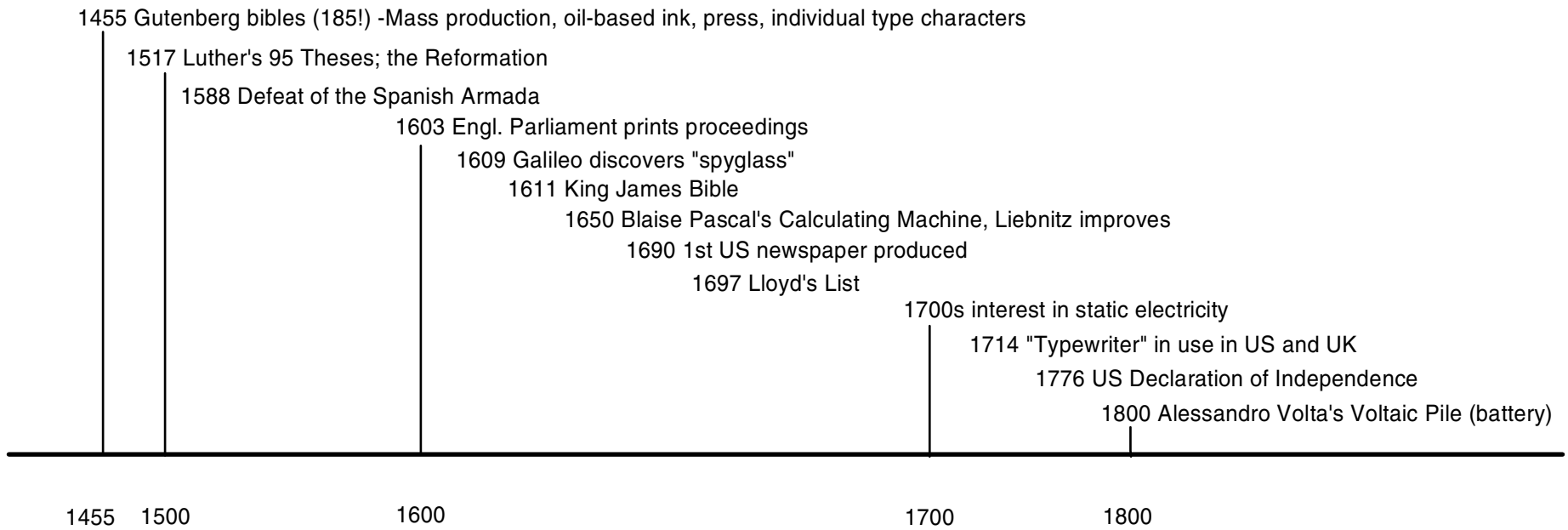
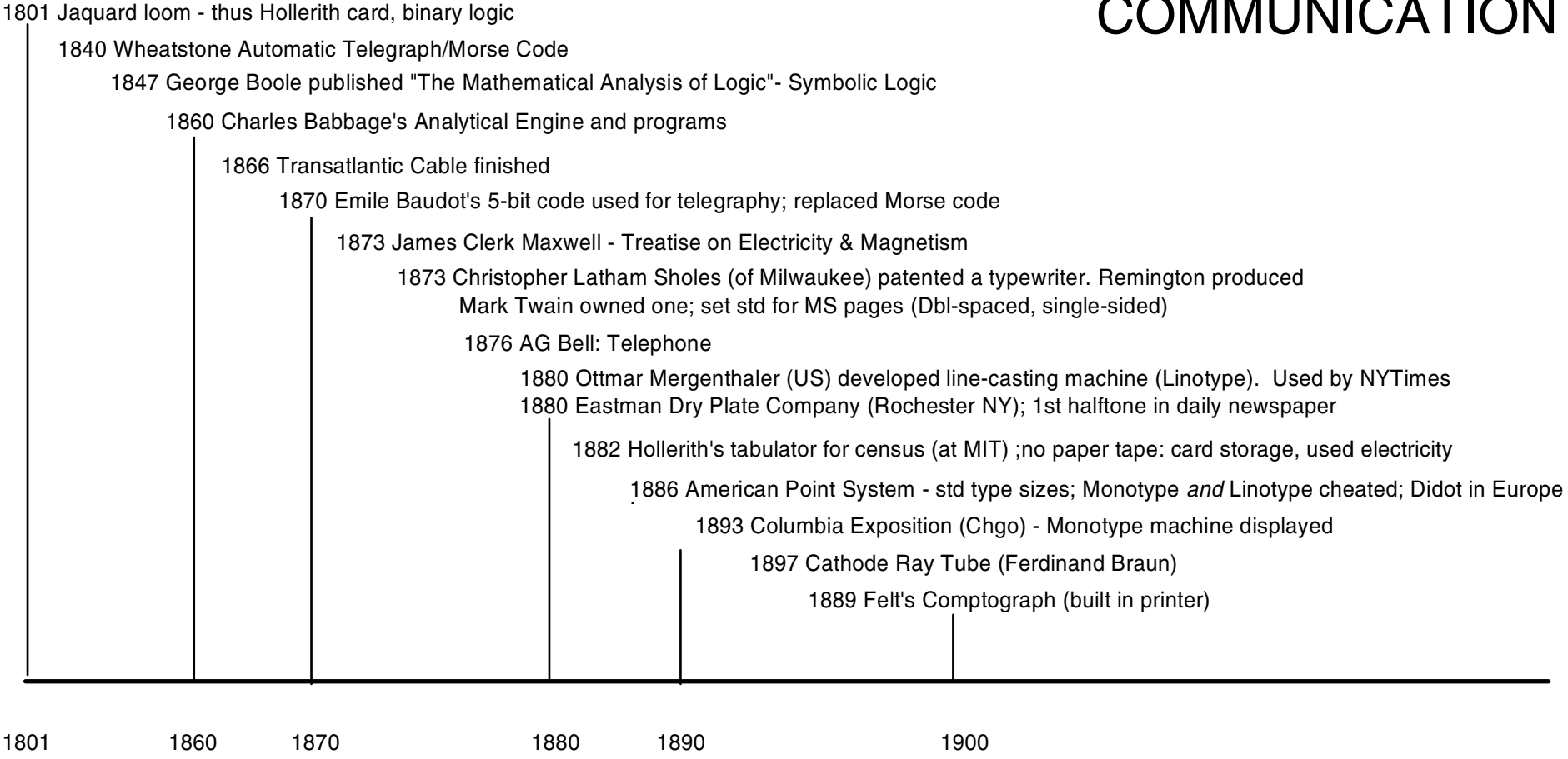


