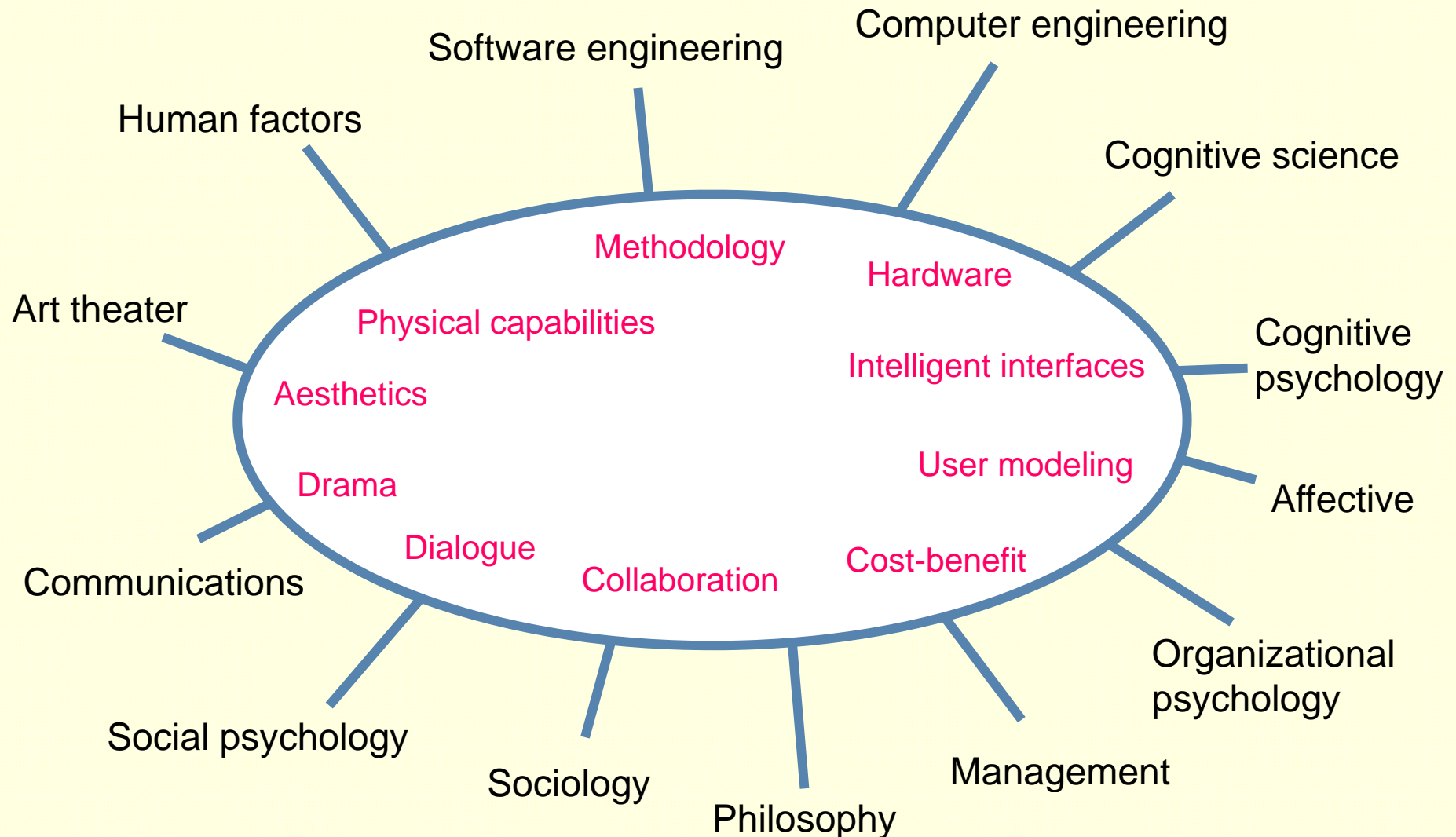


Cartoon depicting the failure of HCI effectiveness.

