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# GLOBAL ELECTRONICS

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## BEYOND NAFTA: Competing and Winning against Ourselves

by Lenny Siegel

Crack open any desktop computer, and you'll find chips labeled "Malaysia," "Philippines," and other exotic places. Since Fairchild first began assembling semiconductors in Hong Kong in the early 1960's. Silicon Valley firms have been in the forefront of the globalization of production. New technology and conscious public policy have created conditions that encourage enterprises to scour the planet seeking the lowest cost places of doing business. Not only have they exported routine production from the United States, but they have used foreign competition, including their own plants abroad, to force down pay and workplace standards.

I opposed NAFTA because it is designed to reinforce those conditions. But whether or not NAFTA passed, there would be a need to directly attack the problems created by the global assembly line. The NAFTA vote has highlighted, perhaps only for a short window of opportunity, those issues. It is important, therefore, to initiate a debate on international economic policy in its wake. Trade and investment policies seem complex, technical, and distant. But they directly impact the standard of living of a growing number of—perhaps most—Americans, particularly those who live here in Silicon Valley.

Global trade has been around at least since the days of Marco Polo. Until this century, however, most trade consisted of products, such as spices, tea, or copper, unavailable in the importing country. Since the industrial revolution, nations have competed in the supply of a variety of manufactured, extractive, and agricultural goods. But only in the last thirty years have transnational corporations divided up the productive process across vast international distances, working on the same product in two or more diverse locations.

Fairchild and its imitators established a division of labor that still characterizes the chipmaking industry today. Wafer fabrication, which requires significant capital and lots of technical su-

pervision, is generally completed in the United States. Chips from those wafers are attached to threadlike wires and packages in low-wage, labor-intensive plants, primarily in East and Southeast Asia. Packaged chips are returned to the U.S. for assembly into computers and other products.

This global assembly line, taking advantage of more than ten-fold differences in pay, was made possible by technological innovation in both transportation and communications. First, jet transport made it possible to move parts and product quickly back and forth across the Pacific. The high value-to-size ratio characteristic of chips made air freight economical. Second, with computers and satellite communications, companies could coordinate orders with the supply of materials, parts, and labor across all boundaries.

Over the next three decades, the experience of the semiconductor industry spread to other industries, particularly other segments of high-tech. A desktop computer today, for example, may consist of a keyboard produced in Korea, a display from Taiwan, memory chips from Japan, a disk drive from Singapore, and a microprocessor designed in Silicon Valley, fabricated in New Mexico, and assembled in Malaysia. Some of Silicon Valley's leading "manufacturers," such as National Semiconductor and Seagate Technology, employ more direct employees in Southeast Asia than in their "home" country.

Thus, exhortations to "compete and win" in the global economy do not ring true. How can "America" compete when our adversaries' technology, capital, parts, and markets are American as well?

Technology alone did not create the global assembly line. I recall, back in 1971, submitting an article on offshore semiconductor assembly plants to *American Report*, a weekly newspaper published by a religious peace group. The first editor rejected the piece, expressing the belief that cheap labor is a natural Asian phenomenon. I countered,

however, that our government, leading universities, and international financial institutions encouraged Asian countries to promote export-led industrialization. Programs funded by the U.S. taxpayer insured and subsidized overseas investments by American firms for export to the United States. Security assistance, including police aid to dictatorships, kept a lid on labor organizing and political dissent. Even today, electronics workers in Malaysia, technically the world's leading exporter of chips, are not allowed to organize.

With or without NAFTA, the rules of the game make it difficult, if not impossible, to do routine production in Silicon Valley, though in many cases the competing region is still within the United States. Companies are swimming upstream when, for whatever reason, they choose not to play the global production game. Cypress Semiconductor, which serves a less competitive market niche than the larger chipmakers, tried to assemble chips domestically, but it still proved too costly, given the structure of trade.