COMMUNICATION



COMMUNICATION



COMMUNICATION

1901 Marconi patents "wireless telegraph"(radio)

1903 Kitty Hawk

1910 Hollerith's card standard for machine input of Y/N (binary) data, his tabulator inspired coded-paper-drive type machine by Lanston

1910 Alfred North Whitehead and Bertrand Russell published "Principia Mathematica"

1920? Morey (financed by Frank Gannett, newspapers, NY) built teletypesetting system - added 6th bit for 64 chars.; used by Time Inc in NYC, RR Donnelly here; Hence REMOTE typesetting

1920s Talking movies

1930 Vannevar Bush's Differential Analyzer

1937 Alan Turing published "On Computable Numbers..."- described a universal computational machine

1938 Germany invades Poland: WWII in earnest

1941-3 Germany succssfully using ENIGMA machine; England sets up COLOSSUS at Bletchey Park

1941 Konrad Zuse, Z3 (general purpose, program-controlled calculator)

1945 ENIAC; Vannevar Bush's "MEMEX"idea (hypertext)

1945 John von Neumann "Report on the EDVAC"

1946 Intertype Fotosetter and Lithomat (Higonnet and Moyroud); Friden Justowriter, Photon
(done by guys who'd been studying timing of airplane propellers)

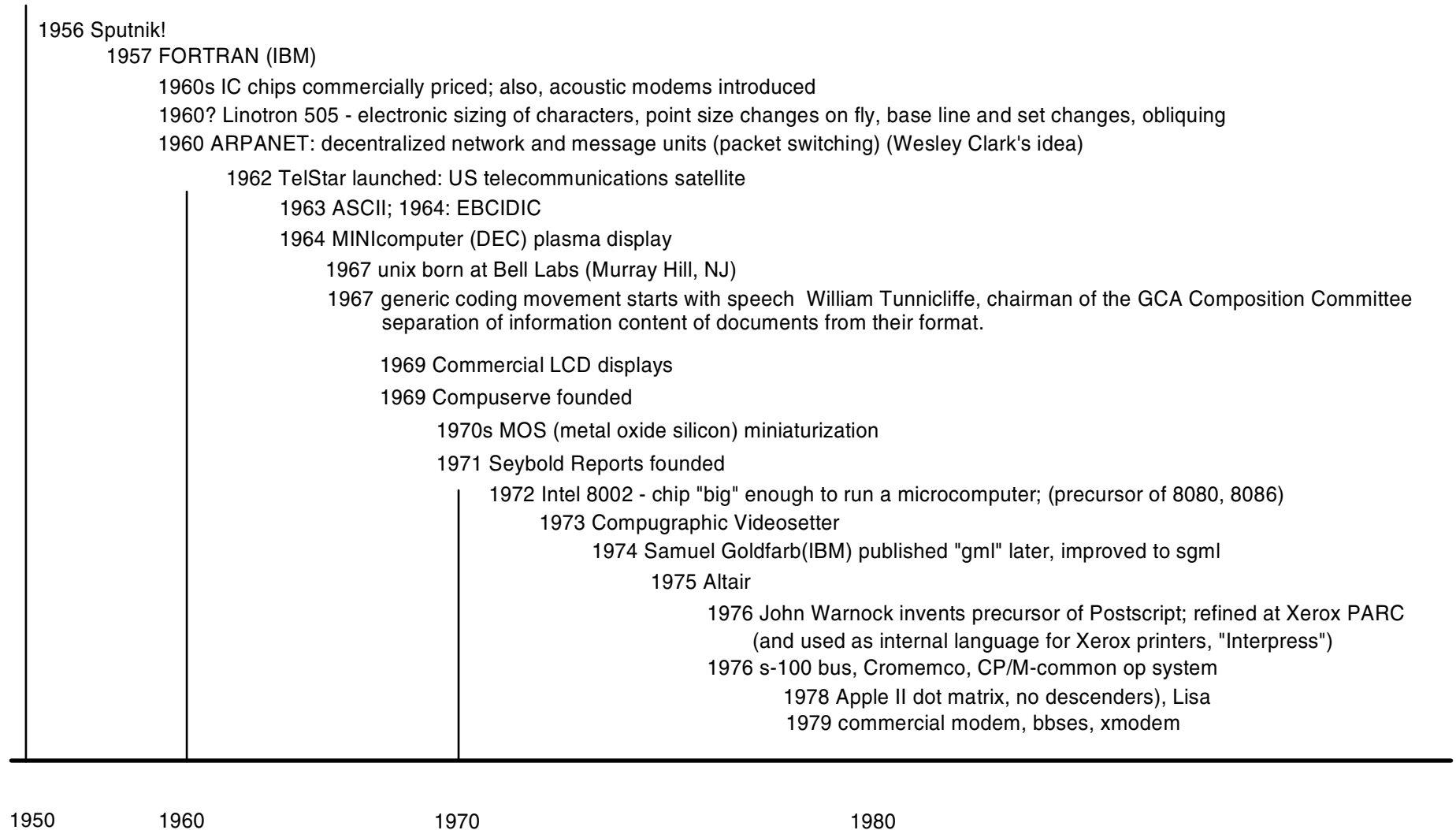
1948 Mark I built at Manchester, Turing sees it.

1901

1938

1948

COMMUNICATION



COMMUNICATION

1980 Winchester Hard Disk

1980 Sony/Phillips - CD (optical)

