Brief report on the IEEJ technical meeting on history of electrical engineering in May and activities of the Center of the History of Japanese Industrial Technology

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1. Technical Meeting on “History of Electrical Engineering”, IEE Japan, 2013-5-10

The meeting was held at IEE Japan office in Tokyo. The themes were railway systems and history of electrical engineering in general. The following eight papers were presented:

- K. Akita and Y. Hasegawa: History of COMTRAC - Development of Innovative Traffic Control System for Shinkansen-
- M. Shinbo: A joint design meeting for E. M. U. controller sponsored by JNR
- S. Arai: The report of railway culture in a local city in Japan
- A. Yamada: Early History of Japanese Personal Compters
- T. Shimizu: How exchange and sharing of information in the early days of computer usage were made in Japan
- M. Maejima, O. Kamei and R. Takayasu: A case study for the historical research of Japanese industrial technology with video archives
- T. Saito: A History of Protection System for DC Traction Sub-stations
- Y. Mochinaga and J. Ito: Technological progress on the feeding system of a.c. electric railway

COMTRAC (COMputer aided TRAffic control system) is a large scale command–and -control system, which was first introduced into Tokaido-Shinkansen bullet train in 1964. It became an essential system to support the punctual, stable and dependable Shinkansen.

Japanese electronic manufacturers started developing 8-bit microcomputer kits and personal computers in mid 1970s. They developed 16-bit personal computers in early 1980s which equipped the hardware for processing Japanese including Kanji.

NEC PC-9800, a popular Japanese 16-bit personal computer

2. Activities of the Center of the History of Japanese Industrial Technology, National Museum of Nature and Science (NMNS), Japan[1, 2]

Since 2002, the center conducts surveys and research on three key areas:

1) Surveys on whereabouts: Determining the location of materials that illustrate the development of Japan's industrial technology.

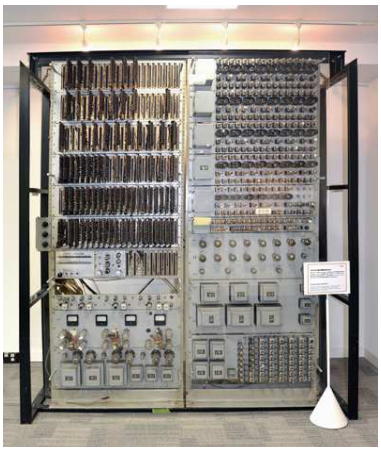
2) Research on the systemization of technologies: Clarifying the relationship society, culture, and the economy have with technological development.

3) Select and register important specimens from the history of science and technology in Japan: Preserving a disappearing national heritage.

Registered artifacts include following Japanese historical computers:

- Osaka University EDSAC-type vacuum tube computer and ENIAC-type arithmetic unit (1950s)
- HIPAC MK-1, the oldest Parametron computer in existence (1957)
- KT-Pilot, the first Japanese micro-programmed computer (1961)
- NEAC-2203 , the first Japanese mass-produced transistor computer (1961)
- FACOM 230-60, TTL IC computer (1968)
- MELCOM 81, the first Japanese “Office Computer” (small business computer) (1968)
- S810 and S820, supercomputers in early days (1982 and 1987)

(The manufacturing year of each artifact is listed in parentheses following the item.)



HITACHI HIPAC MK-1, the oldest Parametron computer in existence

This year, the research on five technology areas including personal computers is conducted.

Reference

1. http://www.kahaku.go.jp/english/institution/sts/index.html
2. A. Yamada; Technology heritage activities in Japan, Events & Sightings, IEEE Annals of History of Computing, Vol. 34, No. 4, pp. 83-85, 2012