

# AMERICAN ENGINEER™

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## New Bonanza: "Diversity Training"

This newsletter has previously debunked the following very misleading statistic from a 1987 Hudson Institute report titled "Workforce 2000", a projection that native-born white males would be only 15% of "net new workers" in the period 1985-2000. What this statistic really means is that the numerical growth of the native white male workforce (i.e., the numerical difference between workforce entrants and workforce leavers) was expected to equal only 15% of the numerical growth of the entire workforce.

However, a much more significant statistic is the U.S. Department of Labor's projection that non-Hispanic white males (using a different classification than that of "Workforce 2000") would be a huge 32 percent of new workers in the period 1990-2005. Even the U.S. Dept. of Labor, which happened to fund the "Workforce 2000" study, discourages use of the abstract "net new worker" statistics to characterize workforce entrants.

Despite the efforts to debunk the white-male "shortage" myth created by "Workforce 2000", this myth continues to have considerable fallout. Part of this fallout has been a boost to the flagging engineering shortage myth, since white males have been the "traditional" source of engineers. Another part of this fallout is the new "industry" of "diversity training": conducting corporate seminars concerning workforce diversity. This "industry" is described as follows in a *Wall Street Journal* article (August 24, 1994, page A10)

titled "Oppression Studies Go Corporate":

"The industry has seen spectacular growth since 1987, spurred, ironically, by a report from the conservative Hudson Institute predicting huge changes in the ethnicity of the workforce by the year 2000. Nobody knows how many consultants are out there, but the number certainly runs into the thousands. Their services have been used by a who's who of blue chip companies, including Xerox, IBM, and Coca-Cola. Diversity trainers have backgrounds in civil rights, human resources, psychology, social work—just about anything. The top trainers, such as Elsie Cross and R. Roosevelt Thomas, charge around \$10,000 a day. Many of them only take multimillion-dollar multiyear contracts. Nonprofits like the Anti-Defamation League and the National Conference (see the National Conference of Christians and Jews) are also cashing in.... 'There are a large number of horror stories circulating among people who do this work about trainers who do white male bashing,' says Harris Sussman, a Cambridge, Mass.-based trainer (and, he quickly adds, a white male). In one case, *Campus* magazine reports, a University of Cincinnati trainer told a white male in the audience that his father's death 'removed one more racist influence' from his life."

A sociology professor was hardly exaggerating when he said that "Workforce 2000" had created a "minor industry for diversity consultants—social workers paid fancy fees for what borders on quackery." *Dissident Engineer*

## Editor's Column

### ILLUSORY JOB ADS

The Mar. '93, Dec. '93 Feb. '94 June '94 and Sept. and Nov. '94 issues of AE carried examples of what I called "illusory job ads." They were ads that purported to offer jobs to the most qualified applicants, but were so detailed that they were really biographies of the applicant the firm intended to hire in the first place. Also they offered such low salaries that no one other than the intended applicant (and an unemployed engineer) would even bother to apply. This smacks of immigrant recruiting. Also, the ads listed only a state employment service, and the employer remained unidentified, so that his reputation would not be affected by the ad. Below is an example of an illusory job ad, which offers an incredibly low salary: about \$27K per annum based on a 40-hour week. Six hours per week of overtime @ \$19.99/hour brings this magnificent wage to about \$34K, assuming no vacation break and 52 weeks per year of salary. Please consider writing: Secy. of Labor, U.S. Labor Dept., 200 Constitution Ave., Washington, DC 20210. His name is Robert Reich, and I believe his heart is in the right place, but the Labor Department is too burdened to monitor such ads. Tell him what you think of this ad. Alternatively, you can write the person whose name is at the bottom of the ad. I wrote to both of them.

**PROGRAMMER/ANALYST** for NE Ohio Software development firm. Perform analysis of insurance rate guides for property and casualty insurance companies. Evaluate and program guidelines into insurance issuance soft-

ware and interface products. Programming will be primarily in the Turbo Pascal language, but C, C++, Foxpro, Clipper, or other PC languages. Design large applications using relational database working under DOS, UNIX, OS/2. Two and three day overnight trips to continental U.S. destinations approximately once per month to evaluate client needs and install hardware. Must have Bachelor degree in computer science and at least two years experience in any field related to computer programming and systems analysis including college instructor, which experience must include DOS, Turbo, Pascal, OS/2, PC and Midrange or Mainframe and design of large applications using relational database. Must be willing to travel overnight 2-3 days per month to continental U.S. destinations. 40 hrs pr. wk. 6 hrs OT. 8:30 A.M. to 5:00 P.M. \$13.33 hr. \$19.99 OT. Three to five openings. Must have proof of legal authority to work permanently in the U.S. Send resume in duplicate (no calls) to J. Davies, JOB #00162, Ohio Bureau of Employment Services, PO Box 1618, Columbus, Ohio 43216.

