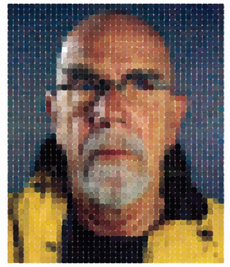
Joan Brown
Golden Gate, 1987
Woodcut, lithograph and gold leaf
36.5 x 26.25 in.
Edition of 80

Kiki Smith
Cathedral, 2013
Jacquard Tapestry - cotton
116" x 75"
Edition of 10

Donald & Era Farnsworth
Cultural Theme Park Series - Shadow, 2015
Mixed media with encaustic and acrylic on canvas
74.5" x 51.5"



Chuck Close
Self-Portrait, 2013
Archival watercolor pigment print
Hahnemühle rag paper
88" x 66-1/2"
Edition of 3

Cultural Milestones
Optics
Print
Papyrus
Codex
Paper
Felt
Weaving
String
Brush, Ink & Paint
Ceramic, Glass and Metal
XY(Z) Axis Device
Laser
Inkjet
3D printing
Magnolia Editions
Cultural Milestones
Optics
Computer
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XY, Axis Device
Print
Paper
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-40,000 BCE
-20,000
-5,000
-3,000
-2,000
-1,000
-500
-400
-300
-200
-100 BCE
0 CE
50 CE
100 CE
150
200
250
300
350
400
450
500
550
600
650
700
750
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850
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1910
1920
1930
1940
1950
1960
1970
1980
1985
1990
1995
2000
2005
2010
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20th century 21
2750 BCE, Medicine surgery performed Egypt
196 BCE, Rosetta Stone, Rosetta, Egypt
600 BCE, Pythagoras Theorem, Greece
2700 BCE, Flush Toilet, Greece
3rd c. BCE, The Screw, Archimedes, Greece
196, Rosetta Stone- Egypt
Writing, Egyptian hieroglyphs, 3400 BCE
600 BCE, Observations of static electricity
Water powered machinery, China
Number Zero, India
Speech, Sub-Saharan Africa 100,000 BCE
1550 BCE, Prescription Drugs, The Ebers papyrus
3500 BCE Oldest known mathematical object, Lebombo bone
300 BCE, Elements of Geometry, Euclid, Greece
32,000 BCE, Triple Spiral Carving, Newgrange, Ireland
300 BCE, Pinhole camera - Mo Ti, China
700 BCE, Polished crystals Assyrian/Egyptian
Egypt & Babylonia impressing intaglio designs into bricks
220CE Woodblock printing on Fabric, China
2900 BCE Oldest known papyrus roll
Papyrus
Codex, usually of papyrus, the preferred format among Christians
Parchment notebook (pugillares membranei), Roman Empire
Domestication of sheep - Felt, 11,000 to 9,000 BCE
105 CE - Ts'ai Lun reported Papermaking to Eastern Han Emperor Ho-di
Felt used for clothing, hats, in the manufacture of zipper, seals, washers, spacers, stripping discs, anti-vibration and anti-squeak pads, bumpers, bushings, noise reduction linings, vibration mounts, shock dampeners, heat barriers, wipers, oil and grease retainers, distorted fuel oil filters, sound deadening, padding, insulation, plugs, hydraulic lamp seals, lubrication wicking, dust shields and filters
Pigments used in printmaking inks
Pigment used to color Paper
Cane woven cloth used on which to form paper
Heddle in use 1800 to 1100 BCE
Neolithic weighted warp loom, textiles, Fayum, 5000 BCE
Cotton cultivated by the 5th millennium BCE
String 20,000 to 30,000BCE
75,000 BCE, Boring Ostridge Shell, bead making - body decoration, Southern Africa
Egg Tempera Egyptians sarcophagi decorations
30,000 BCE, Stencil sprayed pigment around human hand w/hollow bone, blown by mouth to direct a stream of pigment,
40,000 BCE, Cave painting, El Castillo cave, Cantabria, Spain
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3,000 BCE Glass
Ceramic: composed of inorganic, nonmetallic materials
3,000 BCE, Gold Leaf, Middle East
10,000 BCE, Painted pottery Neolithic period, China
