

AHST 4342-501 (27532)
History of Media and New Media Art
Spring 2018

Dr. Charissa N. Terranova
University of Texas at Dallas
Arts & Humanities

Tuesdays-Thursdays 1:00-2:15

Class Location: CB 1.106

Office Hours: Tuesday 2:30-3:30
and by appointment

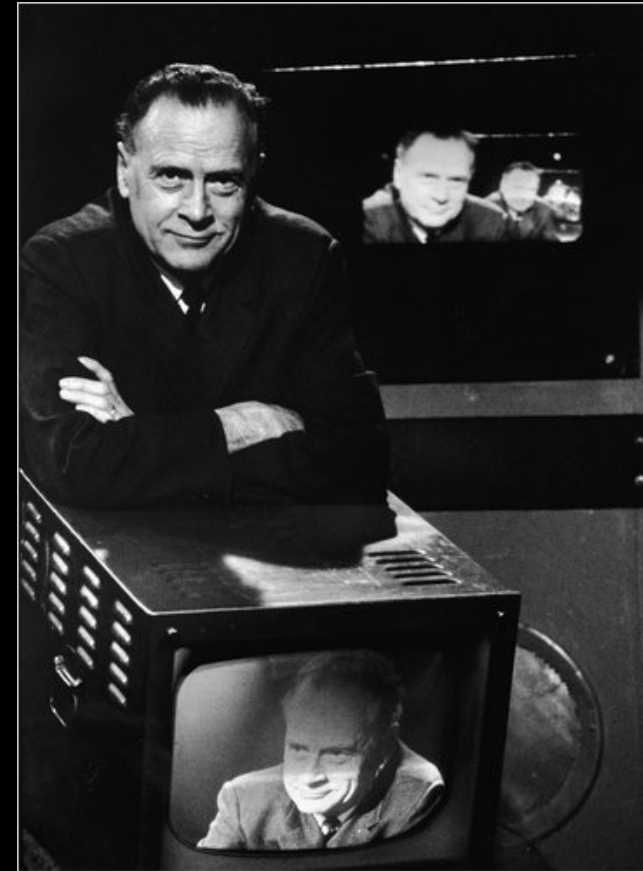
Office Location: ATC 2.704

Contact: terranova@utdallas.edu

www.charissaterranova.com

Tuesday 01/09/18

Course Introduction: What is New Media Art?



Media theorist Marshall McLuhan with
TVs – an example of “recursion” or the
technological nesting of images

This class focuses on the history of art, science, and technology, a field referred to as “media art” or “new media art.” We will look to the role of scientific and technological mediation in works of art and architecture, that is to say, the ways in which science and technology function to shape and midwife the form of a work of art or architecture. Each lecture of this course focuses on new scientific or technological inventions, their influences on the realm of art, and effects on and transformation of our senses and the practice of aesthetics. In addition to learning about artists working with science and technology and their works of art, we will learn about and discuss together the fluid relationship between the classical artistic **medium** (painting, sculpture, architecture, poetry), the **mass media** (advertising and consumerism), and **mediation** (the general filtration of information by science, technology, and art-science-technology hybrids that are interactive, relational, kinetic, and digital).

Goals of Course:

- Learn and engage the history of science and technology within art, 1832-present.
- Learn the philosophical meaning and artistic incarnation of medium, media, and mediation.
- Learn how to think critically about the history of media and new media art, and its cultural and political ramifications.
- Learn how to identify the salient and successfully formal components of a work of art, whether a painting or a performance.
- Habituate close and analytical reading of texts.
- Hone critical writing skills through weekly written assignments.

Requirements:

- Students are required to attend every scheduled class meeting, complete the assigned reading prior to class, and participate with verve and gusto in class discussions.
- Students are required to complete all written assignments and come to class ready to discuss weekly reading assignments.

Attendance Policy:

- Students are allowed two unexcused absences after which every unexcused absence will result in a deduction of ½ grade in the computation of the final mark.
- Absences will be excused with a doctor's excuse.
- Absences for religious holidays are excused. [See links below.]

Readings:

The reading assignments are available in your textbook and at the Docutek website listed below:

Textbook: Hannah B. Higgins and Douglas Kahn, *Mainframe Experimentalism: Early Computing and the Foundations of the Digital Arts*. Los Angeles: University of California Press, 2012.

Docutek URL: <http://utdallas.docutek.com/eres/coursepass.aspx?cid=2249>

Docutek Password: mediation

Classroom Meetings:

This course meets twice a week. Tuesdays will be devoted to a lecture from the professor and note-taking by students. Thursdays will be devoted to classroom discussion of the reading and note-taking by students, driven by a powerpoint presentation given by the professor and questions from students. Starting the week of January 16-18, these questions will be part of the written assignment.

During the first week of class, January 9-11, students are required to send the professor one question pertaining to the week's reading.

Writing by Questioning – Reader Response Papers:

Students will submit a 350- to 400-word reader response paper **every Tuesday** starting with the second week of class January 16-18. Responses should be based on a question about the reading, and then, by way of this query, briefly and cogently summarize the week's reading assignment. The goals of these papers are to: 1.) show that you have completed and understood the reading assignment and 2.) improve your writing skills. It should be formatted according to the following requirements:

- Submitted printed and in paper each Tuesday
- Left-hand justified heading with name of student, course number, professor's name, date
- Followed by your question as a title, center justified underlined or italicized
- Double spaced
- 12 pt. font
- 350 to 400 words
- Page numbers if necessary; Stapled if necessary
- Do not use the first person or passive voice. Write objectively using the active voice.
- Model your writing after that of sophisticated journalism outlets.

NOTE ON DATES: I do not accept late reader response papers.

Grading:

Your grade in the course will be calculated from the following percentages:

- Written reader responses 14 assignments x 7.14% =100%

Standard UTD policies regarding classroom behavior, religious holidays, withdrawals, etc.:

<https://policy.utdallas.edu/utdsp5003>

<http://provost.utdallas.edu/>

<http://www.charissaterranova.com/syllabi/utd-policies.htm>

Schedule:

Tuesday January 9-Thursday January 11

- **Course Introduction: What is New Media Art?**
- **Medium, Media, Mediation, Remediation and Recursion, an Introduction to Terms**
-Edward Shanken, *Art and Electronic Media* (London: Phaidon, 2009) 10-53. DOCUTEK
- Due Wednesday January 10 to terranova@utdallas.edu: One question about reading

Tuesday January 16-Thursday January 18

- **From Painting to the Daguerreotype**
-Sarah Kate Gillespie, "Mechanical Imitation," in *Samuel F. B. Morse's Gallery of the Louvre and the Art of Invention*, ed. Peter John Brownlee (New Haven, CT: Yale University Press/Terra Foundation for American Art, 2014) 100-110. DOCUTEK

Tuesday January 23-Thursday January 25

- **Photograph: The Construction of Vision**
- Susan Sontag, "In Plato's Cave," *On Photography* (New York: Picador, 2001) 3-26. DOCUTEK

Tuesday January 30-Thursday February 1

- **Chronophotography: Capturing Time and Movement in Image**
-Dimitrios Latsis, "Landscape in Motion: Muybridge and the Origins of Chronophotography," *Film History* Vol. 27, No. 3 (2015) 1-40. DOCUTEK

Tuesday February 6-Thursday February 8

- **Early Computer Art**

- Hannah B. Higgins and Douglas Kahn, Introduction, *Mainframe Experimentalism*, 1-16.
- Grant Taylor, "The Soulless Usurpers: Reception and Criticism of Early Computer Art," *Mainframe Experimentalism*, 17-37.

Tuesday February 13-Thursday February 15

- **Thinking Machines**

- David Bellos, "Georges Perec's Thinking Machines," *Mainframe Experimentalism*, 38-50.

Tuesday February 20

- **Software**

- Edward A. Shanken, "In Forming *Software*: Software, Structuralism, Dematerialization," *Mainframe Experimentalism*, 51-65.

Thursday February 22 NO CLASS Annual CAA Meeting

Tuesday February 27-Thursday March 1

- **New Tendencies**

- Margit Rosen, " 'They Have All Dreamt of the Machines – and Now the Machines Have Arrived': New Tendencies – Computers

Tuesday March 6-Thursday March 8

- **Minicomputer Experimentalism**

-Charlie Gere, "Minicomputer Experimentalism in the United Kingdom," *Mainframe Experimentalism*, 112-130.

Tuesday March 13-Thursday March 15 NO CLASS SPRING BREAK

Tuesday March 20-Thursday March 22

- **Music and Algorithms**

-Douglas Kahn, "James Tenney at Bell Labs," *Mainframe Experimentalism*, 131-146.

Tuesday March 27-Thursday March 29

- **Sound and Algorithms**

-Christopher Cox, "The Alien Voice: Alvin Lucier's *North American Time Capsule 1967*," *Mainframe Experimentalism*, 170-186.

-Robert A. Moog, "An Introduction to *North American Time Capsule 1967*," *Mainframe Experimentalism*, 187-188.

-Alvin Lucier, "*North American Time Capsule 1967*," *Mainframe Experimentalism*, 189-194.

Tuesday April 3-Thursday April 5

- **Art and Intermedia I**

-Hannah B. Higgins, "An Introduction to Alison Knowles's *The House of Dust*," *Mainframe Experimentalism*, 195-199.

-Benjamin H.D. Buchloh, "The Book of the Future: Alison Knowles's *The House of Dust*," *Mainframe Experimentalism*, 200-208.

Tuesday April 10-Thursday April 12

- **Art and Intermedia II**

-Simon Ford, "Three Early Texts by Gustav Metzger on Computer Art," *Mainframe Experimentalism*, 209-228.

-William Kaizen, "Computer Participator: Situating Nam June Paik's Work in Computing," *Mainframe Experimentalism*, 229-242.