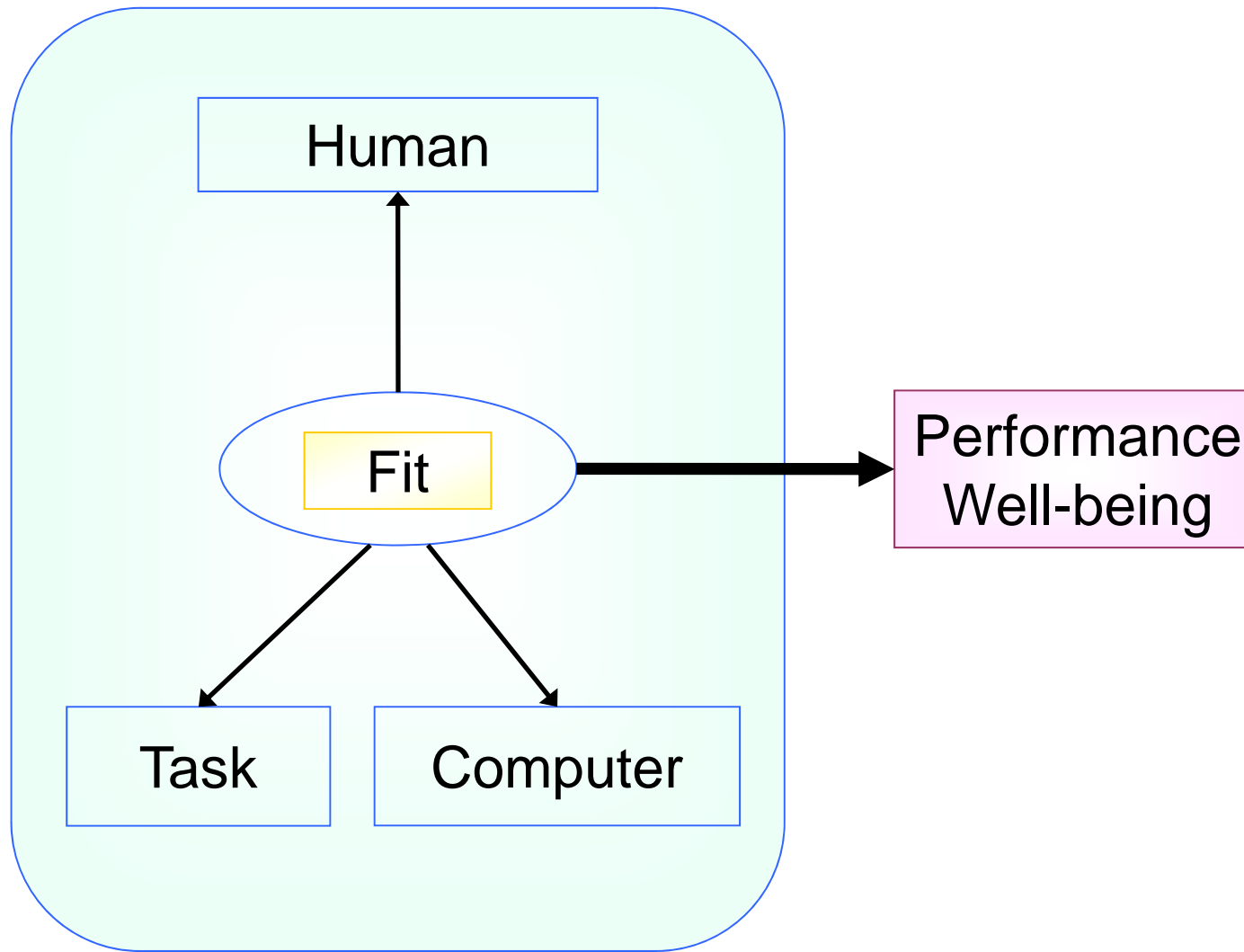


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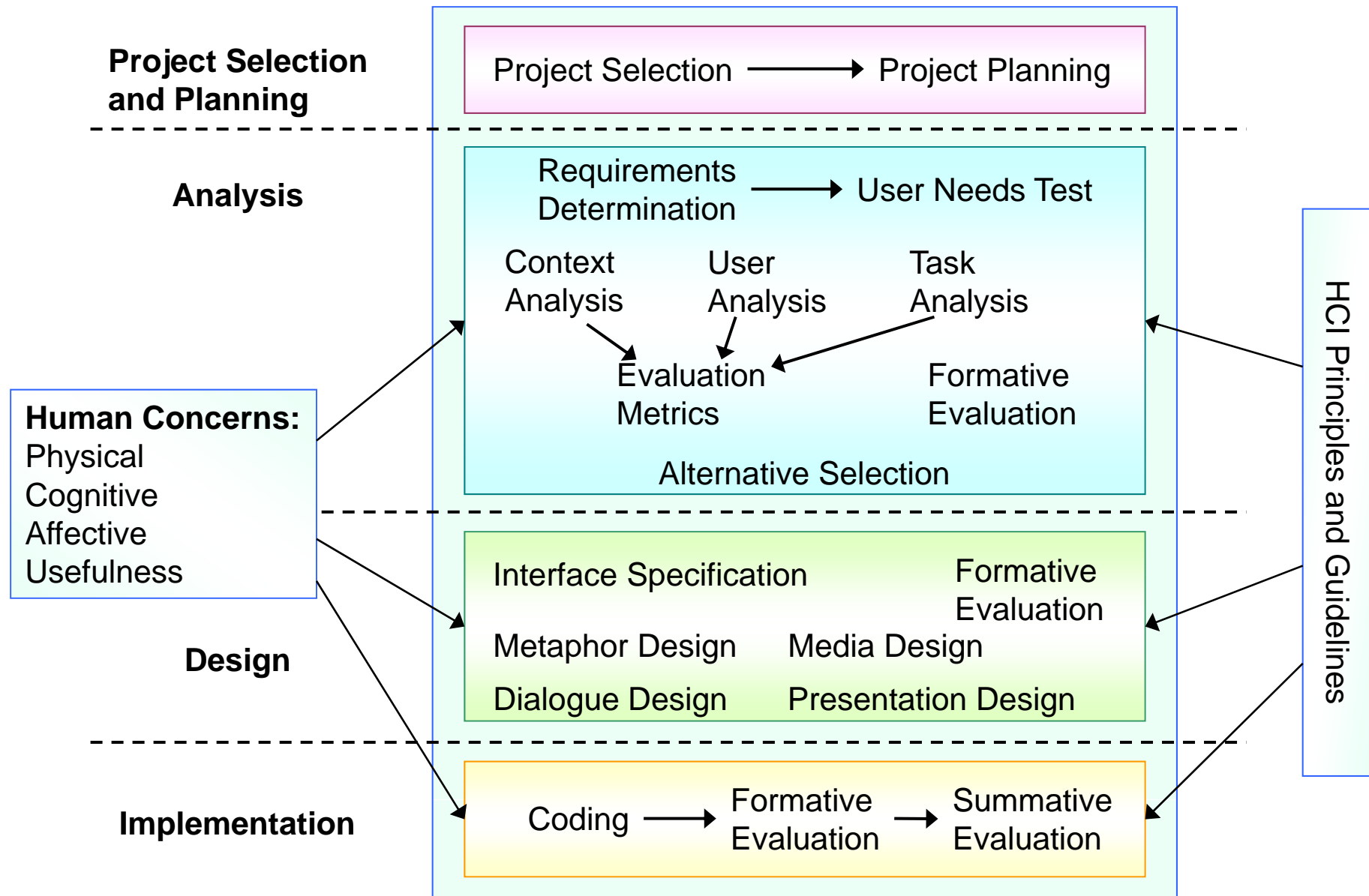
Human-computer interaction is an interdisciplinary field.