27,000 BCE, Pottery Fire Pits, Czech Republic
2000 BCE, Iron smelting, CentralAfrica
1200 BCE, Iron smelting, West Africa
50 CE, Glass Blowing, Chogha Zanbil, Iran
575 BCE, Colored Glazed brick reliefs Mesopotamia, Ishtar Gate of Babylon
1,500 - 1,066 BCE, Stoneware, Shang Dynasty
Compass, China
Soap, Gauls
The Hourglass
Eating Fork, Byzantium
619, The Tide Mill - water wheel
634, Windmill, Persia
The Heavy Plow
145, The Ptolemaic System - Claudius Ptolemy
The Lathe, Europe
953 The fountain pen invented for the Sultan of Egypt
Reading stones (glass sphere cut in half) 11th &13th century
984 Snell's law - the law of refraction
960–1279 Screen Printing, Song Dynasty, China
764-770 One Million Dharani Prayers, China
1224 – 1227, Paper money is first issued Mongol Empire
1040 Movable wood type, China
Stamper Mill employed in first European Paper Mill (Spain) 1151
750CE, Amate Bark Paper, Mesoamerica
890 Toilet Paper, China
850 Starch sizing, China
740 First printed newspaper, China
1150 Rag Paper, Europe
1031 Recycled paper, Japan
Paper replaces parchment & papyrus in the Arab world
4th century, the codex gained wide acceptance
Sewing of Clothes from various pieces, German, 4th c
700 CE Horizontal looms, vertical looms Asia, Africa and Europe
8177 Moorish Spain loom raised w/improved frame
781-848 Thangka painting, Tibet
960–1279 Screen Printing, Song Dynasty, China
618–907 Ink wash painting, China, Tang Dynasty
100–300 CE, Encaustic (wax), Fayum mummy portraits, Egypt
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1200 BCE, Sumi Ink, China
100 to 200 CE, Chinese porcelain, Han period
862-863 lusterware, medieval Islamic
850 CE, Aztec stone carving
862-863 Lusterware, medieval Islamic
The Exploded-View Diagram, Mariano di Jocopo detto il Taccola, 1400
Blast Furnace
Rocket, China
The Voynich Manuscript, 1404-35
First Mechanical device to predict movement of sun, Astrarium, 1404-38
The Azetec Calendar Stone, 1479
1365 Single-shot pistol
1380 All-mechanical escapement clock
1420 Three-speed hoist, Brunelleschi
1445 Lantern crane, Brunelleschi
1500 Flying machines, first mechanical calculator, Leonardo Da Vinci
1548 De Humani Corporis Fabrica, Vesalius
1280 Spectacles, Italy
1484 Bifocals
1608 Telescope
1453 Johann Gutenberg printing press
1400 Woodcut in Europe
Copper Plate Etching Daniel Ausgburg, Germany, 1470–1536
1596 Flush Toilet, John Harington, England
1603 Pantograph, Jerónimo de Ayanz y Beaumont, Spain
1568 Jost Amman illustrates woodcut/papermaking, Europe
1640 Ukiyo-e & book w/ watercolor technique popular, Japan
First paper mill in Germany, 1390
Paper made in Troyes, Franče, 1348
Hahnemühle founded Germany, 1584
Hollander' Beater, Netherlands, 1680
1279 Paper Mills in Italy (Fabriano)
1276 Gelatin sizing, Italy
1570 The four Books of Architecture, Palladio
Linen fiber paper mummy pits/Egypt, 1855
1600/William Gilbert coined electric (Latin: "Like amber")
1606 Steam Engine, Jerónimo de Ayanz y Beaumont, Spain
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Watercolor Hans Bol part of the Dürer Renaissance,1534–1593
1471–1528 Albrecht Durer watercolor master, German
1400s Oil Based Printing Ink
1435 Acacia gum (watercolor binder) Prince Henry the Navigator Arguin Island trading post
1430–32 Ghent Altarpiece, Jan van Eyck
mid-1600s Vermeer uses camera obscura in the making of his paintings
1620s Aspheric lenses to correct spherical aberration, Rene Descarte