1981 IBM PC; dot matrix printers; Epson printer had 9x11 dots. IBM provided fonts for screen and calls for printer fonts

1982 Adobe formed. Postscript named. Guides published, Hence characters as outlines and drawings as code.

1984 IBM-AT: 1 Meg of RAM, hard drive

1984 Pagemaker, Ventura - complete page/book makeup, with hyphenation, quadding, vertical justification built in."x

1984 Apple Laserwriter, Macintosh

1987? Hypercard for the Macintosh

1988 Donald Knuth publishes TEXBook

1988? Framemaker

1988 Interop Trade Show (internet to be)

1990 Tim Berners-Lee (CERN-European Laboratory for Particle Physics):
Hypertext Transport Protocol and the World Wide Web

- "a generic stateless object-oriented protocol"

1991 Linux (Linus Torvalds)

1992 Adobe announced PDF format

1992 SIGGRAPH (Chicago): parallel processing automation
(Coke glass with logo ice cubes, bubbles. 128 MEG of RAM)

1992 UNICODE std set:: 16 bit characters

1995 Digital Versatile Disk

1995 Federal Networking Council defined "The Internet", W3c founded

1995 Charting and 3-d "visualizing" software matures

1997 Wireless Andrew at Carnegie Mellon

1999 Organic light-emitting diodes

2002 Commercial flat screens std, home-priced photo printers std

2003 Digital camera std

2004 < \$1000 for color laser printer (MacWorld)

1980

1990

2000

2004