Tuesday April 17-Thursday April 19

- **Poetry and Computation**

-Hannah B. Higgins, "The Computational Word Works of Eric Andersen and Dick Higgins," *Mainframe Experimentalism*, 279-287.

-Dick Higgins, "'Computers for the Arts' (May 1968)," *Mainframe Experimentalism*, 292-297.

Tuesday April 24-Thursday April 26

- **Film, Animation, and New Media Art**

-Gloria Sutton, "Stan VanDerBeek's Poemfields: The Interstice of Cinema and Computing," *Mainframe Experimentalism*, 311-333.

-Zabet Patterson, "From the Gun Controller to the Mandala: The Cybernetic Cinema of John and James Whitney," *Mainframe Experimentalism*, 334-354.

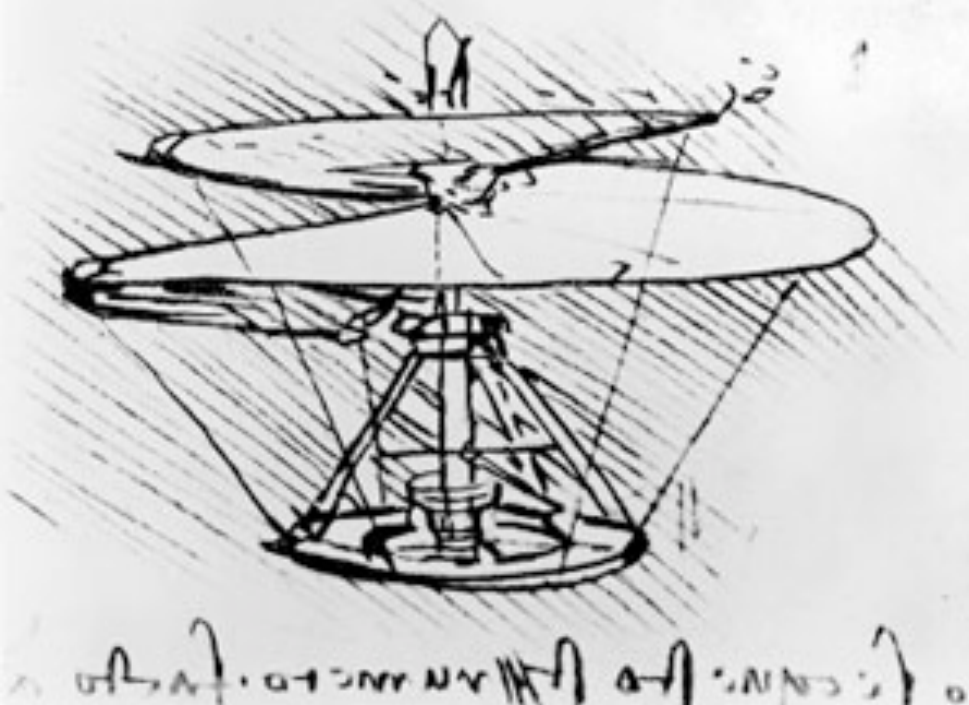
What is new media art?

- **New media art** is a genre that encompasses artworks created with **new media** technologies, including digital art, computer graphics, computer animation, virtual art, Internet art, interactive art, video games, computer robotics, 3D printing, cyborg art and art as biotechnology.
- Sometimes it is referred to as “Media Art.”
- This class focuses on the history of this genre and how it transforms conventional art, the human sensorium, and aesthetics.
- Our goal is to understand the new modes of critical thinking and awareness bodied forth in and by new media art.

Art, Science, and Technology

1. Technological Invention by Artists and Aesthetic Experience 1500-present
2. Art-science-technology hybrids within Modernism and Postmodernism 1875-present
3. Digital technology *as* art, c. 1995-present
4. Biology in Art and Architecture, BioArt, 1900-present

1. Technological Invention by Artists and Aesthetic Experience 1500-present



Leonardo Da Vinci, Ornithopter Flying Device, 1480

Leonardo Da Vinci, Armored War Vehicle, 1485



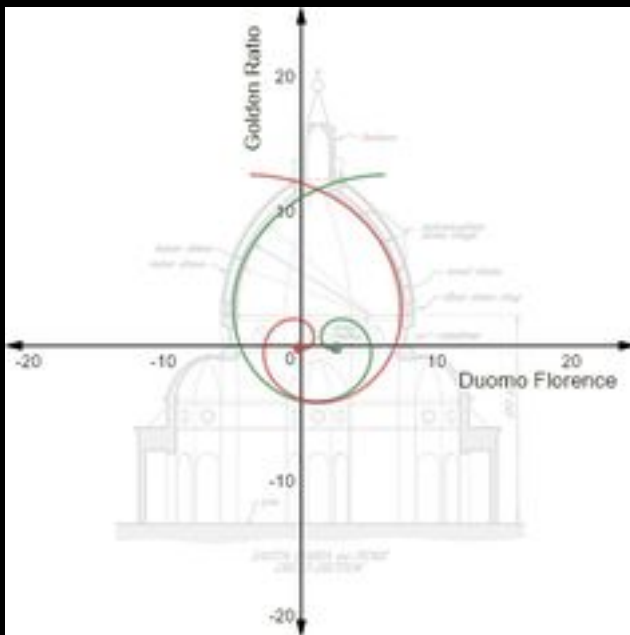


Filippo Brunelleschi, Duomo, 1480, Florence, Italy

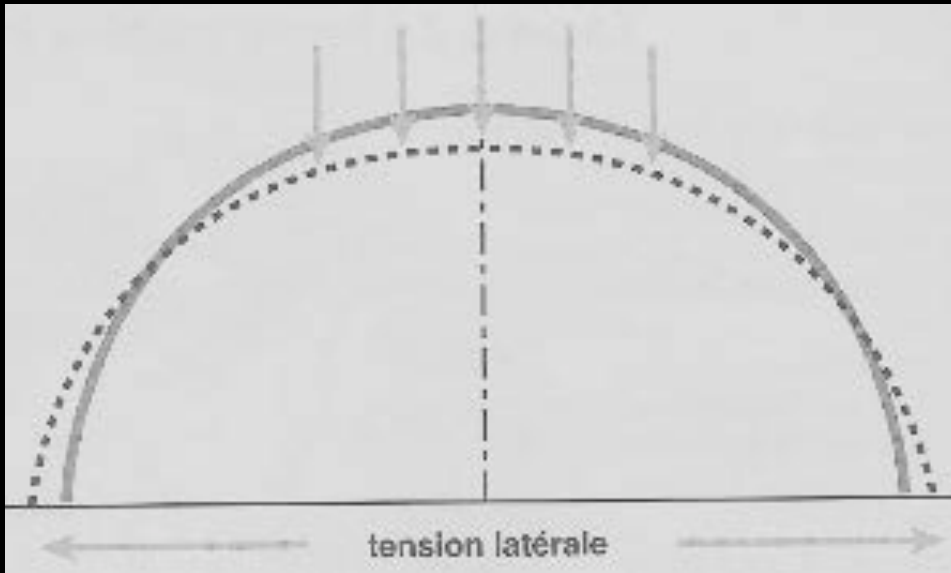


Filippo Brunelleschi (1377-1446)

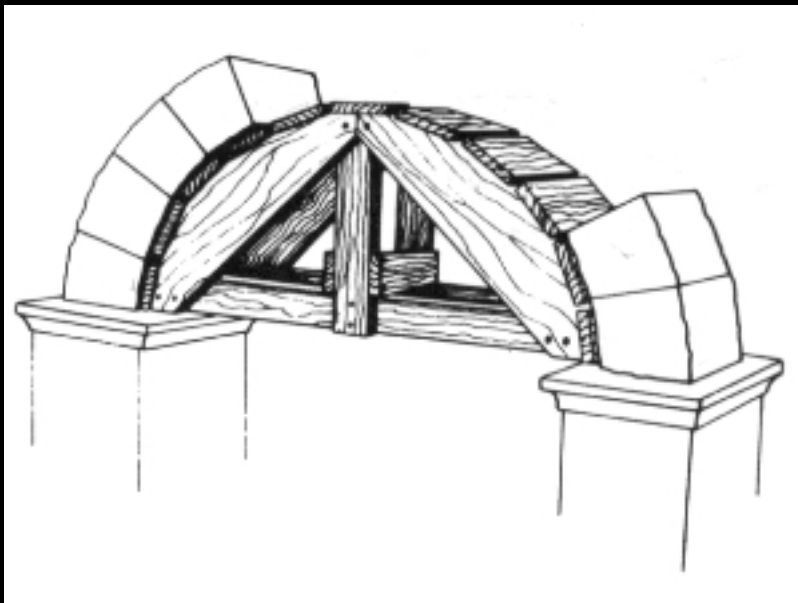
“Which man, whatever harsh or jealous, would not praise Filippo when seeing this enormous construction rise to the heavens, so vast that it could cover all the people of Tuscany with its shadow, and executed without the aid of beams or wooden struts.” -- Leon Battista Alberti (1404-1472), in the prologue of his treatise on perspective, “De Pictura” (1435)