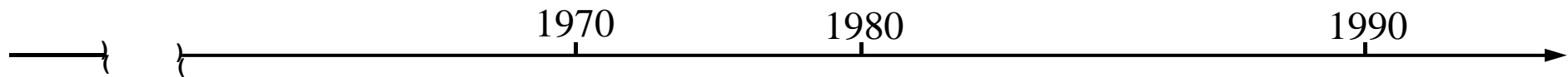


The fit of HCI elements leads to performance and well-being.

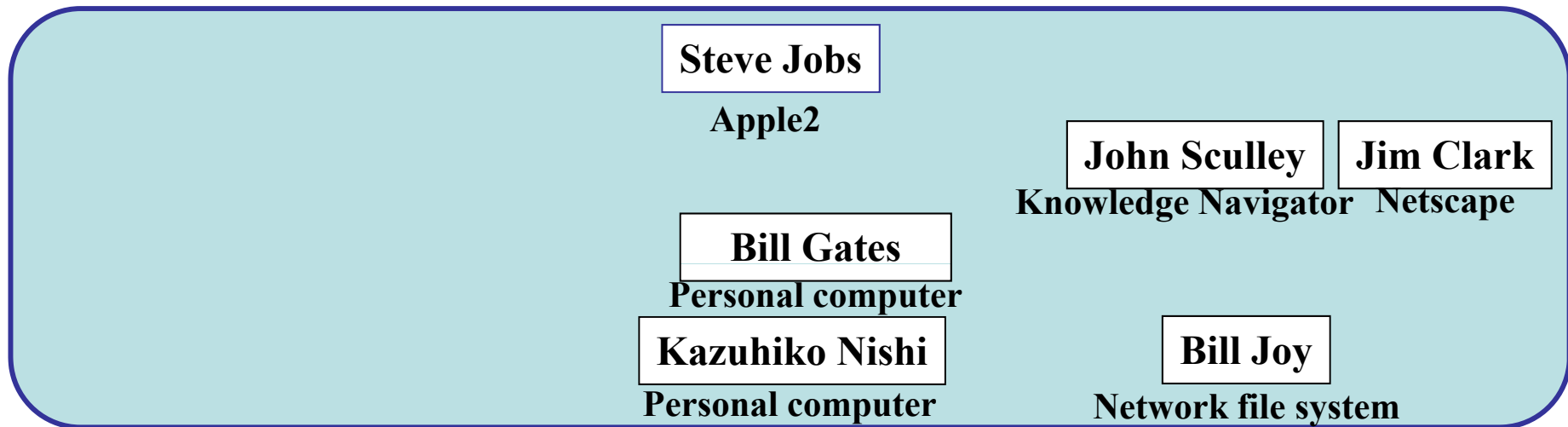
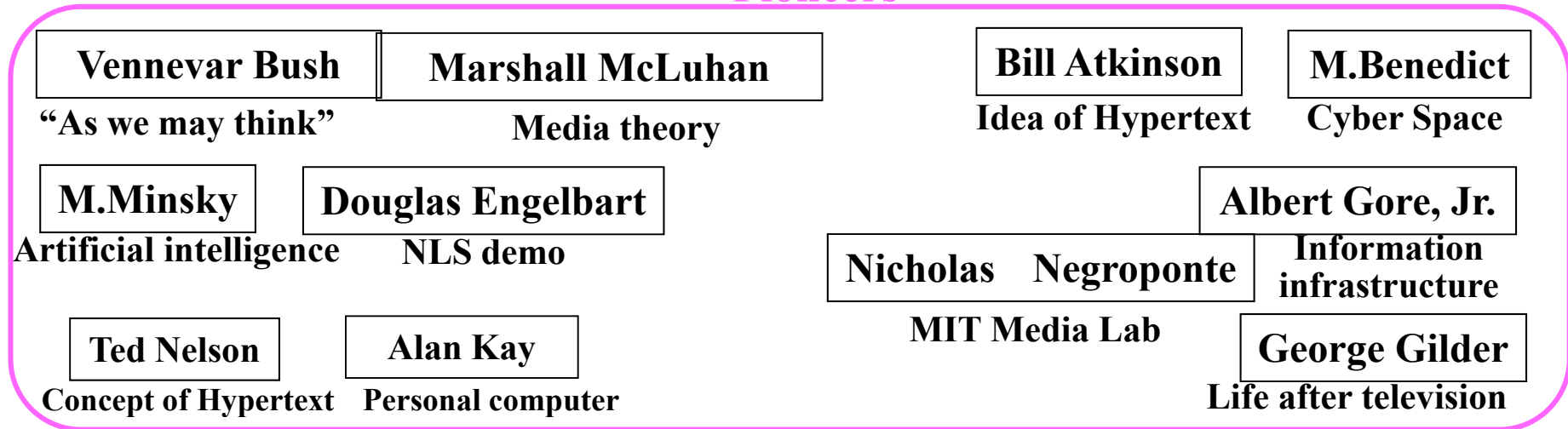


