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# GLOBAL ELECTRONICS

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Issue No. 50

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February, 1985

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## NEW LOOK - NEW SCOPE

With this issue, **Global Electronics** takes on a new name, a new format, and a new editorial policy. We have enlarged the publication to include more information, and we have dropped "Information Newsletter" from the title. Still, **Global Electronics** remains an information newsletter, regularly monitoring the social, environmental, and military impact of high technology, as well as major trends within the industry.

Thus far, however, the newsletter has focused upon the *production* of high technology electronics, covering in particular issues relating to the computer and semiconductor industries' international division of labor. This material will continue to appear in **Global Electronics**, but it will be supplemented with information on the *application* of high technology. From now on **Global Electronics** will report upon workplace automation, computers in the schools, electronic surveillance, information services, and other areas where new technologies are influencing the way we live.

## CONFERENCE SOON

The Silicon Valley Research Group at the University of California at Santa Cruz is sponsoring a conference, the week-end of March 2-3, on defense research and computer technology. Titled "Strategic Computing: History, Politics, Epistemology," the conference will examine closely the Pentagon's Advanced Research Projects Agency's latest venture into "artificial intelligence" and new-generation computer systems, the Strategic Computing initiative. Participants will include Alex Braun, Hubert Dreyfus, Kenneth Flamm, Ann Markusen, Harley Shaiken, PSC's Lenny Siegel, and Terry Winograd. For more information contact Professor Richard Gordon, 408/425-1865 or 408/429-2555.

## AT&T MAIL

AT&T is internally testing a new electronic mail system. When it goes public with it, it will offer essentially the same services as MCI Mail, but users will be able to retrieve messages "read" by a computer-generated voice, over the phone. AT&T Mail, backed by the resources of AT&T, may undermine the already weak economic position other electronic mail ventures, but AT&T's entry into the new field may also open up the market in the same way that IBM's PC brought respectability to personal computers. (*Business Week*, January 28, 1985)

## LEAP MONTH

Careful readers of **Global Electronics** may notice that there was no "January, 1985" issue. We fell so far behind that we decided to renumber. Since subscriptions are recorded by the number of the issue, not the date of expiration, paying subscribers will still receive their 12 issues.

## BIRTH DEFECTS

Three years after residents of the Los Paseos neighborhood in south San Jose first charged that a chemical leak from a Fairchild Semiconductor factory had caused an unusual cluster of birth defects and other disorders in the area, authorities have backed up part of their assertion. A team of researchers, organized by the California Department of Health Services and the Santa Clara County Health Department, compared pregnancies among Los Paseos women, who had been drinking water tainted by trichloroethane (TCA) and other hazardous chemicals from Fairchild's underground tanks, with pregnant women in a similar, nearby control area.

Researchers found, for a two year period, that the incidence of miscarriages in Los Paseos was nearly double that of the control area, and that there were nearly three times as many birth defects.

The study did not reach any conclusions directly linking the spill to the cluster of miscarriages and birth defects. Researchers state, "The time trends of spontaneous abortions and congenital malformation rates in the Los Paseos area do not correspond to the timing of the leak according to the Fairchild Co.'s material balance sheet." But the company constructed the balance sheet retroactively after the cluster had been identified. The researchers add, "It was based upon company estimates of input and outflow of materials and there is uncertainty about the validity of these data."

A companion study, released at the same time, found that infants in the water district serving the Los Paseos area suffered twice as high a rate of congenital heart defects as infants in all of Santa Clara County during 1981 and 1982. Most of those defects, however, occurred in areas served by wells which were not contaminated. Based on this finding, as well as the timing of the defects, researchers concluded that the Fairchild spill did not appear to be the cause of this particular problem. However, their study uncovered no other probable causation.

## LABOR RIGHTS RULES PASSED

In October, Congress enacted and President Reagan signed legislation, the Omnibus Tariff and Trade Act of 1984, which built labor rights standards into the American application of the Generalized System of Preferences (see newsletter issue no. 46). The labor rights provision, offered originally by Congressman Don Pease (D-Ohio), conditions trade preferences for many goods - excluding electronics - from developing countries upon their respect for internationally recognized worker rights. Those rights include "the right of association; the right to organize and bargain collectively; a prohibition on the use of any form of forced or compulsory labor; a minimum age for the employment of children; and acceptable conditions of work with respect to minimum wages, hours of work, and occupational safety and health." The President is required to add a report on workers' rights to the annual report on Human Rights submitted to Congress by the Department of State.