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1870 Mimeograph machine
1855 Photo lithography, Poitevin, photomask to light-sensitive polymer (UV) light
1852 Halftone screen, Henry Talbot
1802 Carbon Arc, Sir Humphry Davy
1796 Lithography, Alois Senefelder
1778 Relief etching, William Blake
1768 Thomas Bewick, first end-grain, wood engraving
1740 Multi-color woodcut (nishiki-e) Japan
1866 Wood pulp sulfite process
1857 Elmer's Glue, Gail Borden
1830 Internal size: wax, alum rosin, starch (acidic)
1836 Paperback books
1806 Fourdrinier Paper machine
1821 Electric motor, Michael Faraday
1825 Electromagnet, William Sturgeon
1903 Powered Plane, Wright Brothers
1883 Bacteria observed, Antony van Leeuwenhoek, Dutch
1859 John W. Nystrom, hexadecimal (base 16) system
1876 Player piano punched paper roll
1884 Punch card tabulating machine
1831 Phenakistoscope, Plateau and Stampfer
1834 Zoetrope, William George Horner
1868 The Flip Book, John Barnes Linnett
1847 The Telegraph, (artist) Samuel Morse
1885 Solar Cell, Edward Weston
1900 The Push-pin, Edwin Moore
1900 Film Recorded Animation, Stuart Blackton
1933, Low Pressure WaterJet Cutter, for cutting paper
1978, Twinrocker Handmade Paper
1974, Farnsworth & Co Handmade Paper (later Magnolia Editions)
Buffering Neutral pH system CaCO3
1949 Hard size, cellulose reactive additives (alkali system)
Cave Paper, Canada 1994
1933 Plexiglass (Polymethyl methacylate) PMMA
1941 Polyethylene, John Rex Whinfield and James Tennant Dickson - British
1953 DNA Double Helix, James Watson Francis Crick and Odile Crick
1956 Flat-Pack Furniture (IKEA)
Completion of the Human Genome Project, 2003
Pluto reclassified as a dwarf, 2006
Philae lands on comet 67P, 2014
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Artificial DNA, 2008
1998 Memory Stick, Sony
1995 Internet is commercialized
1978 CD disc
1976 Apple Computer
1988 Adobe Photoshop
MySpace, Facebook ,YouTube emerge - Social Media, 2000s
1984 Windows
1990 World Wide Web, Tim Berners-Lee
2007 iPhone
1947 Transistor
1972 Computer Game Pong
1982 The Internet protocol TCP/IP was standardized
1911 IBM International Business Machine
1936 First programmable computer
Early Intel engineers used photographic emulsion "Liquid Light" to make early silicon chips (purchased from local photo supply store)
Integrated circuit, 1958
Hard Disk, IBM, 1954
1968 Intel
1976, Flatbed Scanner, Ray Kurzweilmm, US
1999 Nikon's first generation digital SLR, the D1
1984 Canon introduces digital still camera
1960s modern high-viscosity acrylic paints available
1963 acrylic paint available in Europe, brand: Cryla
1920s Alkyd-based enamel - Polyester and fatty acids
1913 Leica introduces 35mm photography
1880 Kodak, George Eastman, introduces camera to the general populace
1839 Hertschel invents glass negative, coins photography, negative, is positive
1839 Daguereotype process publicly introduced
Niepce & Wedgwood project images onto light-sensitive material
1948 Self-developing film Land Camera, Polaroid
1940 Spectrophotometer Beckman DU
1923 Camera & portable darkroom in a single compartment Samuel Shlafrock
1951 Charles Hard Townes conceives microwave amplification
1952 CNC Machine (punched paper tape)
1964 Carbon-dioxide (CO2) laser invented by Kumar Patel
1974 Barcode scanner
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1981, STL File Format, Hideo Kodama of Nagoya
