

Counting the new ways computers

will affect us

'One has to watch computers with the same vigilance we exercised over powder and balls and muskets,' computer expert Anthony Oettinger warns in an LI Interview with Earl Lane.

Anthony Oettinger came of age during an exciting time in the history of applied mathematics. While he was a student at the Bronx High School of Science, the first computing machines were being designed and built by people like Howard Aiken of Harvard University. During the early 1940s, Aiken built the Mark I, a calculator 51 feet long and 8 feet high, containing about 500 miles of wiring. Although able to perform far fewer operations than a modern pocket calculator, the device was a forerunner of today's digital computers.

Oettinger was born in Germany in 1929. His family fled the Nazis, arriving in the United States in 1941. He went to Harvard in 1947 to study under Aiken, earning a PhD in applied math in 1954.

Oettinger is considered one of the foremost authorities on computers and information resources. He was a pioneer in computerized language translation. His 1969 book, "Run, Computer, Run," cast a skeptical eye on the use of computers in the classroom. Since 1973, Oettinger has been chairman of Harvard's Program on Information Resources Policy. He has been a consultant to the White House and headed a National Academy of Sciences panel on computer science and engineering.

Oettinger was interviewed in his office at Harvard's Aiken Computation Laboratory. Half of Howard Aiken's original Mark I is displayed in the lobby. Nearby, researchers feed data into a modern computer that performs tasks unimagined in the days when Aiken and his colleagues, such as Oettinger, helped give birth to the computer age.

Earl Lane, the LI interviewer, covers research developments for Newsday.

Q: What role will computers play in the life of the average American in the next decade?

OETTINGER: It isn't just computers, it's all of the information technology that's changing at a very rapid pace and widening the range of choices that people will have in how they get and communicate information to one another in daily living. The computer is but a symptom of rapid changes in telecommunications, in newspapers, in what's on radio or television, what's in the mail, in envelopes the phone company or gas company sends and so on.

Q: Let's start with the home computers. Will we be seeing them in many homes in the '80s?

OETTINGER: Well, what's a home computer? Over the last decade, the hand-held calculator has evolved from something that cost \$80 a throw to something you can now get for five bucks in discount stores . . . That's not a fad. It's part of the same thing you see in the supermarket where your cash register doesn't clank and clink mechanically anymore. It has those little red lights on it, and in some stores the clerk waves a wand over the coding on the goods that you buy. It's part of the movement toward greater use of electronic devices to do certain jobs more easily. The details of how it will evolve are kind of hard to foretell. These are all manifestations of home or personal computers. I think it makes more sense to talk about personal computers. Some of those will be, like the hand-held cal-

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