Given the uneven way in which the human rights provisions of foreign assistance and military sales legislation have been applied, it would be naive to think that the new law will have an immediate, significant impact. Nevertheless, the legislation demonstrates that many in Washington are beginning to recognize that exports from countries which suppress the rights of working people cannot constitute "free trade."

The same legislation also places restrictions on the availability of trade preferences to countries which refuse to enforce foreign (U.S.) patent, trademark, and copyright protection.

## VALLEY HOUSING SHORTAGE

The California Department of Finance estimates that the population of Santa Clara County, which makes up the bulk of Silicon Valley, grew by only 16,000 people from 1983 to 1984, while employment jumped by 30,000. Natural growth accounted for most of the population increase, since inward migration remained less than a thousand. The area's worsening housing shortage is the key factor in holding down the arrival of new residents. Though many of the new jobs have been taken by residents who were unemployed during the "recession" - a flat period in Silicon Valley - an increase in inter-county commuting appears to account for most. (*San Jose Mercury News*, January 29, 1985)

Meanwhile, the regional Association of Bay Area Governments estimates that employment in Santa Clara County will rise to 798,000 in 1985, up from 698,000 in 1980. It projects roughly the same rate of growth, up to 901,000 jobs, through the end of the decade. For the first half of the decade, housing construction for the entire nine-county Bay Area is expected to total only 95,700 units. ABAG says that the County's housing construction shortfall for the period equalled nearly 11,000 units. (*San Jose Mercury News*, January 11, 1985)

## PHILIPPINES SCANDAL

Asian Reliability Co. Inc. (ARCI), an electronics company formed in 1980 by associates of top Philippine government officials, is under investigation for its handling of US\$25 million in loans guaranteed by the Philippines Export and Foreign Loan Guarantee Corp. Credit Suisse First Boston, a London-based merchant bank, is suing ARCI for repayment of its US\$17 million loan, and the issue is clouding the overall negotiations to reschedule the Philippines' huge foreign debt and generating domestic criticism of the Marcos regime.

ARCI raised the money in 1981 to establish several facilities for manufacturing semiconductors and related equipment. However, instead of building a wafer fabrication plant, as planned, ARCI bought control of Dynetics, a large assembly subcontracting house, and its U.S. affiliate, Interlek. The company neglected to obtain government approval for the loan diversion, apparently to circumvent Philippine restrictions on investment outside the country.

The *Far Eastern Economic Review* (January 24, 1985) reports that ARCI was beginning to discuss the loan diversion with the central bank in early 1983 when its chief financial officer, Betty Bantug Benitez, died in a car crash. Benitez was the wife of the Deputy Minister of Human Settlements. The Ministry, headed by first lady Imelda Marcos, holds a US\$4 million stake in ARCI through its Human Resources Development Corporation.

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## SANDIA CHIPS

The plans of non-profit Sandia National Laboratories to expand its integrated circuit production facilities are being criticized by the Department of Energy's Inspector General, the Electrical Industries Association, and RCA. The Albuquerque, New Mexico Energy Department contractor wants to expand its Center for Radiation-Hardened Microelectronics with \$200 million in new facilities.

The Energy Department, which is responsible for the production of nuclear weapons and related technologies, and the Pentagon pay Sandia to produce vital components designed to operate in a post-nuclear-explosion environment. Since the demand for many such chips is low, commercial companies are unwilling to produce them, although more than a dozen firms cooperate with Sandia on specific projects. Sandia's microelectronics center presently employs 220 people. In 1984 it received \$25 million in contracts from the Energy Department and \$22 million from the Department of Defense.

Critics of the proposed expansion charge that the facility would compete with private sector production and research projects, but Sandia and its industrial allies argue that the private sector does not have the capability or interest to supply the needed chips. It appears that some private companies have established their views of the Sandia proposal based upon Sandia's choice of technologies. For example, Sandia does not favor RCA's silicon-on-sapphire approach to radiation hardening.