The HCI development methodology.





Pioneers



Business

People who contributed to multimedia technology

Stored-program Computer

Idea: **Babbage & Lovelace** (1842)

Distinct technology development: **von Neumann** (1946)

EDSAC computer born (1949)

Keyboard (Typewriter)

Sholes & Glidden Typewriter (1866)

Produced by Remington Co. (1873)

QWERTY layout (1878)→International standard (1905)

Dvorak layout (1931)

Hyper-text

Idea of Memex (memory extender) for document retrieval: V. Bush (1945)

← **Chief of Research and Development Bureau in U.S.A,
Presidential Scientific Adviser**

Framework for augmentation of human thinking (word processor):

D. Engelbart (1963)

Xanadu (Idea of memo searching system): T. Nelson (1960)

Introduction of link structure → Hyper-text, concept of hyper-media (1965)

Network Community

**ARPA net → Internet, WWW
J. Licklider (1969)**

User Interface

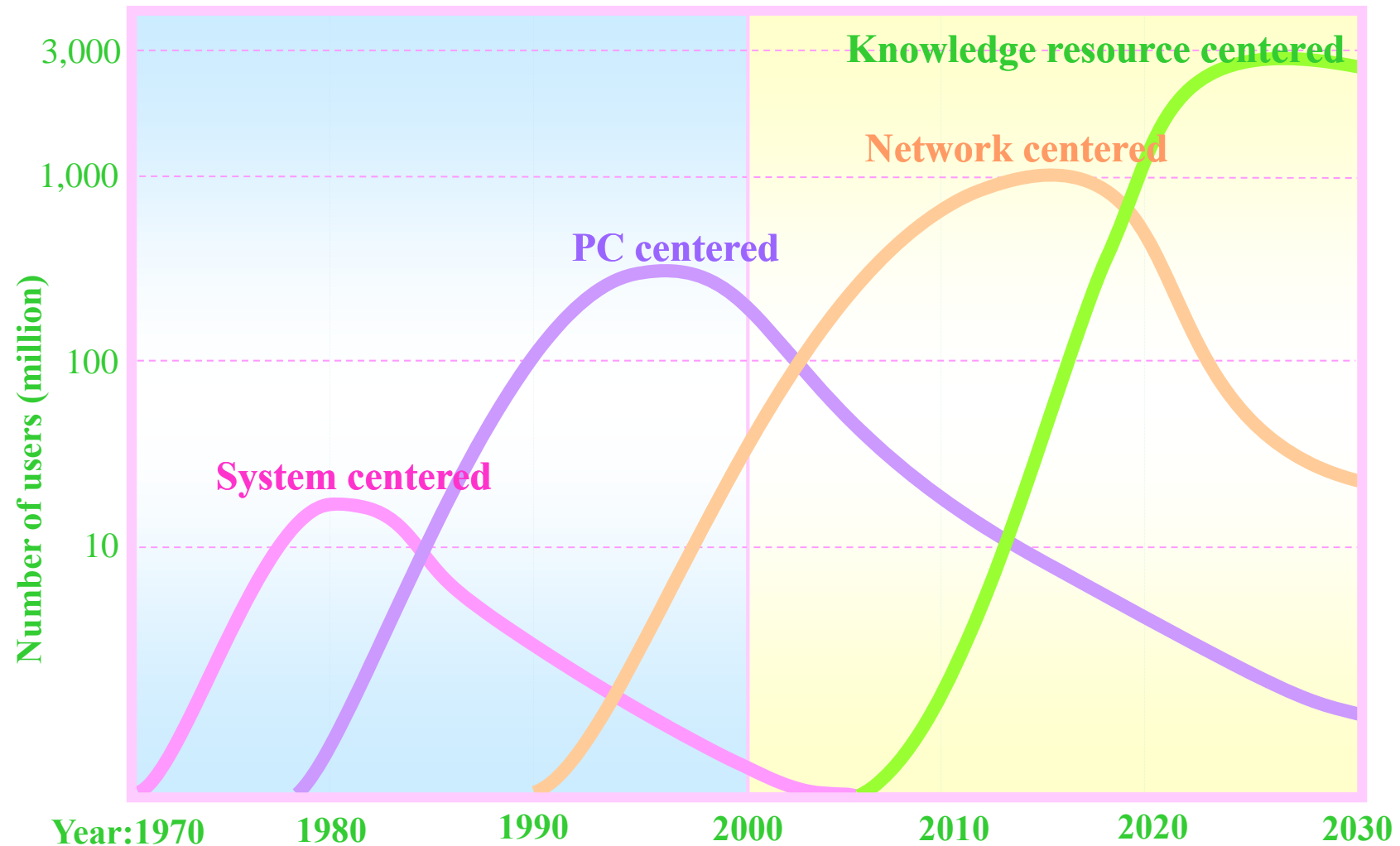
From batch processing to dialogue with computer (Time sharing system)
J. Licklider (1960) → Concept of HI, UI, and HCI