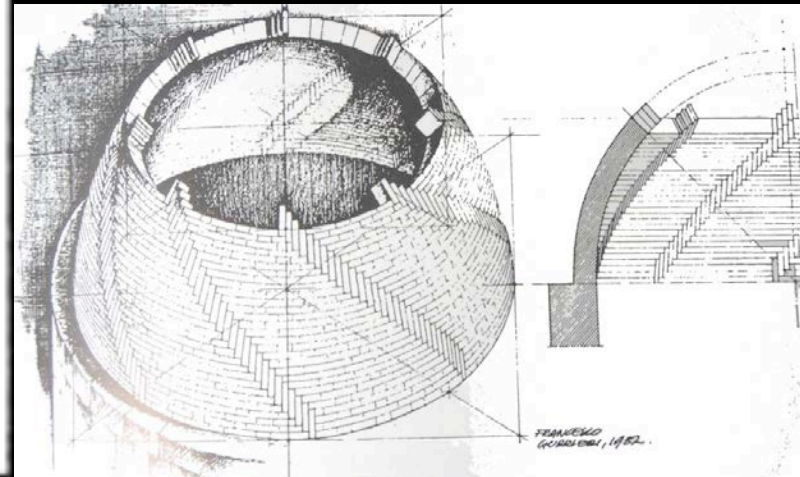
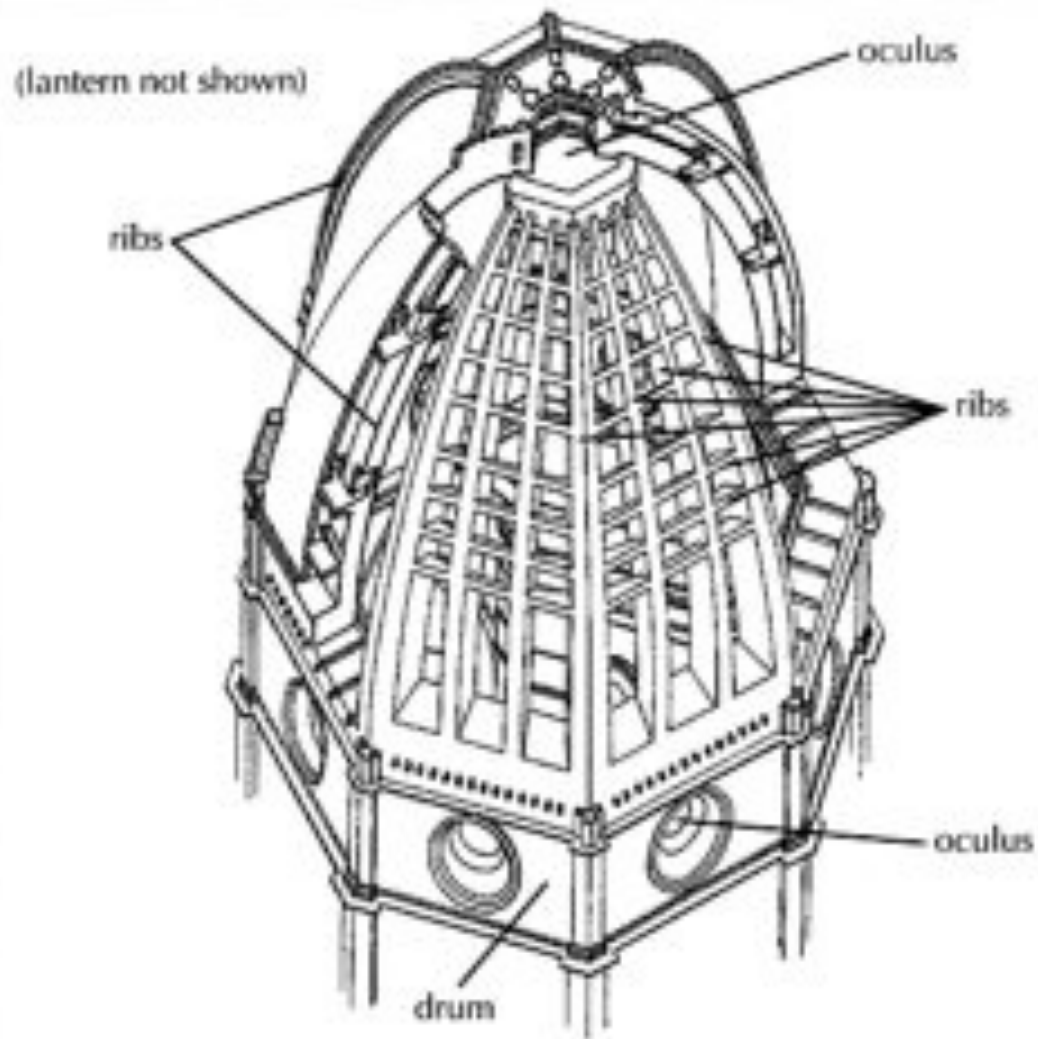
Giuseppe Fattori (1818- 1888)
The Florentine architect Brunelleschi proves his theory on the construction of the Cathedral dome
with the aid of an egg



Centering is a type of **falsework**: the temporary structure upon which the stones of an arch or vault are laid during construction.



“Falsework” was used to construct both the circular and the pointed arch





catenary arch
an architectural
pointed art that
follows an
inverted catenary
curve



Catenary *

The catenary is also known as the chainette, alyroid, and hyperbolic cosine. It is defined as the graph of the function $y = a \cosh(x/a)$. (Recall that $\cosh(x)$ is defined as $(e^x + e^{-x})/2$, where $e = 2.71828\dots$ is the base of the natural logarithms.

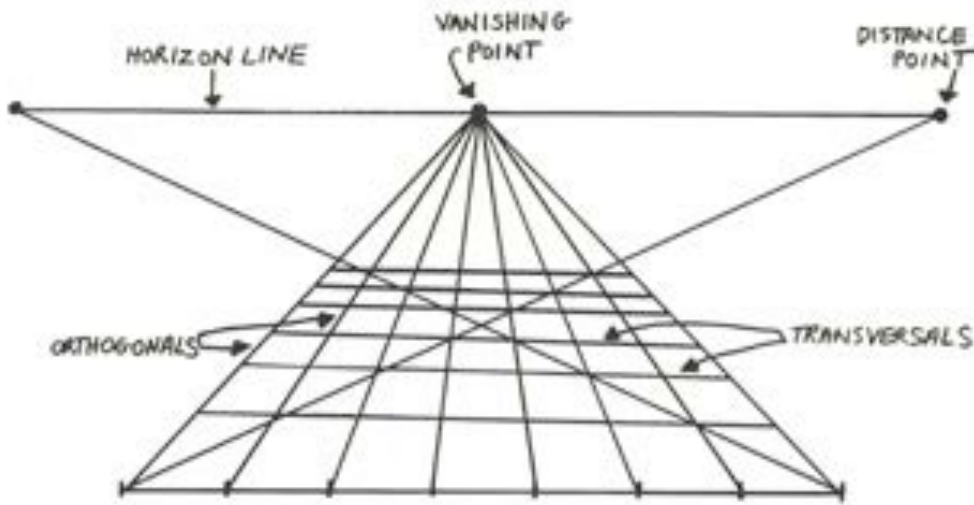


The Catenary

The catenary is the shape an ideal string takes when hanging between two points. By "ideal" is meant that the string is perfectly flexible and inextensible, has no thickness, is of uniform density. In other words the catenary is a mathematical abstraction of the shape of a hanging string, and it closely approximates

*This file is from the 3D-ExplorMath project.
Please see <http://top.math.toronto.edu/3D-ExplorMath/index.html>