Within that structure, high-tech companies have created a large number of high-pay, high-performance professional jobs in Silicon Valley, but that's not enough. Production and service workers here cannot compete and win a decent living. The bottom half of the workforce is less visible in Silicon Valley than other parts of the U.S., because housing costs have driven it from the Valley. To see the full impact of the high-tech society, one has to go to LA.

A viable regional and national economic development strategy must encourage mass production, not just design or specialized manufacturing. Mass production, accompanied by decent wages and conditions backed by union contracts and legislation, has been the economic base of the American middle class. Without it, our country will, like Silicon Valley, be increasingly polarized, with little chance of mobility from the bottom to the top.

There are four strategies which, with or without NAFTA, can reverse the drain of routine production from Silicon Valley and other parts of the United States. They must be combined, for no single approach solves the problem by itself. More important, we must drop the laissez-faire illusion that everyone will benefit if only we let the companies do things their way.

**1. International Labor Rights.** It would be foolhardy to attempt to impose a single set of pay and working standards on the world, but the right

to organize, communicate, and bargain collectively should be guaranteed as a fundamental, universal right. Labor Secretary Reich, in defense of NAFTA, pointed out that there are laws on the books which authorize trade restraints against countries that deny such rights, but they have never been enforced against imports from countries that do substantial trade with the U.S.—only against a handful of “communist” countries. Enforcing those laws would not halt trade, but it would help equalize the terms. And the decision to demand fair pay would not be made by U.S. transnationals, host governments, or even labor or human rights groups in the U.S. It would be made by the foreign employees of transnational companies themselves.

**2. Linking Industrial Policy to Domestic Production.** Particularly since the election of Bill Clinton, high-tech companies have been holding out their collective hand for subsidies from Washington—from tax breaks to investments in high-tech research—arguing that what is good for U.S.-owned high-tech companies is necessarily good for the United States. Taxpayer assistance to industry is as old as so-called free enterprise, but it's counterproductive to aid enterprises that take the money and run. Recipients of R & D tax credits, Sematech members, and firms that receive TRP grants should all be forced to demonstrate how government aid is boosting domestic production employment, not just elevating their bottom lines.

**3. Workers of the World Unite.** What was once merely an ideological slogan is now a practical imperative. Companies are organized across international borders, and they deftly play workers in one land off against another. U.S. unions need to drop the ideological blinders of the Cold War and cooperate with their counterparts abroad, regardless of ideology. One of the results of the NAFTA battle is growing cooperation between certain U.S. unions and independent labor organizations in Mexico. That's a good start. Unions need to share information, send support, and in cases even bargain internationally.

**4. The Green Bay Solution.** One way to make sure that an enterprise doesn't export jobs is to own it. There are many forms of social ownership, including employee ownership, pension fund investment, and community ownership. Social ownership itself does not guarantee responsible corporate behavior, but it creates an opportunity to consider the social costs—such as reduced local tax revenue and increased social service expenditures—of the proposed export of jobs.

The debate over NAFTA too often degenerated into a debate over the number of jobs that would be lost and gained as a result of increased trade. The real question, which must be addressed by strategies such as those I suggest here, is who will determine the conditions of work both here and abroad. U.S. policy can continue to strengthen the hand of transnational corporations that show little loyalty to their workforces at home or abroad, creating societies that are polarized between rich and poor.

Or it can empower the people who are affected by corporate decisions. I believe that building the bargaining strength of workers and communities not only directly benefits those groups, but it makes more likely the realization of the American dream of a society in which everyone shares in the fruits of our hard work and imagination.

## SAN JOSE AGREES TO PREVENT POLLUTION

On June 30, the city of San Jose signed an agreement with Citizens for a Better Environment (CBE) and other environmental groups launching a landmark program to prevent heavy metals pollution from reaching the San Francisco Bay. The agreement, which follows similar agreements with other operators of Silicon Valley sewage treatment plants, is designed to promote pollution prevention by demonstrating to electronics manufacturers that they can save money by more efficiently using copper and nickel.

The agreement concluded a long sequence of legal actions and negotiations dating back to 1988. In January, 1993, CBE filed a complaint alleging that the city of San Jose, operator of a wastewater plant serving the cities of San Jose and Santa Clara, had committed over 700 violations of legal effluent limits for toxic heavy metals, including copper, nickel, silver, and cadmium.