Sketchpad: Interactive computer (Figure processing system)
by Sutherland (1963)

→ Image processing system using HMD and three dimensional location input machine (1968)
(Pioneer research which lead to virtual reality (VR))

NLS: Prototype of augmentation: Engelbart team (1968)
A large-size display was divided into windows + mouse
CSCW's first example

Paradigm shift (Business growth)



David C. Moschella: “Waves of Power”

Personal Computer

Idea simulator (idea to program) : A. Kay

- **Plan of personal computer (1968)**
- **Idea of Dynabook → Smalltalk by Xerox PARC**
- **Alto: The first PC (1973), bit-map display, laser printer**
- **Ethernet for connecting Alto**
- **Star: Advanced version of Alto (1981):**
Direct manipulation interface based on office metaphor
- **Lisa, Macintosh**

Put That There: Direct manipulation of graphics by gesture and speech (1970's)

- **MIT Media Lab: N. Negroponte (1984)**

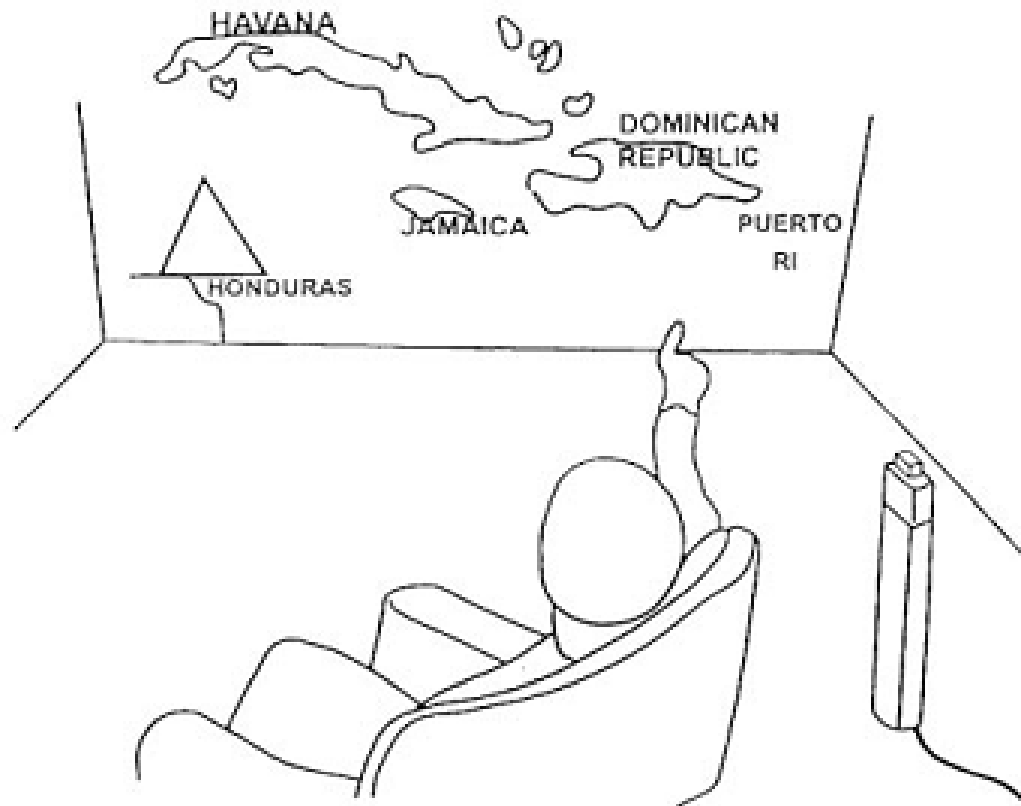
Microsoft: B. Gates (1975), Apple Computer: S. Jobs (1976)



APPLE I (1976)

Apple demonstrates its first computer at the Homebrew Computer Club in Palo Alto, Calif. Unlike the kit-based hobbyist computers at the time, the Apple I is a fully assembled circuit board containing about 30 chips.

Put That There



(MIT Media Laboratory)

What is Multimedia ? (Concept & Macro trend)

- 1. Multiple media (from Mono to Multi)**
- 2. Fusion of different types of businesses and services**
- 3. Digital processing/Computer processing**
 - **Integration (media and service)**
 - **Multi-functional (interactive, scalable, structured)**