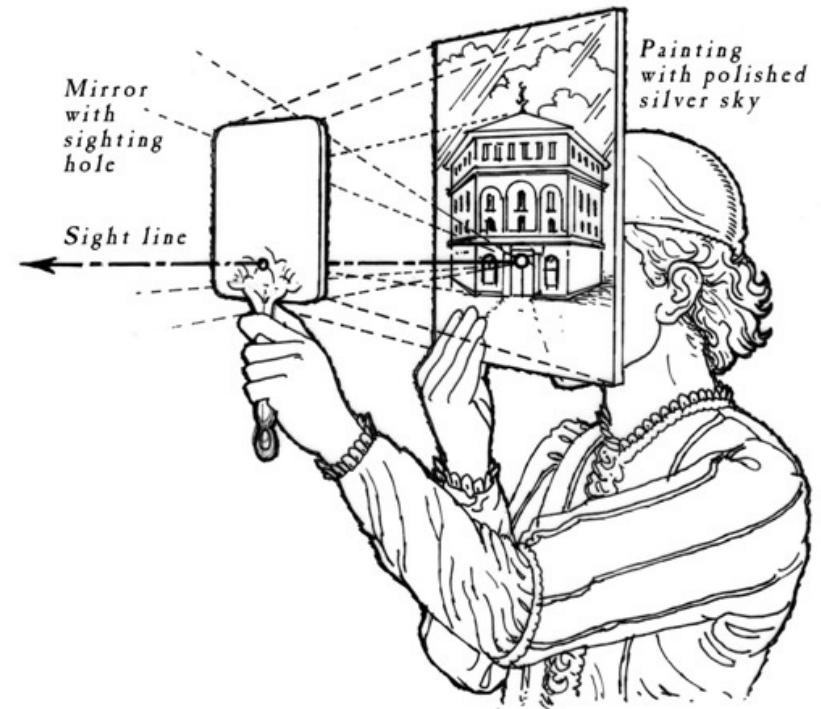


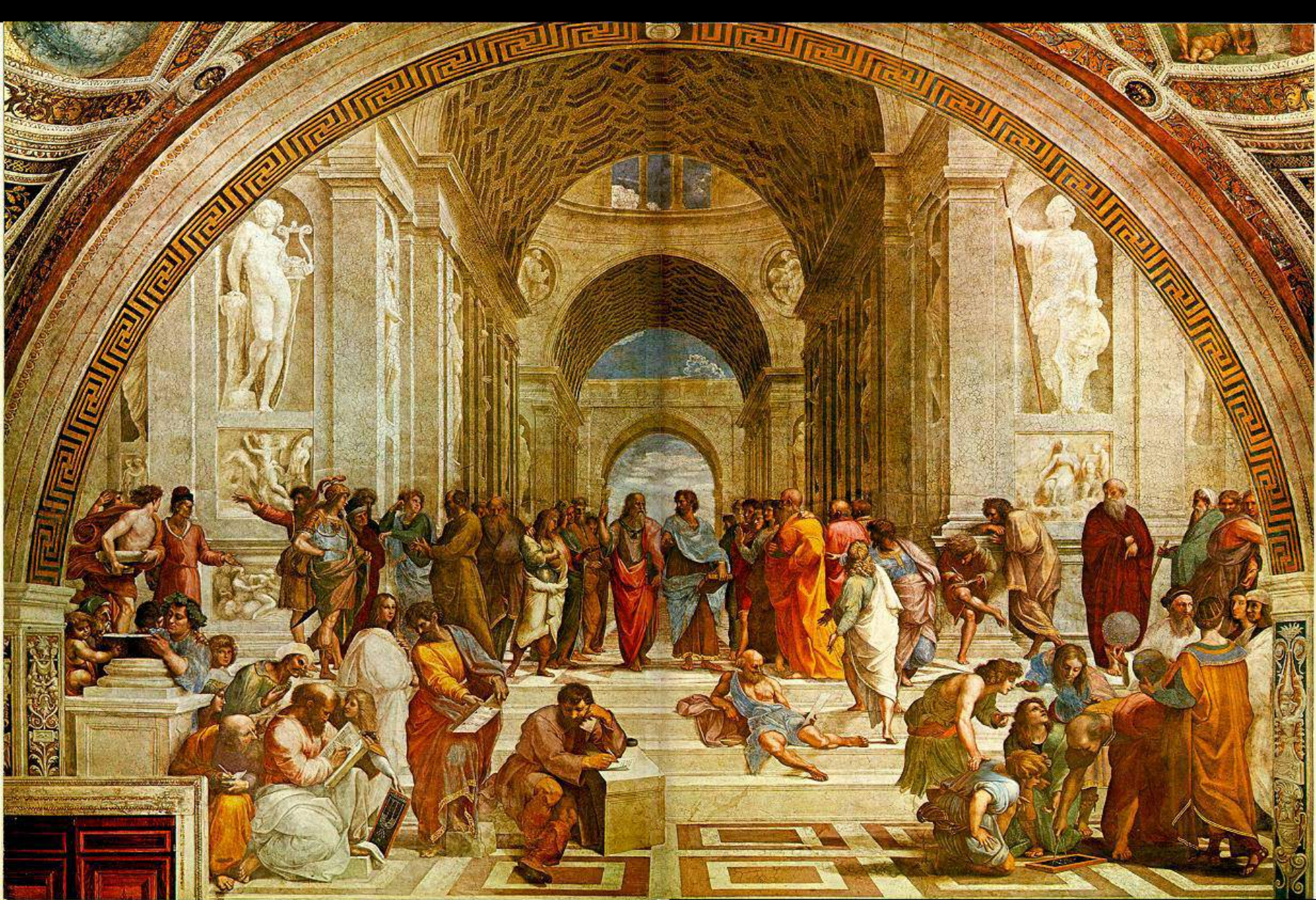


How do you make a picture realistic? Brunelleschi observed that with a fixed single point of view, parallel lines appear to converge at a single point in the distance. In a famous noted experiment, Brunelleschi used mirrors to sketch the Florence Baptistery in perfect perspective. He was able to mathematically calculate the scale of objects within a painting in order to make them appear realistic. Brunelleschi wanted his new perspective "realism" to be tested not by comparing the painted image to the actual Baptistery but to its reflection in a mirror according to the Euclidean laws of geometric optics.

Filippo Brunelleschi, Linear
Perspective, c. 1420

Technologies/techniques of vision





Raphael, School of Athens, 1509-10



Technological Invention by Artists and Aesthetic Experience 1500-present

Existential Nature of Technology

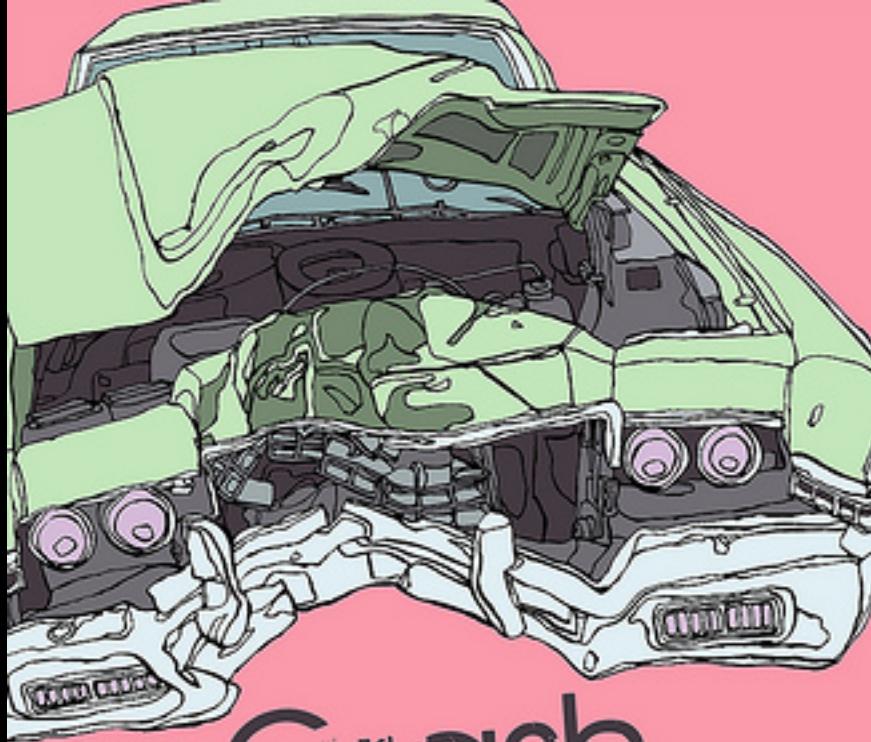
Aesthetic Experience of Technology

*Automotive Prosthetic:
Technological
Mediation and the Car
in Conceptual Art*



TECHNOLOGICAL AND THE CAR
MEDIATION
IN CONCEPTUAL ART
CHARISSA N. TERRANOVA

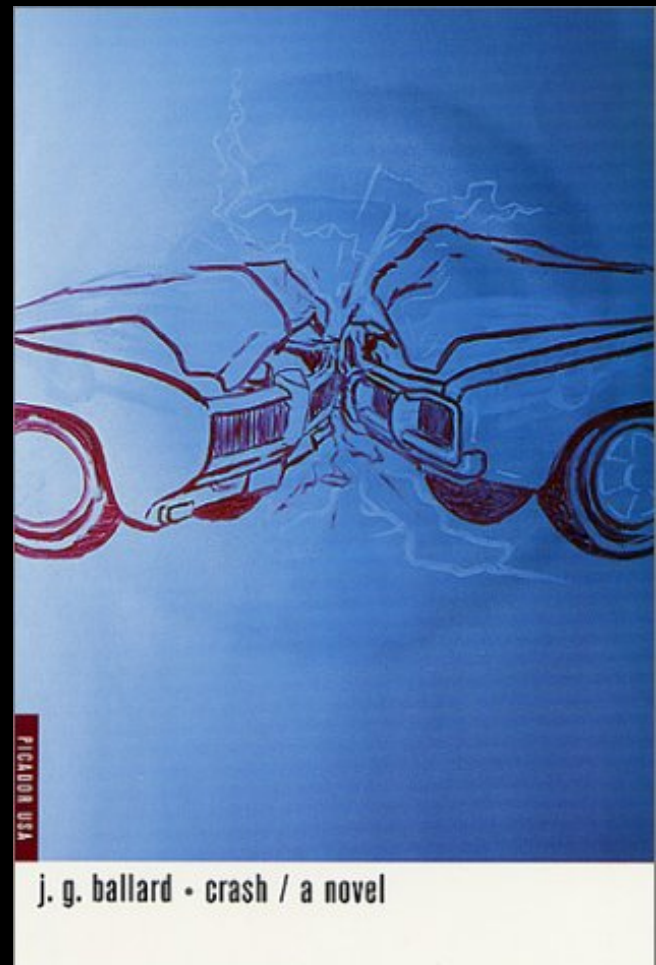




Crash

J.G. Ballard

'A work of very powerful originality.
Ballard is amongst our finest writers of fiction'
Anthony Burgess



j. g. ballard • crash / a novel

A car crash harnesses elements of eroticism, aggression, desire, speed, drama, kinesthetic factors, the stylizing of motion, consumer goods, status -- all these in one event. I myself see the car crash as a tremendous sexual event really: a liberation of human and machine libido (if there is such a thing).