Perhaps the Center is the victim of the expectation, within the electronics industry, that the market for radiation-hardened chips will rise significantly in the near future. Not only is the Pentagon establishing new strategic command, control, communications, intelligence, guidance, and countermeasures systems to support its nuclear war-fighting posture, but it is calling for tactical weapons capable of resisting radiation and electromagnetic pulse. (*Electronics Week*, February 4, 1985)

## A.E.A. ON MILITARY SPENDING

The American Electronics Association has issued a new position paper on industrial policy: "Strategies for Innovation: High Technology Industries and International Competitiveness." In the paper, the nation's leading high-tech trade association repeats its call for tax and education policies to encourage the growth of high-tech. It also takes on the Pentagon: "*We cannot allocate 70 percent of federally funded R & D to defense and severely limit U.S. high technology exports even in West-West trade without paying a very significant price in terms of competitive strength. We cannot siphon off a disproportionate share of our scarce technical resources to military applications and still stay ahead of Japan in commercial markets.*"

## SATURN

Though American automakers have long used computers and have steadily been adding robots to their "workforce," the cost of replacing existing, functioning plant and equipment has held back automation efforts. Now GM has set up an entirely new \$5 billion division to build "Saturn" cars by 1988 or 1989. Saturn will be built on a computerized manufacturing system that will link design, components manufacture, assembly, and sales into a single integrated network. GM plans to deliver a completed car a few days after a dealer sends in an order for that precise configuration. The Saturn division will employ more robots than ever before, and it will organize human workers into production teams, each producing modules such as a "front-end unit." The only assembly line will be at the end of manufacture, to put together pre-assembled modules.

Just as Apple found it easier to introduce new levels of automation when it began production of a new product, the Macintosh, GM expects that it will be easier to apply new production technologies at a new division producing an entirely new car.

## OFFSHORE DATA ENTRY

Though few American corporations have followed American Airlines in moving data entry offshore (see issue no. 41), businesses which must convert masses of hardcopy text into digital form are doing their typing in the Far East. For example, Mead Data Central's Nexis and Lexis on-line data bases obtain current publications direct from publishers in computerized form, but the process of computerizing old printed text is time-consuming.

Most Nexis-Lexis keyboarding is done in Taiwan and the Philippines. *Fortune* (February 4, 1985) reports, "Somewhat mind-blowingly, much of this work is performed by keyboarders who don't understand English. Nexis executives say they prefer such workers, who are less likely to be distracted by the contents of the text their replicating."

Mead also uses electronic scanners, but those work only when provided with clear, standard, one-column text. Scanners still require human operators to check their work.

## VICTOR MOVING PRODUCTION

Swedish-based Datatronic AB is taking over bankrupt microcomputer manufacturer Victor Technologies, but final approval of the deal awaits resolution of an appeal by Epson America, one of Victor's creditors. If U.S. courts accept the buy-out, Datatronic will acquire 90% of Victor's stock for \$28 million. At that time, Victor will shift its manufacturing from Scotts Valley, just outside Silicon Valley, to Japan, where the company already produces calculators. Since most of Victor's computer sales are overseas, particularly in Europe where its brand-name is popular, the strong dollar is making its U.S.-made product expensive.