Instead of merely seeking penalties, however, CBE used its legal leverage to promote a solution designed to protect the environment, save the city money in the long run, and protect jobs. The agreement, as announced jointly by San Jose mayor Susan Hammer and environmentalists, included the following provisions:

1. San Jose will require pollution prevention audits of the 50 to 70 industrial plants in its wastewater system that discharge the largest amount of copper and nickel. Most of these will be printed circuit board fabricators or electroplating shops.

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2. The wastewater utility will establish a \$2 million capital fund to help small businesses implement pollution-cutting industrial improvements. Many of these technical fixes are expected to save the manufacturers money.

3. San Jose will join and help fund a Pollution Prevention Center, governed by a board from the City, environmentalists, and industry.

4. The environmental groups have promised a five-year grace period on strict enforcement of laws governing toxic releases from the sewage plant.

The San Jose agreement should serve as a model from activists hoping to clean up an industry while maintaining its employment base. Michael Belliveau, Executive Director of CBE, said, "Today San Jose emerges as a leader in strategic investments to prevent tons of toxic pollution while saving up to 5,000 jobs in small manufacturing plants throughout Silicon Valley."

## INDUSTRIAL POLICY: A THIRD WAY

In July, the Twentieth Century Project, an offshoot of Computer Professionals for Social Responsibility (CPSR), released a report that should open up a third position in the debate over the future of U.S. industrial policy. Thus far, the debate has divided conservative Republicans, who favor a blend of military control and laissez faire

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economics, from Democrats and high-tech industry leaders. The latter favor handouts to industry to strengthen U.S. "competitiveness."

In *Setting a New Course for Science and Technology Policy*, Gary Chapman and Joel Yudken, propose a needs-driven approach to the development and support of U.S. technology. The full report may be ordered for \$15 from CPSR, Box 717, Palo Alto, CA 94302-0717.

Chapman and Yudken suggest, "The end of the Cold War offers many opportunities for redirecting science and technology to peaceful and equitable goals." They conclude, "The three primary challenges of the coming century—environmental sustainability, global disarmament, and equitable development—require unprecedented cooperation between scientists, engineers, policymakers, and the public.

Yudken and Chapman find that U.S. technology policy, hence U.S. industrial policy, is technology driven: "For example, the federal government, largely through the Department of Defense, has funded much of the work in artificial intelligence, advanced computer processing, biotechnology, materials science, and aeronautics, among many other fields. While much of this work was related the goal of national security, the goal itself was often defined by the technologies, rather than the other way around. In the field of national security, a technological development would often mean adjusting policy to match new capabilities or new threats. Thus the goals of national security policy tended to be driven by technological development."

As an alternative, the authors recommend that policy drive technology: "Combined with an appropriate level of basic research, technology policy should be 'needs-driven.' The needs to be addressed by technology policy should be derived from democratic debate, and technical and scientific expertise should serve but not dominate this debate.... The model of technology policymaking nurtured by the Department of Defense—of scientific and technical discussion conducted behind closed doors and veils of secrecy, of an insulated and largely invisible scientific elite of decision-makers—should be retired."

Chapman and Yudken also reject the rhetoric of *economic competitiveness*. They conclude: "It suggests at its extreme a 'beggar thy neighbor' tendency that is inappropriate in today's increasingly interdependent world. While individual firms within the U.S. economy must pursue market competitiveness to remain economically viable, this principle should not be elevated to a comprehensive rationale in support of *public policy*." They advocate, instead, the goal of *global cooperative development*.

The end of the Cold War and Clinton's activist economic policy have created a opening for the kind of reasoning presented in *Setting a New Course*. But Yudken and Chapman do propose a *dramatically* new course, and it will take a lot more than a well written report to get Washington to take it seriously. Those people who share their views—particularly within the scientific and technical elite—need to insist upon a full and open debate of the goals of U.S. technology policy.

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