JG Ballard



Richard Prince, Point Courage, 1989



Richard Prince, Continuation, 2004-5



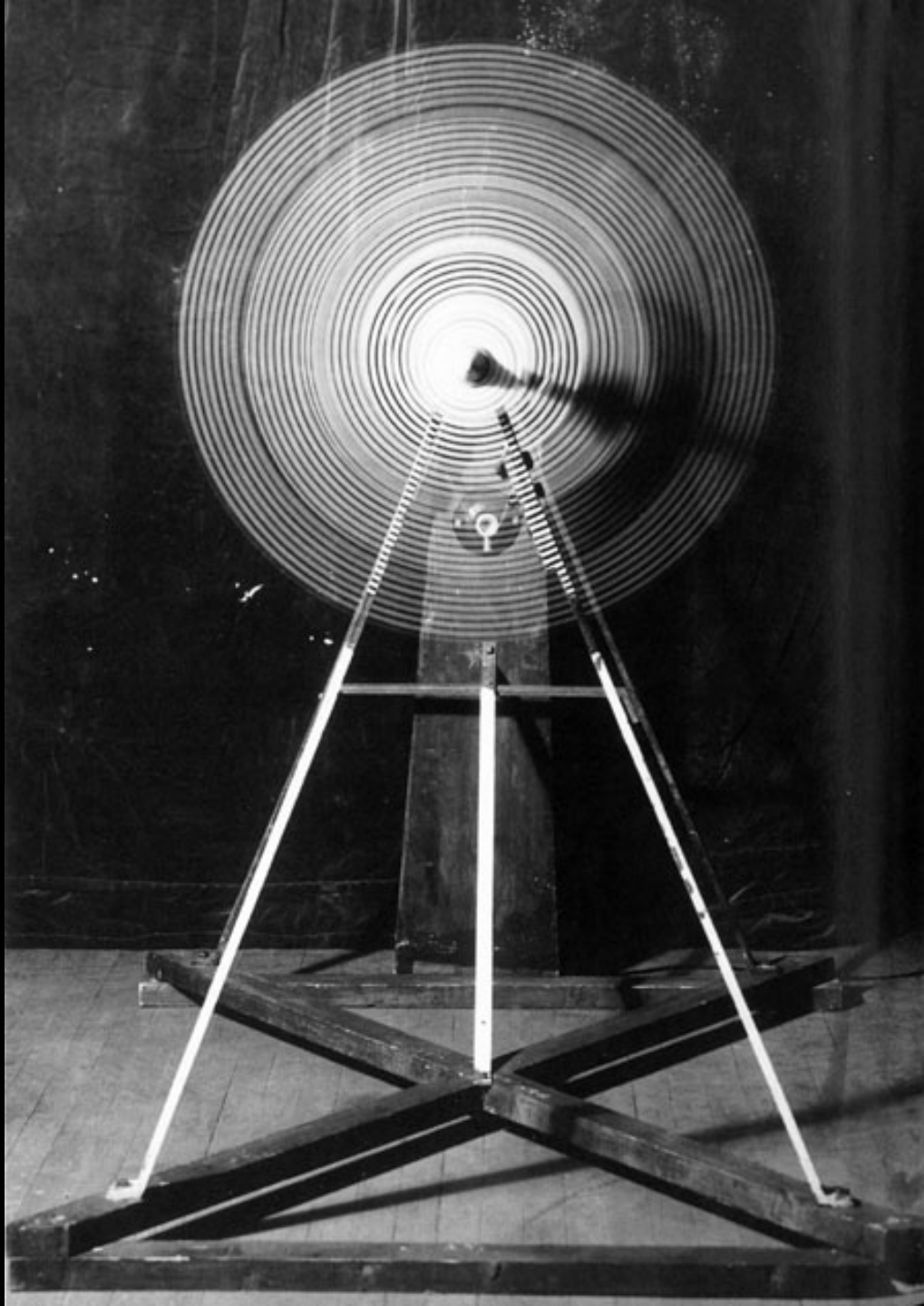
Richard Prince, American Sex Drive, 2008



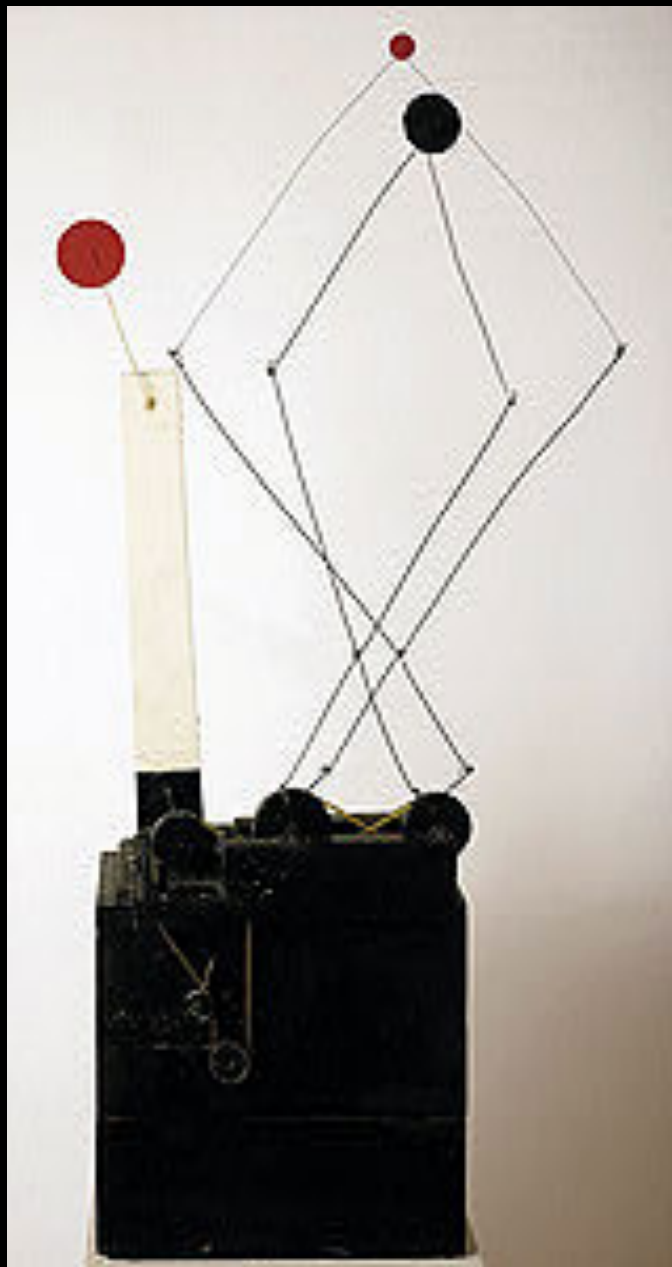
From SHE: Images of Women by Wallace Berman and Richard Prince at the Michael Kohn Gallery, Los Angeles, 2009



2. Art-and-technology hybrids within Modernism and Postmodernism 1875-present



Above: Marcel Duchamp, Rotoreliefs, 1935
Left: Marcel Duchamp, Rotary Glass Plates
(Precision Optics) formerly titled as, Revolving
Glass Machine, 1920



Alexander Calder, Pantograph, 1931



Alexander Calder, Gallows and Lollipops, Hewitt University Quadrangle (Beinecke Plaza), Yale University, 1960



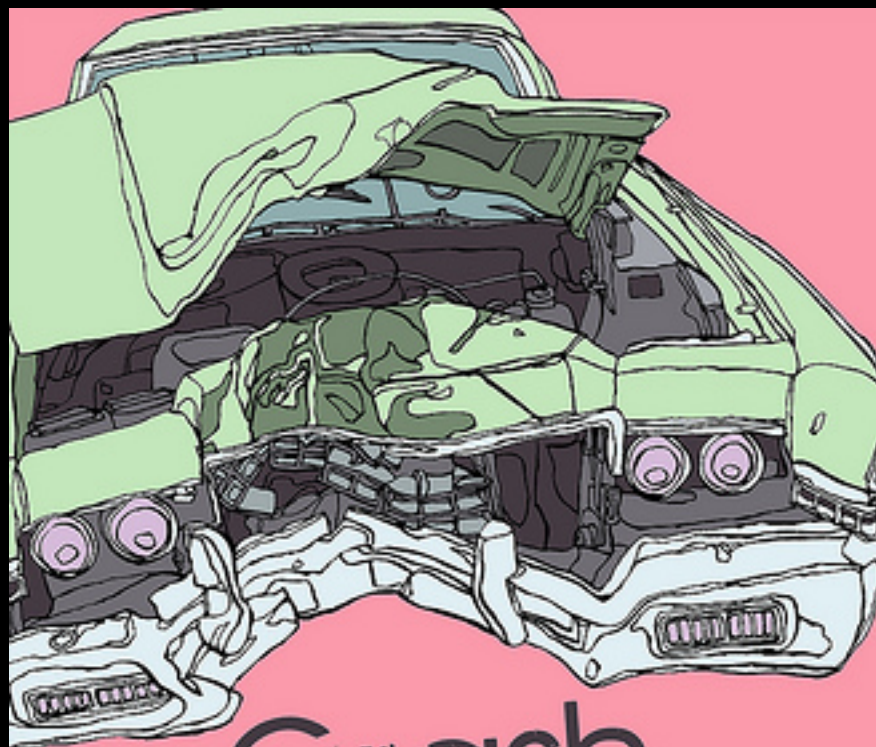
Alexander Calder, Crinkly with Red Disk, Stuttgarter Schlossplatz, Stuttgart, Germany 1973



Jean Tinguely, Metamechanical #6, 1959



Jean Tinguely, Méta-Matic #17, 1959



Crash

J.G. Ballard

'A work of very powerful originality.
Ballard is amongst our finest writers of fiction'
Anthony Burgess