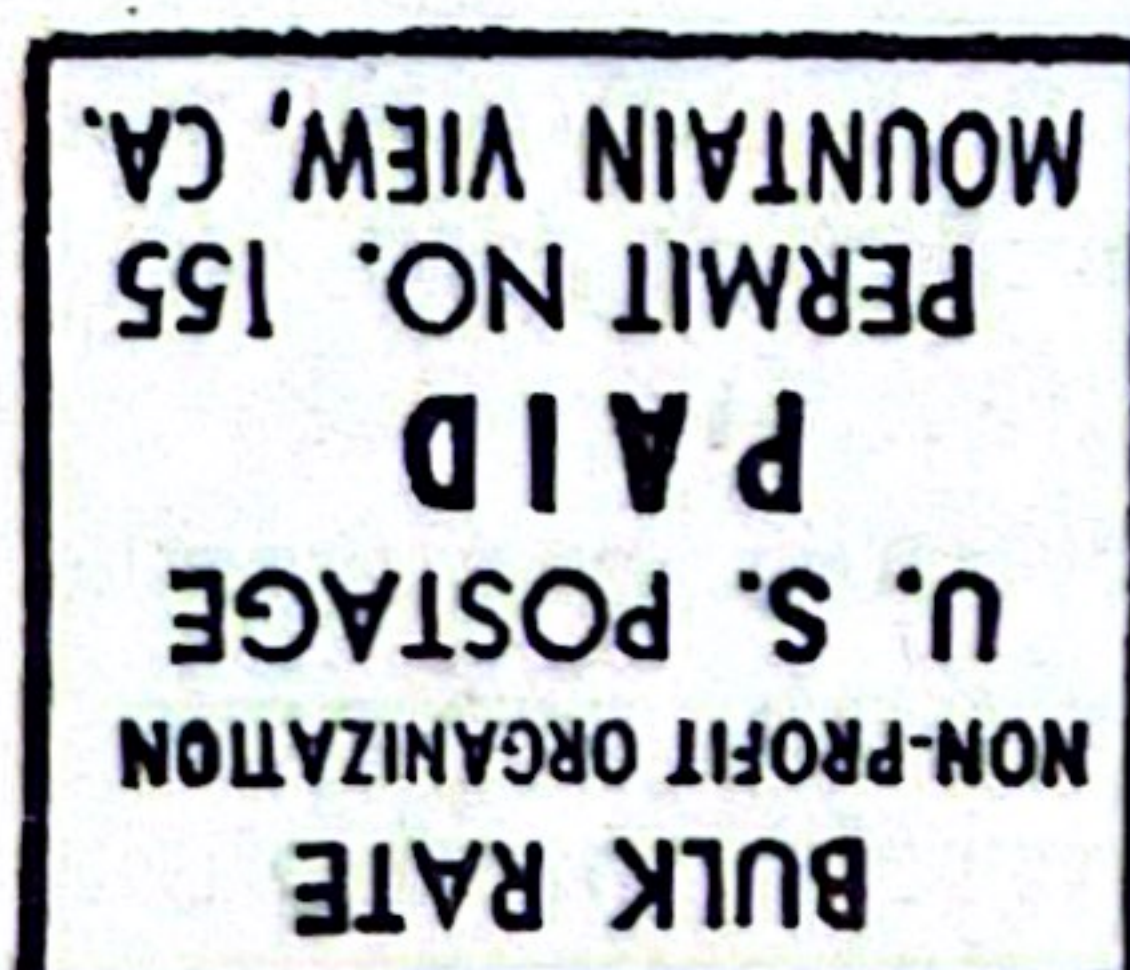
## P.S.C. BOOK COMPLETED

**The High Cost of High Tech: The Dark Side of the Chip**, by Global Electronics editor Lenny Siegel and Byte magazine's John Markoff, is finally completed. It will be published in hardcover by Harper & Row (Cornelia and Michael Bessie Books) in October, 1985. Some of our readers may be familiar with the working title of the book, **Where the Chips May Fall**. The following is a chapter-by-chapter description of the manuscript:

1. *Computer Citizenship: The Peril and the Promise*. To reap the benefits of high technology, we must understand the social, political, environmental, and military implications of computer technology.
2. *The All-Electronic Arms Race*. The development of new electronic weapons and support systems, more than any other technology, threatens world peace.
3. *Our Fragile Freedom*. Laws to protect personal privacy have not kept pace with advances in list-keeping, electronic eavesdropping, and information processing.
4. *The Learning Game*. Computers as teaching aids are not living up to their potential. More important, the schools are failing to offer children a chance to learn about high technology and its impact on their lives.
5. *Automation Nation*. Systems based upon the microprocessor are displacing large numbers of factory, office, and service workers. By monitoring employees and de-skilling many occupations, high tech equipment downgrades human labor and increases workplace stress.
6. *Outside the Electronic Cottage*. A sizable minority of the American population now has unprecedented access to information-based services, but a vast new stratum of information-poor is finding that its telephone, postal, banking, library, and other services are declining.
7. *The Silicon Rush*. Silicon Valley, California, universally recognized as the Mecca of high technology, suffers from a sharply stratified social structure, high housing costs, crowded commutes, and hazardous working conditions.
8. *The Toxic Time Bomb*. Despite its shiny, well-landscaped labs and factories, high technology industry uses and loses hazardous materials that threaten both the environment and public health.
9. *The Asian Challenge*. High-tech manufacturing is a global assembly line. Many U.S.-based companies that call for tax and trade assistance to take on "Japan, Inc." assemble their products in the Far East while cooperating with some of their Japanese competitors.
10. *Trading Secrets*. High technology has flourished in the U.S. through the free flow of knowledge, data, and ideas, but it is in the interests of high-tech companies and the Pentagon to control the open exchange of information.
11. *Seeds of Liberation*. If people work to control it, high-tech can be a tool for enhancing human comfort, freedom, and peace.

PSC will be distributing copies of **The High Cost of High Tech** at the retail price.

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