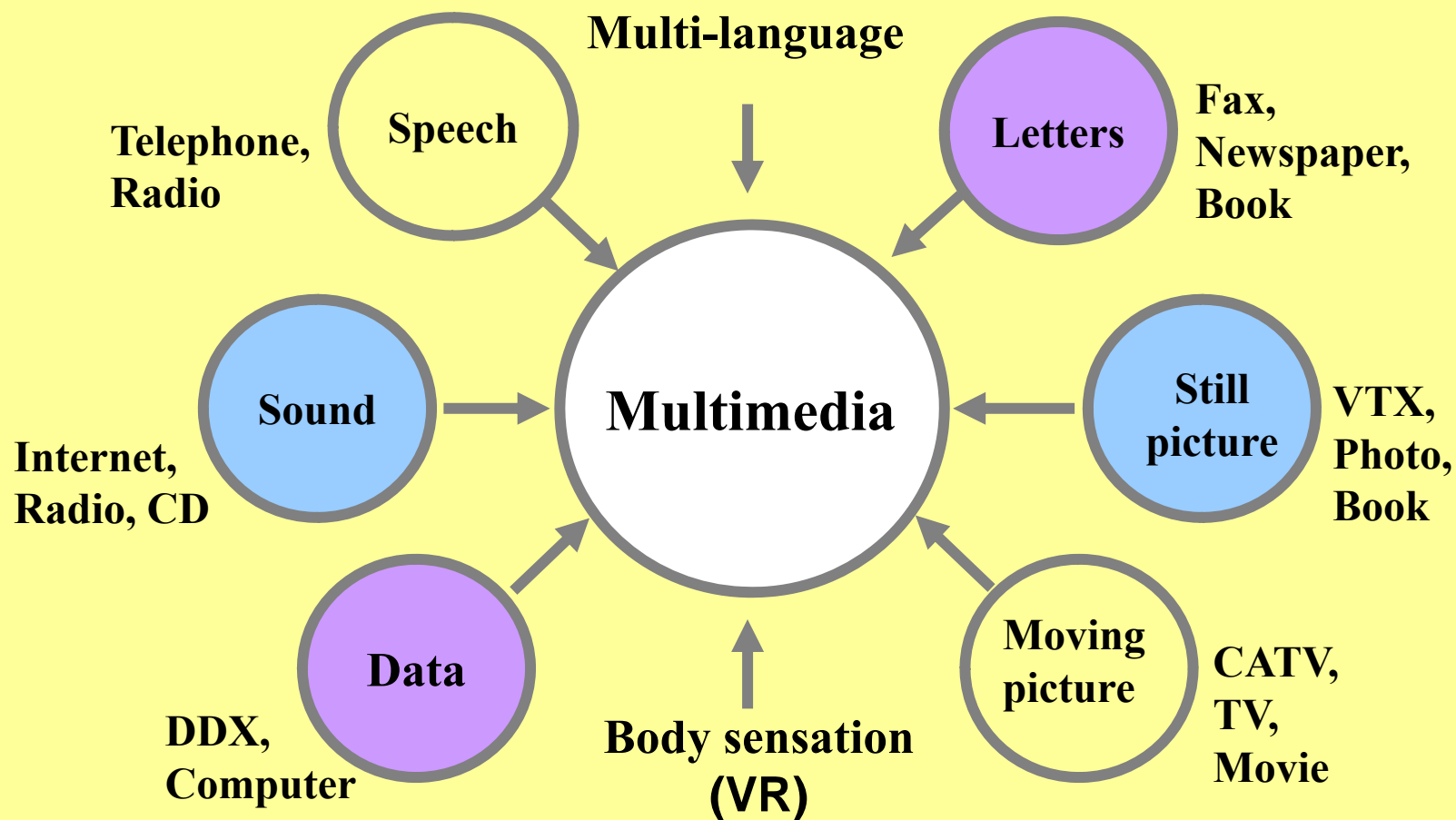


MOBILE TELEPHONY A (MTA) (1956)

Ericsson develops the first fully automatic mobile phone system. The 160-megahertz system, commercially released in Sweden and with a total of 125 subscribers, requires no manual control but weighs 40 kilograms.