PICADOR USA

j. g. ballard • crash / a novel



Jonathan Schipper, *The Slow Inevitable Death of Muscle*, 2009



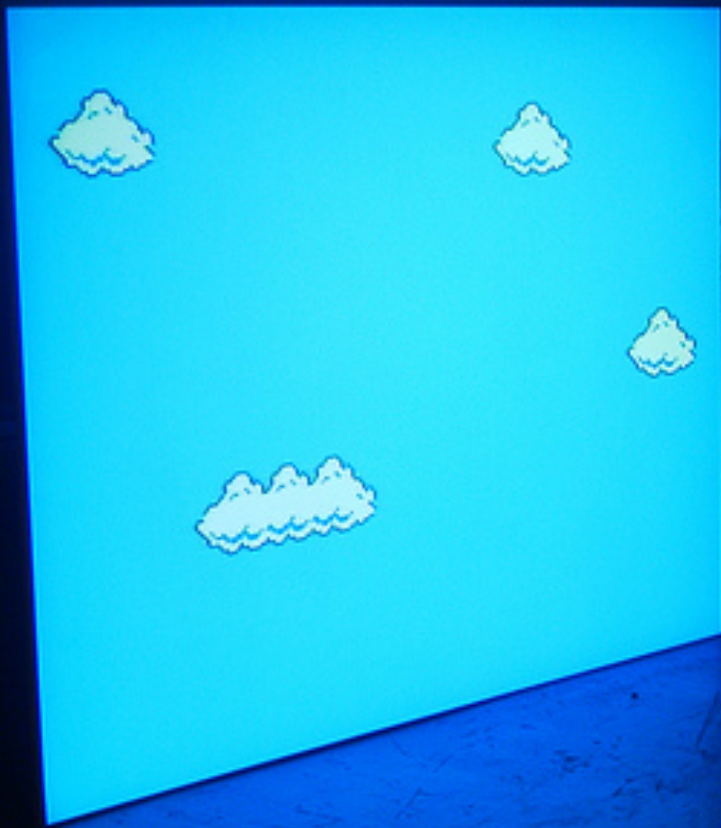
This sculpture is a machine that advances two full sized automobiles slowly into one another over a period of 6 days, simulating a head on automobile collision. Each car moves about three feet into the other. The movement is so slow as to be invisible. It is almost impossible to watch a modern action film without at least one automobile wreck. Why do we find interest and excitement in new versions of the same event? Why are we not satisfied? Cars are extensions of our body and our ego. We buy or modify cars that reflect our personalities and egos. When we see an automobile destroyed, in a way we are looking at our own inevitable death. This moment is, because of its inherent speed, almost invisible. We have slowed the event via film and video but only from a camera's perspective. We never get to see the transformation of a living breathing car too wreck in its entirety, in detail. This piece offers the viewer the ability to examine in three dimensions the collision of these cars. A moment that might take a fraction of a second in an actual collision will be expanded to take days. Car wrecks are spectacular moments. This piece by changing one of the key variables removes and changes the nature of the event. What was life threatening is now rendered safe. What was supremely spectacular is now almost static. The wreck has been broken down to its Newtonian components. We are left to contemplate our own mortality our own Newtonian components.



3. Digital technology *as* art, c. 1995-present



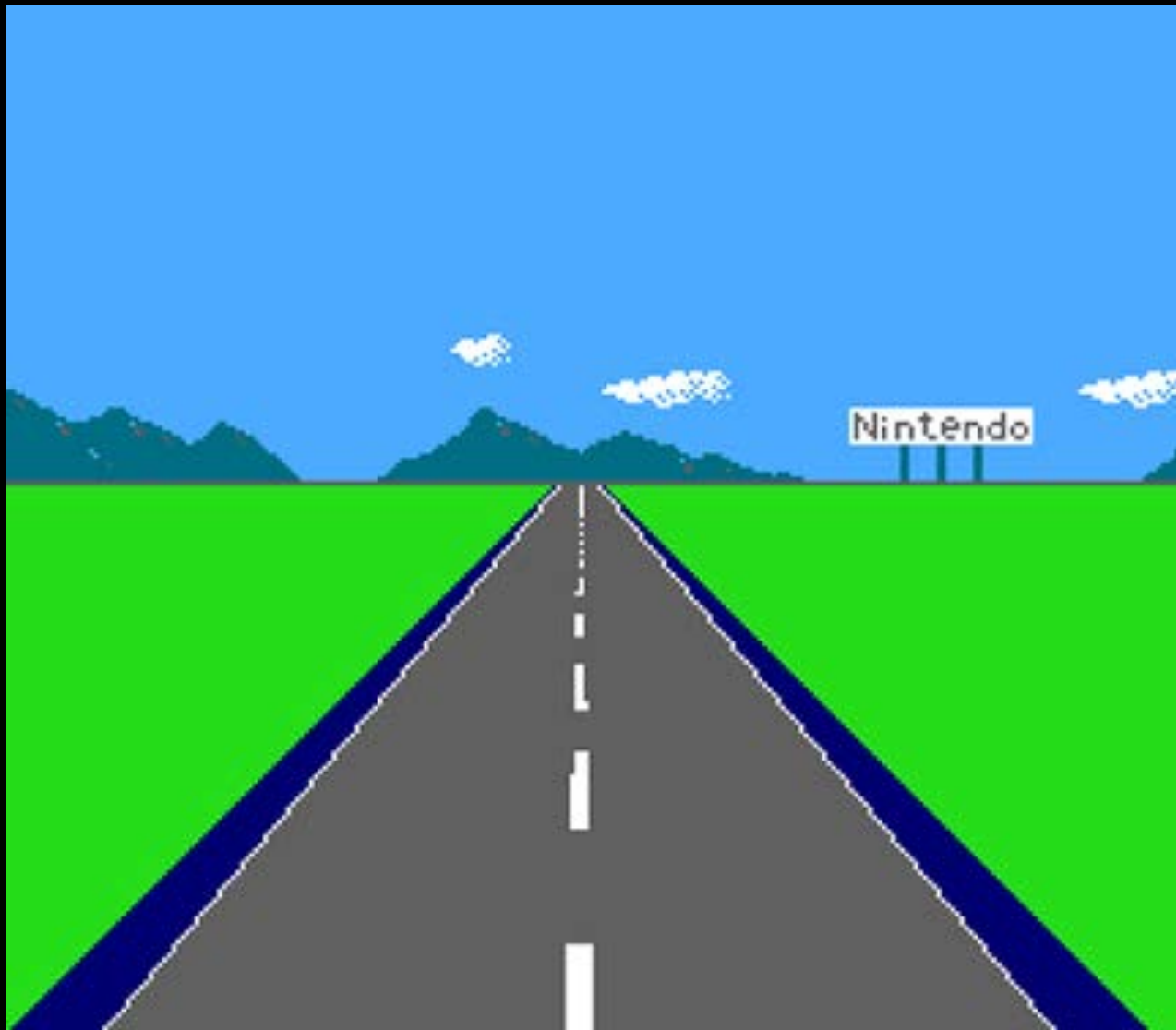
Dan Sandin, The Cave, Virtual Reality Theater, 1991-92
<http://www.evl.uic.edu/core.php?mod=4&type=1&indi=161>



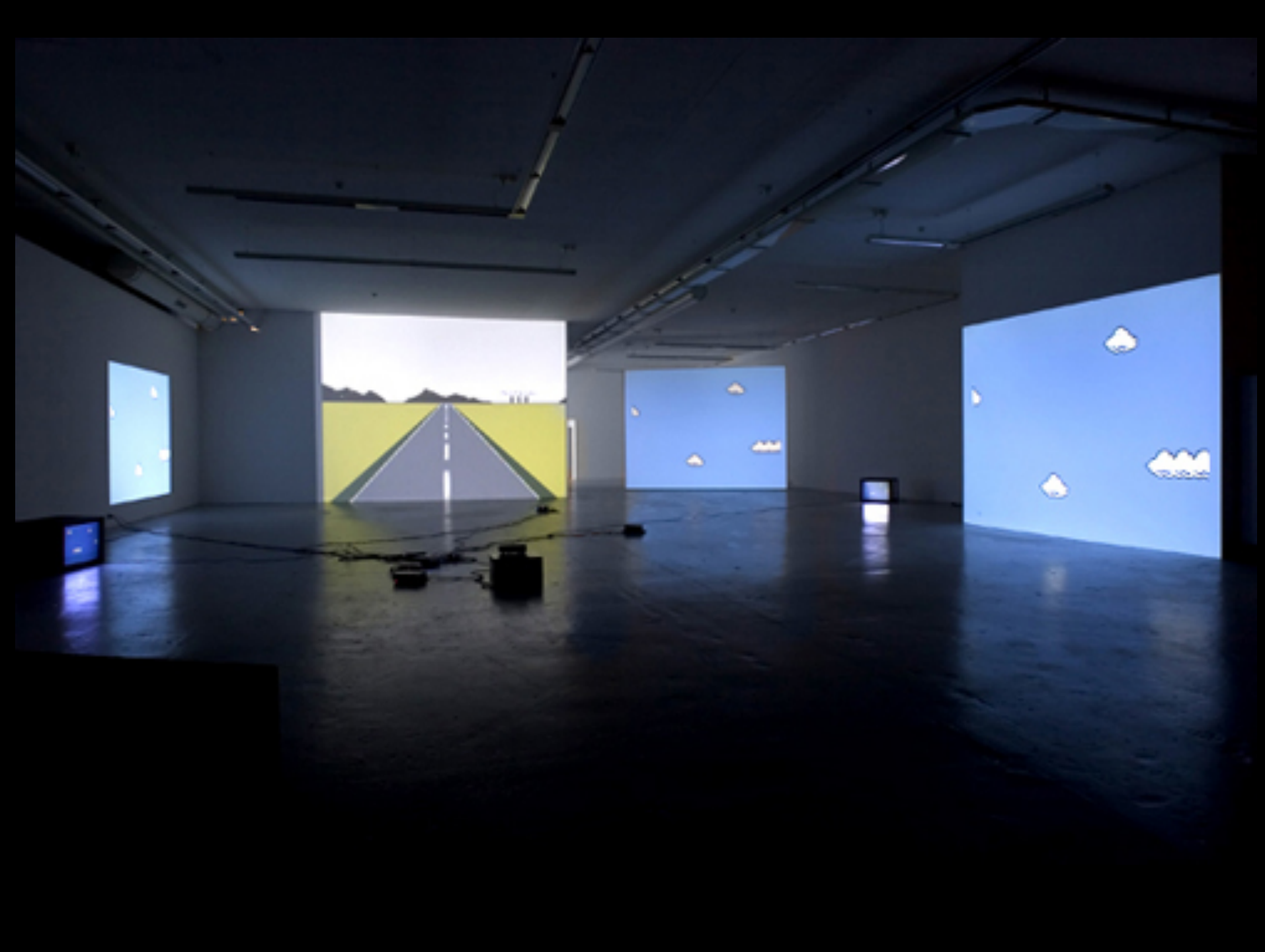
Cory Arcangel, Super Mario
Clouds, 2002

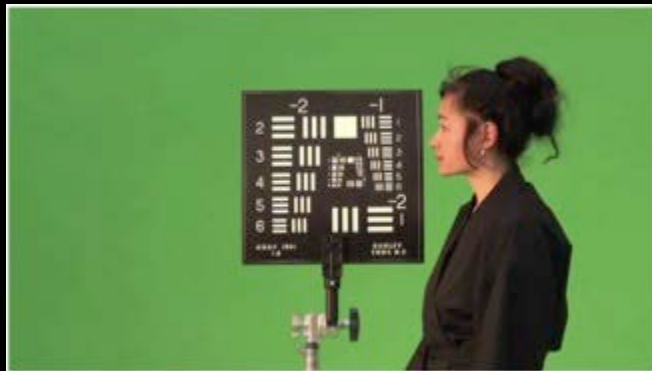


<https://www.youtube.com/watch?v=fCmAD0TwGcQ>



Cory Arcangel, F1 Racer Mod (aka Japanese Driving Game), 2004
<https://www.youtube.com/watch?v=tjQb07V95Mg>