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Don purchased Hollander Beater and molds, 1971
Don buys paper mill in Mexico, Xiamtah to Sanal, 1979
Wayne Thiebaud experiment - printed by Candy Stocks (litho) 1800
Experiments with grounds/sprayed on dot contact printing 1800
Magnolia Editions Founded
Donald Farnsworth, Arne Hiersoux and David Kimball, Magnolia St. 1981
Lithography using contact printed copyrax (litho stone textured mylar) 1982
Moved printers from Peter Voulkos Studio to Magnolia St. 1981
Moved Kensington Papermill to Magnolia St. 1981
Flat-bed monoprints, MEK & drying retarder Peter Voulkos, 1986
Color litho: Robert Bechtle Magnolia Handmade paper, 1982
Optical Brighteners in common use
Sam Francis litho/relief print - polymer plate, 1991
Our Lady of the Angels tapestries, John Nava, 1999
Last flatbed litho project , Rupert Garcia's, Frida Kahlo, 2002
Chuck Close Grayscale (tapestry), 2003
Magnolia Tapestry Project w/ Wiley, Conner, Carnwath, Farnsworths
Acquired UV Acrylic Printer , 2006
Registered etching & hand marbled paper, Guy Diehl, 1989
John Register, 1990
21 Color lithograph, Guy Diehl, 1990
Era Farnsworth starts working full time at Magnolia 2001
Monoprints using back-lit Plexi & drying retarder,1988
1983 Arne Hiersoux, Magnolia co-founder dies of brain cancer
19 Layers of hand applied glaze tile technique, Chuck Close MTA project, 2009
Direct to plate photogravure overprinted w/color UV, Ralph Goings, , 2009
Large scale light-shade watermarks, 2010
Laser engraved woodcut = UV, 2010
Graphite & watercolor photo process, 2010
Chuck Close mark experiments culminating in Watercolor prints, 2011
Human Inkjet Printer experiments, 2012
Acquired CO2 Laser, 2009
Fröet load Kiln, 2014
Oxidized Silver print, 2012
3D printer, 2013
Chuck Close spiral etching, 2014
Pantagraph Engraver, 2015
David Kimball Retires, 2012
Tapestries on convex surface, Jeff Sanders , 2007
Direct-to-plate photogravure development, 2008
Acquired Epson inkjet printer w/Micro piezoelectric technology
Dot matrix printer
1977 Ichiao Endo, Thermal inkjet
1962 Andy Warhol popularizes screen printing
Conrad Machine Co. aquires American French Tool, 1999
1998, Inkjet - variable-sized droplet
Canon,12-color waterbase inkjet printer, 2010
Takach
65.4 % of paper in US from reclaimed paper 2014
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1857 Elmer's Glue, Gail Borden
1830 Internal size: wax, alum rosin, starch (acidic)
1836 Paperback books
1806 Fourdrinier Paper machine
1821 Electric motor, Michael Faraday
1825 Electromagnet, William Sturgeon
1903 Powered Plane, Wright Brothers
1883 Bacteria observed, Antony van Leeuwenhoek, Dutch
1859 John W. Nystrom, hexadecimal (base 16) system
1876 Player piano punched paper roll
1884 Punch card tabulating machine
1831 Phenakistoscope, Plateau and Stampfer
1834 Zoetrope, William George Horner
1868 The Flip Book, John Barnes Linnett
1847 The Telegraph, (artist) Samuel Morse
1885 Solar Cell, Edward Weston
1900 The Push-pin, Edwin Moore
1900 Film Recorded Animation, Stuart Blackton
1933, Low Pressure WaterJet Cutter, for cutting paper
1978, Twinrocker Handmade Paper
1974, Farnsworth & Co Handmade Paper (later Magnolia Editions)
Buffering Neutral pH system CaCO3
1949 Hard size, cellulose reactive additives (alkali system)
Cave Paper, Canada 1994
1933 Plexiglass (Polymethyl methacylate) PMMA
1941 Polyethylene, John Rex Whinfield and James Tennant Dickson - British