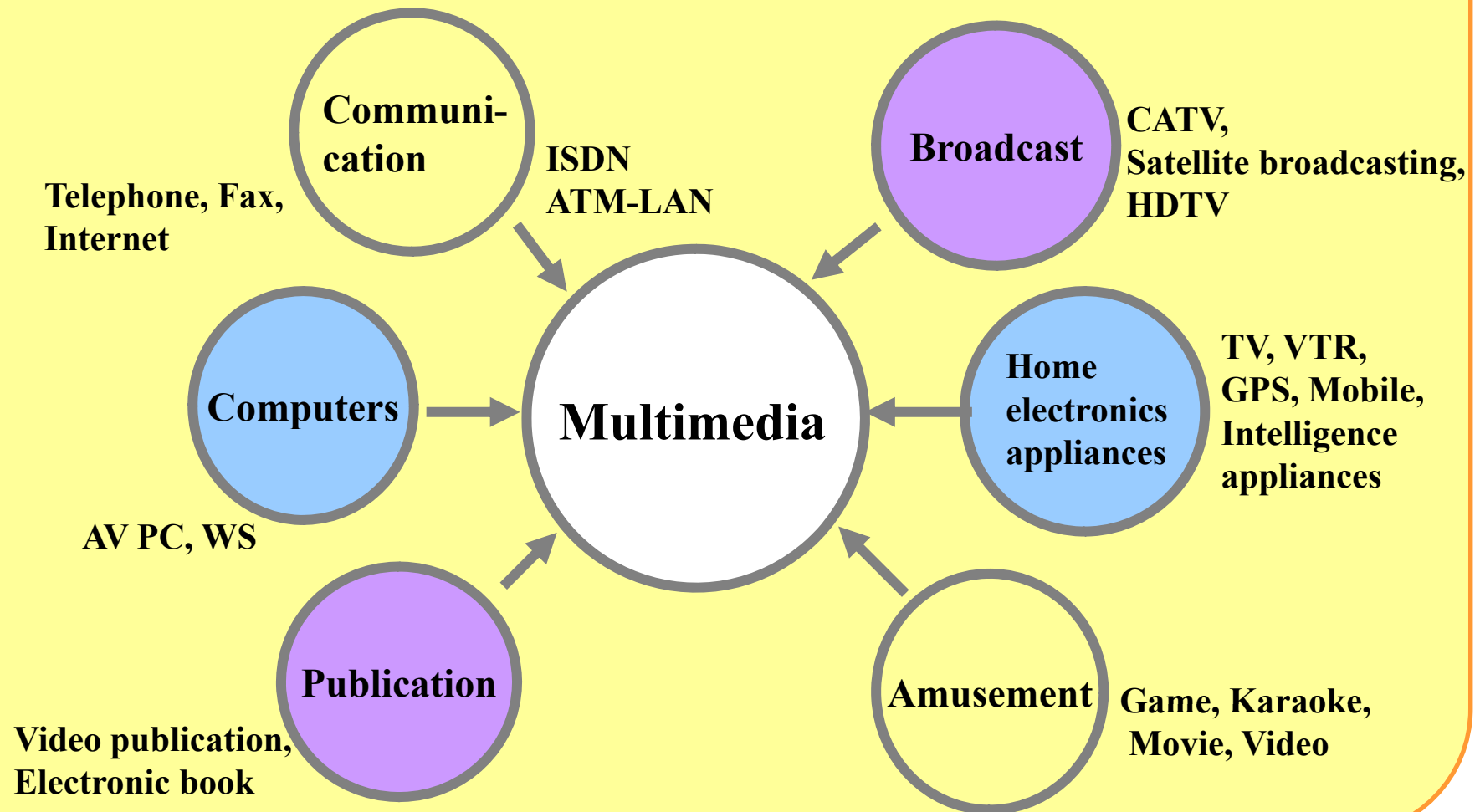
What is Multimedia ? (Concept and Macro trend)