Hito Steyerl, *How Not to be Seen: A Fucking Didactic Educational .MOV File*, 2013

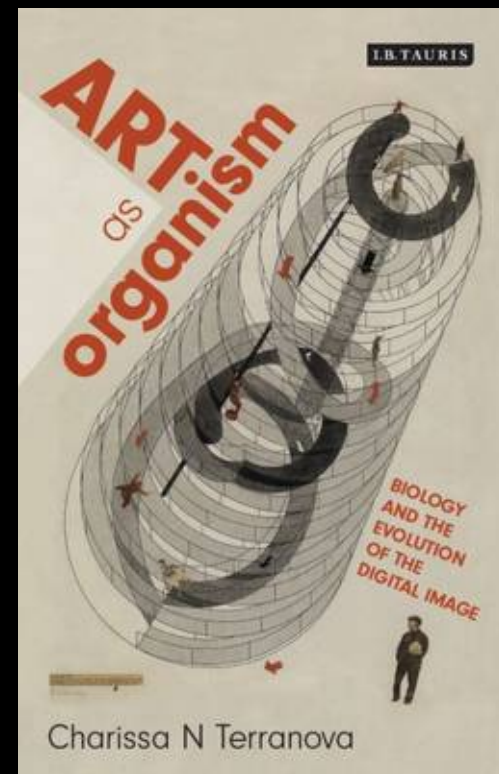
<https://www.artforum.com/video/mode=large&id=51651>



4. Biology in Art and Architecture, BioArt, 1900-present

Art as Organism: Biology and the Evolution of the Digital Image in Art

Charissa N. Terranova



- For over a century, artists, architects, and designers have looked to biology and the philosophy of science for inspiration.
- The term “BioArt” refers to current artist-scientists using living matter as source material in their work.

ART NOUVEAU

Henri Bergson

élan vital = vital force
vitalism



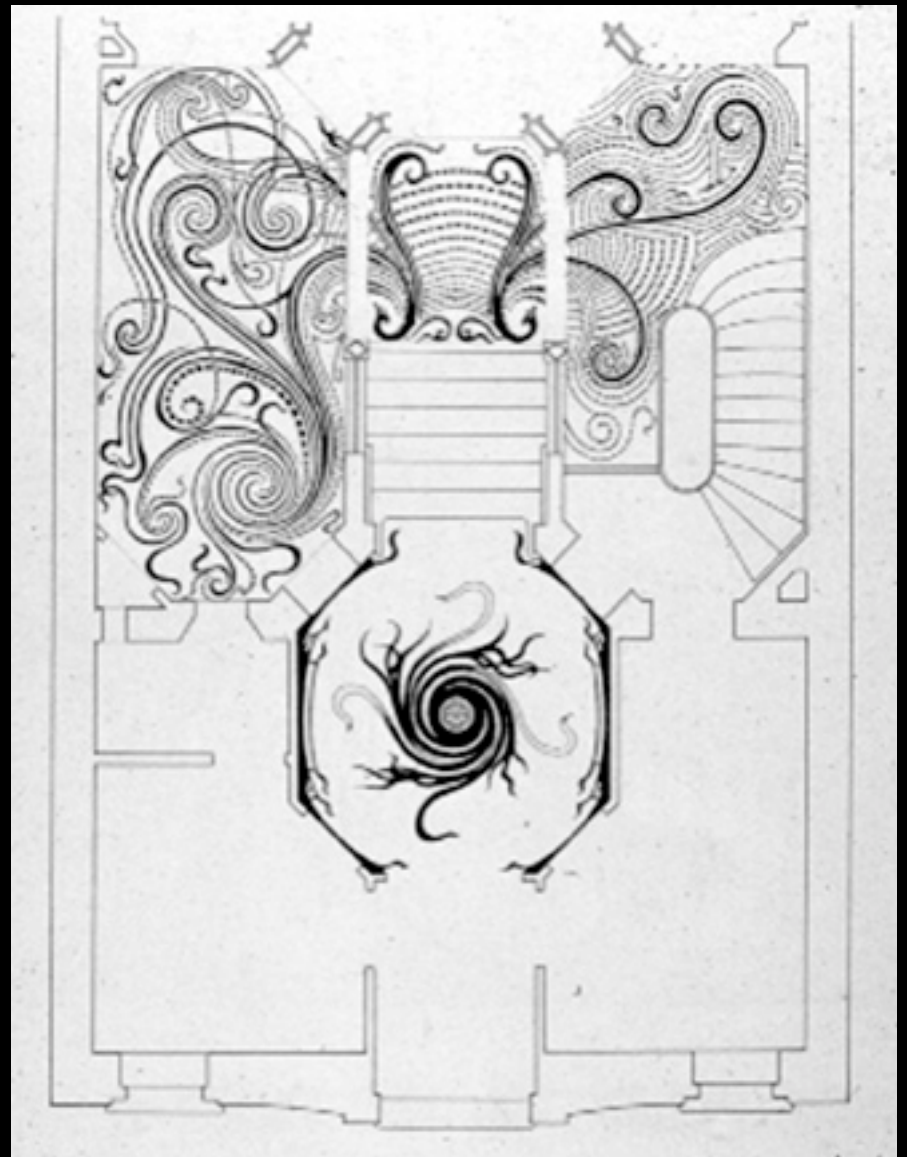
Victor Horta, Interior of Tassel House, Brussels, 1893-95



Victor Horta, Tassel House, Brussels, 1893-5



Vestibule



plan of entry and vestibule showing mosaic floors





Victor Horta, Horta House and Workshop, Brussels, 1901





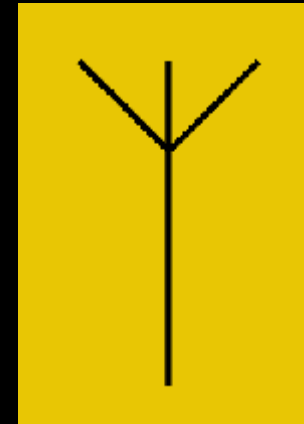








BIOART



Microvenus bitmap

Microvenus icon

Joe Davis is an artist who works not only with paints or pastels, but also with genes and bacteria. In 1986, he collaborated with geneticist Dan Boyd to encode a symbol for life and femininity into an *E. coli* bacterium. The piece, called Microvenus, was the first artwork to use the tools and techniques of molecular biology. Since then, bioart has become one of several contemporary art forms (including reclamation art and nanoart) that apply scientific methods and technology to explore living systems as artistic subjects. As a result of a motorcycle crash three decades ago, he's got a peg leg that he sculpted himself out of an aluminum baseball bat, parts of two lamps, and a synthetic rubber stopper normally used to seal laboratory flasks .

Read more at: <http://phys.org/news/2015-11-bioart-introduction.html#jCp>
Short documentary: <https://www.youtube.com/watch?v=7GkZt00Qics>



A workbench at Davis's home is jammed with dozens of tools, parts, and electronic works in progress.