1953 DNA Double Helix, James Watson Francis Crick and Odile Crick
1956 Flat-Pack Furniture (IKEA)
Completion of the Human Genome Project, 2003
Pluto reclassified as a dwarf, 2006
Philae lands on comet 67P, 2014
Curiosity rover lands on Mars, 2012
Artificial DNA, 2008
1998 Memory Stick, Sony
1995 Internet is commercialized
1978 CD disc
1976 Apple Computer
1988 Adobe Photoshop
MySpace, Facebook ,YouTube emerge - Social Media, 2000s
1984 Windows
1990 World Wide Web, Tim Berners-Lee
2007 iPhone
1947 Transistor
1972 Computer Game Pong
1982 The Internet protocol TCP/IP was standardized
1911 IBM International Business Machine
1936 First programmable computer
Integrated circuit, 1958
Hard Disk, IBM, 1954
1968 Intel
1976, Flatbed Scanner, Ray Kurzweilmm, US
1999 Nikon's first generation digital SLR, the D1
1984 Canon introduces digital still camera
1960s modern high-viscosity acrylic paints available
1963 acrylic paint available in Europe, brand: Cryla
1920s Alkyd-based enamel - Polyester and fatty acids
1913 Leica introduces 35mm photography
1880 Kodak, George Eastman, introduces camera to the general populace
1839 Hertschel invents glass negative, coins photography, negative, is positive
1839 Daguereotype process publicly introduced
Niepce & Wedgwood project images onto light-sensitive material
1948 Self-developing film Land Camera, Polaroid
1940 Spectrophotometer Beckman DU
1923 Camera & portable darkroom in a single compartment Samuel Shlafrock
1951 Charles Hard Townes conceives microwave amplification
1952 CNC Machine (punched paper tape)
1964 Carbon-dioxide (CO2) laser invented by Kumar Patel
1974 Barcode scanner
1978 CD disc
1981, STL File Format, Hideo Kodama of Nagoya
1986, 3D Systems
1984, Stereolithography (3D printing) Charles Hull,
1989, Stratasys
1991 Epilog Laser established
1997, Trotec Laser established
1992Better Light, Inc. Scan Back
Shapeways, 2008
Self Replicating 3D Printer, 2006
3D printed car, 2011
Patent for fused deposition modeling expires, 2009
2001, 3D-printed bladder, Wake Forest Institute
Hubble
1894 extrusion copper and brass alloys, Alexander Dick
1870 Sandblaster, Benjamin Chew Tilghman, USA
1860 Spark plug Etienne Lenoir, (ceramic)
1842 Fiber Optics, Daniel Colladon "light fountain"
1712 Porcelain in Europe, Jesuit father Francois Xavier d'Entrecolles
1820 First hydraulic powered press, Thomas Burr
1958 , Ultra-high-pressure Waterjet, Billie Schwacha of North American Aviation, USA
1962 , Waterjet further developed, Philip Rice of Union Carbide, USA
1988 Space Shudle Ceramic tiles
1860 pantelegraph Giovanni Caselli, early Fax Machine
1500 Ball bearing, flying machines, first mechanical calculator, Leonardo Da Vinci
1974 Barcode scanner
1978 CD disc
1984, Stereolithography (3D printing) Charles Hull,
1964 Carbon-dioxide (CO2) laser invented by Kumar Patel
1952 CNC Machine (punched paper tape)
1951 Charles Hard Townes conceives microwave amplification
1781 Steam Engine that produced rotary motion, James Watt
1775 John Wilkinson invents cannon-boring machine, England
1870 Mimeograph machine
1855 Photo lithography, Poitevin, photomask to light-sensitive polymer (UV) light
1852 Halftone screen, Henry Talbot
1802 Carbon Arc, Sir Humphry Davy
1796 Lithography, Alois Senefelder
1778 Relief etching, William Blake
1768 Thomas Bewick, first end-grain, wood engraving
1740 Multi-color woodcut (nishiki-e) Japan
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