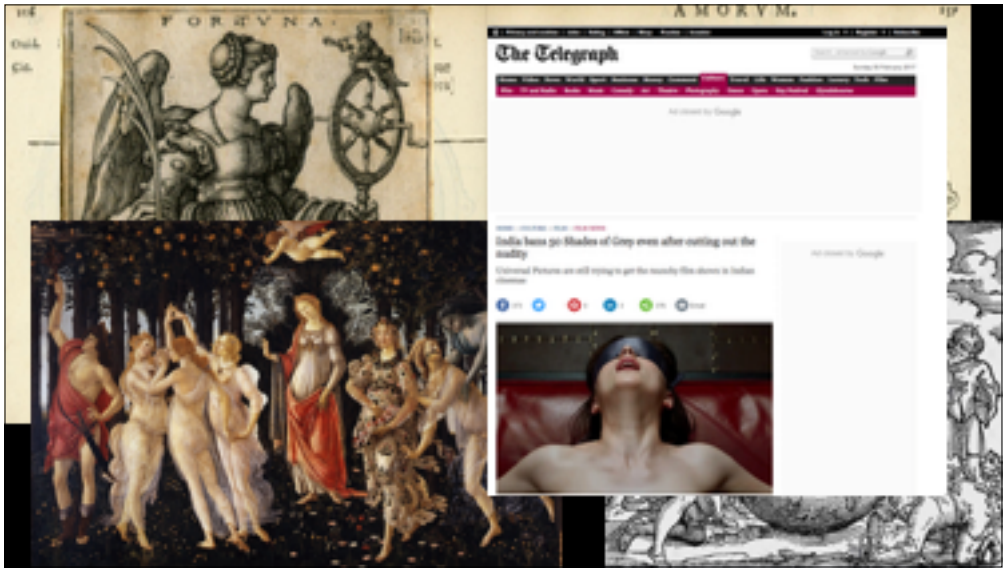
Destiny blinds love

Destiny blinds love sometimes,
And makes it move on its circular globe.
The warmth of misfortune easily melts love,
But true love can defeat a great force.


FORTVNA.
AMORVM.
SINE


FORTVNA.


FORTVNA.
AMORVM.


FORTVNA.
AMORVM.
The Telegraph
India bans 50 Shades of Grey even after cutting out the nudity

Contrasting as they do uplifting spiritual love with debasing sensual passion, they act, so to speak, as witnesses in a law-suit of *Bright-eyed 'Amore,'* extolled in philosophical poetry, vs. *Blind Cupid*, invented and stigmatized by moralizing mythographers.

To the modern beholder the bandage over Cupid's eyes means, if anything, a playful allusion to the irrational and often somewhat puzzling character of amorous sensations and selections. According to the standards of traditional iconography, however, the blindness of Cupid puts him definitely on the wrong side of the moral world. Whether the expression *caecus* is interpreted:

as 'unable to see' (blind in the narrower sense, physically or mentally) or
as 'incapable of being seen' (hidden, secret, invisible) or
as 'preventing the eye or mind from seeing' (dark, lightless, black):

blindness 'conveys to us only something negative and nothing positive, and by the blind man we generally understand the sinner," to speak in the words of a mediaeval moralist." Blindness is therefore always associated with evil, excepting the blindness of Homer, which served supposedly to keep his mind unvitiated by sensual appetites, and the blindness of Justice which was meant to assure her impartiality. Both these interpretations however are foreign to classical as well as to mediaeval thought; the figure of blindfold Justice in particular is a humanistic concoction of very recent origin (Panofsky1972, 109).