<http://discovermagazine.com/2013/april/18-creating-art-from-microbes-and-molecules>

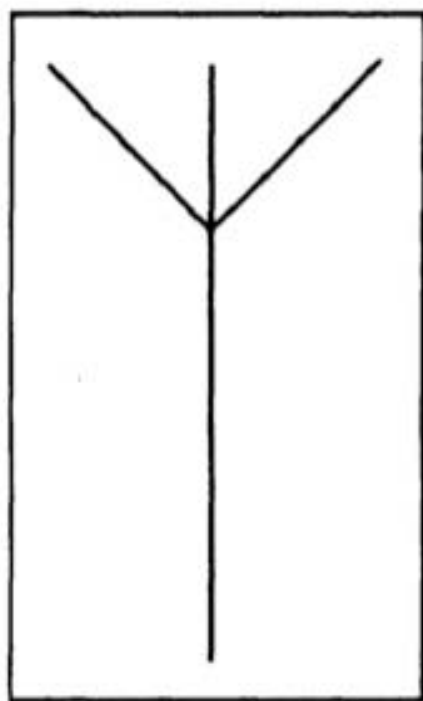
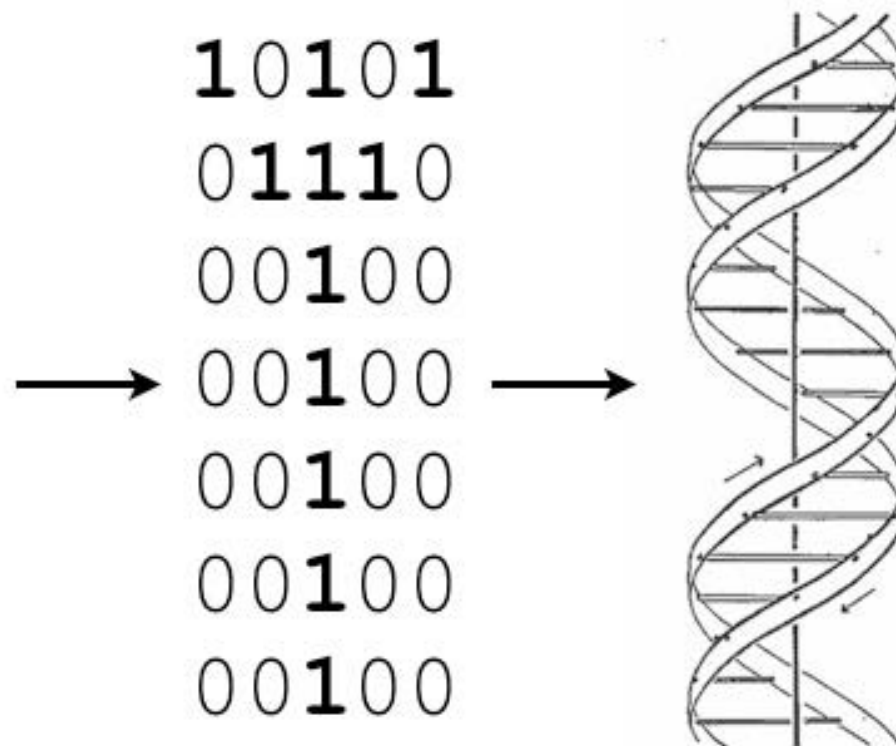


FIG. 1 *Microvenus* icon.



CCCCCAACGCGCGCGCT



"Microvenus, [is] a project in protest of the censorship of radio messages sent into deep space." Davis' idea is to put the human genome into a hardy strain of bacteria and send it into deep space. "The spores of *B. subtilis* can last indefinitely" in deep space, according to Davis. So far he has coded information of vaginal contractions, in protest of what he calls the "man and Barbie" version of humanity sent by radio messages into deep space. Davis, evidently a committed believer in extraterrestrial life adds, "And they wonder why they come and experiment on our sex organs."



Polyptich paintings by Joe Davis of his 28-mer Microvenus DNA molecule (2006 Exhibition in Greece at Athens School of Fine Arts)

<https://www.youtube.com/watch?v=7GkZt00Qics>

BIOART



One of the seven sepia-toned photographs -- family mementos -- shot in Eastern Europe in the 1930s that are part of "Time Capsule" by Eduardo Kac (1997) <http://www.ekac.org/perla.html>



Eduardo Kac inserted a microchip into his ankle as part of “Time Capsule” (1997)

<http://www.ekac.org/timcap.html>





Eduardo Kac, Genesis, 1999

Transgenic Art

transgenic: adjective., of, relating to, or denoting an organism that contains genetic material into which DNA from an unrelated organism has been artificially introduced.

*Let man have dominion over the fish of the sea and over the fowl
of the air and over every living thing that moves upon the earth*



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Morse to DNA conversion principle

DASH (-) = T A = WORD SPACE
DOT (.) = C G = LETTER SPACE



CTCCGCGTATTGCTGTACACCCGCTGCCCTGCATCCGTTTGTTCGCGTCGCCGTTTGTCA
TTTGCCCTGCGCTCATGCCCGCACCTCGCCGCCCGCCCATTTCTCATGCCCGCACCC
CGCGCTACTGTTCGTCATTTCGCCCTGCGCTCATGCCCGCACCTCGTTTGTTCGTCAT
TTGCCCTATGCCCGCACCTGCGCTCATGTCGTCATTTCGCCCTGCGCTCATGCCCGCTG
GCTCGTCTTACTCGCCCGCTGCGCTCATGTCGTCATTTCGCCCTGCGCTCATGCCCGCTG
TATTGTTTGCCTGCGCCACCTGCTTCGTTTGTTCATGCCCGCACCTGCTGCTGTCGCC

Genesis is a transgenic artwork that explores the intricate relationship between biology, belief systems, information technology, dialogical interaction, ethics, and the Internet. The key element of the work is an "artist's gene", a synthetic gene that was created by Kac by translating a sentence from the biblical book of Genesis into Morse Code, and converting the Morse Code into DNA base pairs according to a conversion principle specially developed by the artist for this work. The sentence reads: "Let man have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moves upon the earth." It was chosen for what it implies about the dubious notion—divinely sanctioned—of humanity's supremacy over nature. Morse code was chosen because, as the first example of the use of radiotelegraphy, it represents the dawn of the information age—the genesis of global communication. The Genesis gene was incorporated into bacteria, which were shown in the gallery. Participants on the Web could turn on an ultraviolet light in the gallery, causing real, biological mutations in the bacteria. This changed the biblical sentence in the bacteria. After the show, the DNA of the bacteria was translated back into Morse code, and then back into English. The mutation that took place in the DNA had changed the original sentence from the Bible. The mutated sentence was posted on the Genesis web site. In the context of the work, the ability to change the sentence is a symbolic gesture: it means that we do not accept its meaning in the form we inherited it, and that new meanings emerge as we seek to change it.

<http://www.ekac.org/geninfo2.html>

*Let man have dominion over
the fish of the sea and over
the fowl of the air and over
every living thing that
moves upon the earth*

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.....- - - - -
.....- - - - -
.....- - - - -
.....- - - - -

CTCCGCGTATTGCTGTACACCCGCTGCCCTGCATCC
GTTTGTTCGCCCTGCGCGTTTGTTCATTGCGCCTGCGCTC
ATGCCCGCACCTCGCCGCCCGCCCATTTCTCAT
GCCCGCACCGCGCTACTGTCGTCATTGCGCCTG
CGCTCATGCCCGCACCTCGTTTGTTCGTCGTCATTG
CCTCATGCCCGCACCTGCGCTCACTGTCGTCATT
GCCCTGCGCTCACGCCCTGCGCTCGTCTTACTCGCG
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CGCCGCTGATTGTTGCCCTGCGCCACCTGCTTCG
TTTGTATGCCCGCACGCTGCTGCTGCGCC

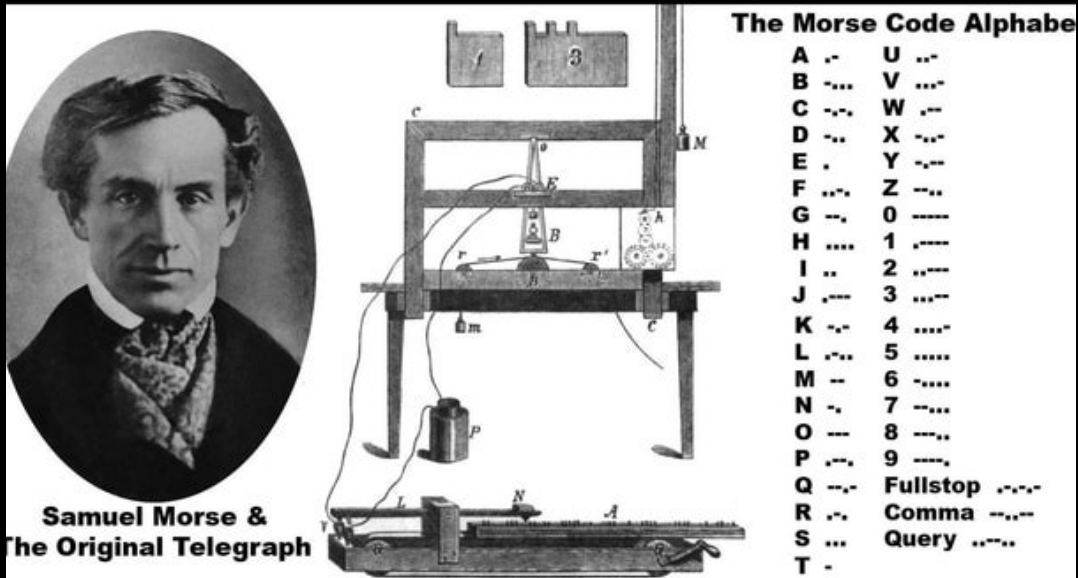
CTCCGCGTACTGCTGTACACCCGCTGCCCTGCATCC
GTTTGTTCGCCCTGCGCGTTTGTTCATTGCGCCTGCGCG
TCATGCCCGCACCTCGCCGCCCGCCCATTTCTCTC
ATGCCCGCACCGCGCTACTGTCGTCATTGCGCG
TGCGCTCATGCCCGCACCTCGTTTGTTCGTCGTCAT
TTGCCCTCATGCCCGCACCTGCGCTCACTGTCGTC
ATTGCGCCTGCGCTCACGCCCTGCGCTCGTCTTACT
CGCCCGCCCTGCGCTCGTTCATGCCCGCGCGCTCGTT
CATGCCCGCTGTACCGTTTGCCCTGCGCCACCTG
CTACGTTTGTATGCCCGCACGCTGCTGCTGCGCC

.....- - - - -
.....- - - - -
.....- - - - -
.....- - - - -
.....- - - - -

*Let aan have dominion over
the fish of the sea and over
the fowl of the air and over
every living thing that
ioves ua eon the earth*



Samuel FB Morse, Gallery of the Louvre, 1831-33 Oil on canvas, 73 ¾" x 108"



Samuel Morse Telegraph Receiver – Used to receive the message, "What hath God wrought" during the demonstration to Congress in 1844.



- mechanical imitation
- intellectual imitation