1. Multiple media (from Mono to Multi)

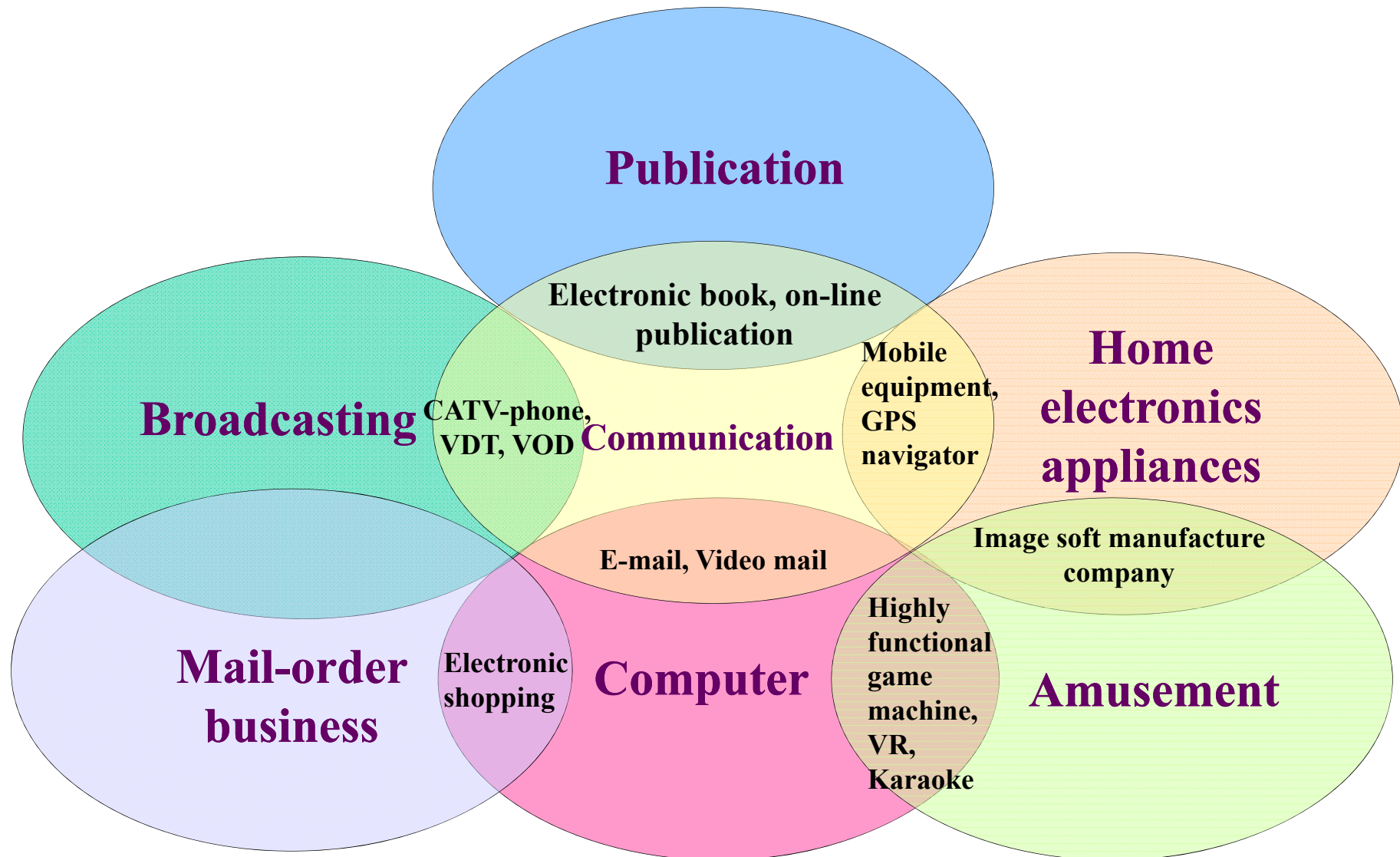


What is Multimedia ? (Concept & Macro trend)

2. Fusion of different types of businesses and services

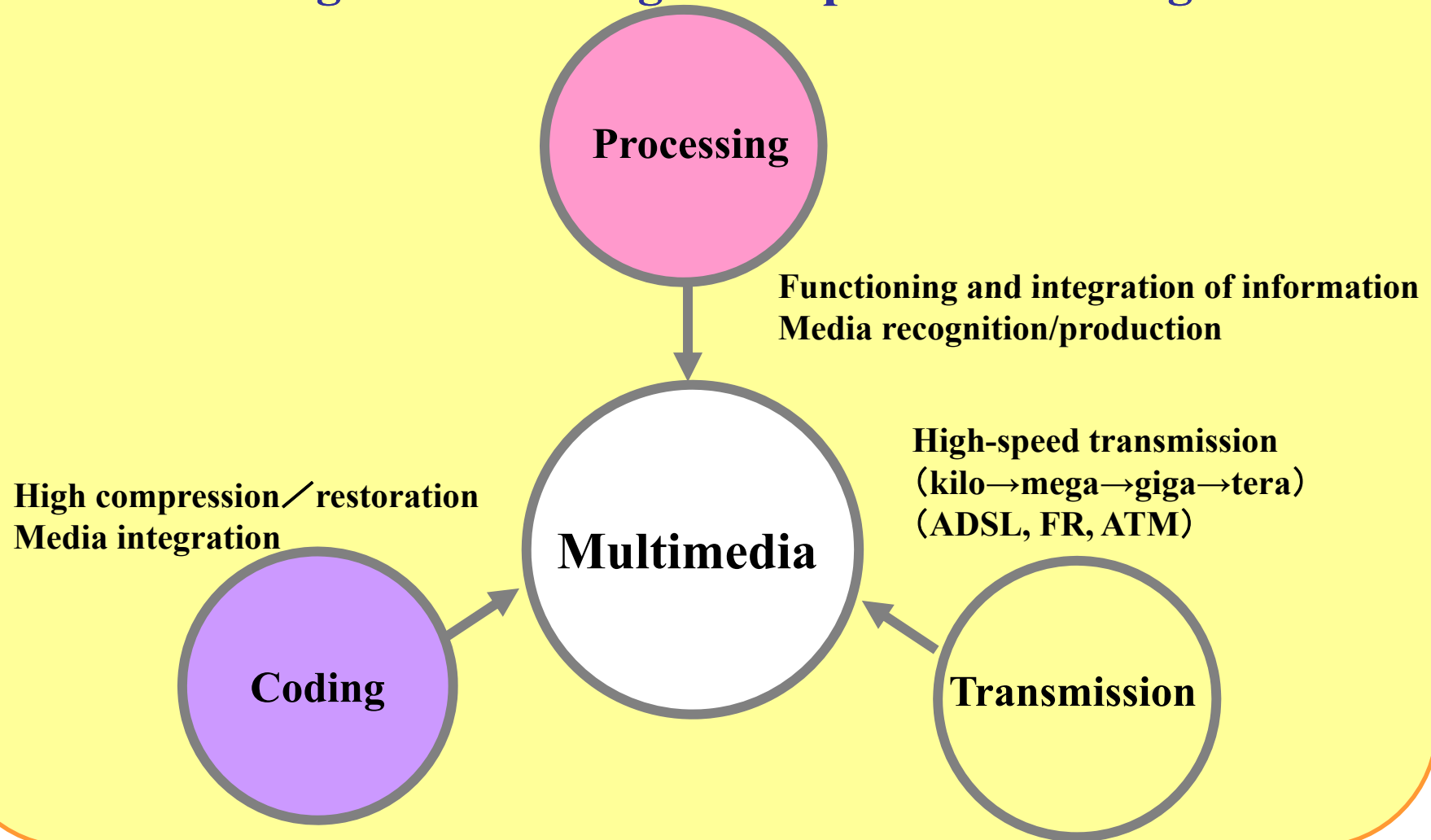


2. Fusion of different types of businesses and services



What is Multimedia ? (Concept and Macro trend)

3. Digital Processing / Computer Processing



What is Multimedia ? (Concept and Macro trend)

3. Digital processing/Computer processing

Base:
Development of LSI and optical communication technology

Compression/restoration
Unified transaction of
media

<Digital coding>

Information
recognition
/production
technology

<Digital processing>

ADSL
FTTH
ATM

<Digital transmission>