**THE DISSIDENT ENGINEER'S DICTIONARY** - Definition of the word *shortage*. - "A shortage exists at a given price when the quantity demanded for the product is greater than the quantity supplied. The solution to eliminate a shortage is for the price to rise." This is from page 615 of the book "The Complete Executive's Encyclopedia of Accounting, Finance, Investing, Banking & Economics", by Albert N. Link and Charles J. Woelfel; Probus Publishing Company - Chicago, IL.

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(Editor's Column Continued)

### "WHERE HAVE ALL THE GOOD JOBS GONE?"

is the title of an article in the Aug. 29, 1994 issue of *Business Week*. There's a very telling paragraph that I'll quote without comment. "In the human capital view, there is a mismatch between workers' low skills and the advanced skills demanded by the high-tech economy. But according to the Bureau of Labor Statistics, the occupational categories generating big job numbers are the same depressing ones of the past decade—fast-food worker, janitor, retail sales clerk. Nor does supply create its own demand. If we suddenly doubled the number of engineers, we wouldn't have more engineering jobs, only a glut of engineers." The article also states that the trends of the '80s have intensified in the 90's. They are: "... astronomical gains for the economy's superstars; in the middle, relentless downsizing, with new pressures on once-secure professionals as well as depletion of solid blue-collar jobs." So the defining characteristics of the present economy are (according to Lawrence Mishel of the Economic Policy Institute) "Skill levels are up, but compensation is down. Productivity is rising, but the median wage is falling." As Edith Holleman stated in her speech published in September "American Engineer", U.S. policymakers need to hear from the American public that the pell mell rush to free trade does not necessarily create new, high-skill, high-paying jobs. To say this in writing is the first step toward changing the false reality surrounding free trade.

### AMPLIFICATION DEPARTMENT

In the 11/94 issue of AE, I published a letter from R. Strohm of Austin, TX about conditions in Texas near the Mexican border. Mr. Strohm adds that "Barrios" are enclaves and Hispanic areas on either side of the Mexican border. Barrios are also suburbs. There are no barrios a hundred miles north of the border.

### "OVERWHELMED BY OUR GENEROSITY"

is the title of an article by Dan Stein in the 8/8/94 issue of *Los Angeles Times*. Mr. Stein is executive director of the Federation for American Immigration Reform (FAIR). He says that 'U.S. immigration policy admits, legally and illegally, the equivalent of the population of San Francisco every six months,' with no clear idea of its impact on the U.S. Bureaucrats in Washington can tell us how many immigrants enter and where they come from, but little about what sort of human capital they bring and the fiscal impact of these masses of entrants. He adds that a growing number of state and local governments are requesting federal reimbursement for costs connected with immigration. The federal government is belatedly trying to assess the economic and social impact of its policy. So far FAIR and AEA agree.

Of the nearly 1M people who enter through legal immigration, refugee or asylum processes, a mere 160K visas are allocated for people with special skills. Even this is misleading, because about two thirds of these visas go to dependents of the skilled workers. Mr. Stein contends that a mere 160K visas for specially skilled entrants selects only about 5% of all immigrants for their skills, which is a disservice to the U.S., since we need a large skill reservoir to compete in a world economy. He adds that between 250K and 500K illegal aliens settle permanently in the U.S. each year. (I think the figure is much higher.) Most of these illegals are unskilled. The 1986 Immigration Reform and Control Act (IRCA) conferred legal status to 3.1M illegals. The Act contained a provision for the executive branch to compile a statistical profile of these 3.1M persons. The study found that the median annual income for a family of four in this group was \$16K. The same study found the average amnesty recipient had seven years of formal education.

Now here's where FAIR and AEA part company. We believe that allowing even 160K entrants with special skills takes jobs from U.S. citizens, especially unemployed engineers. My feeling is that high-skill jobs are in short supply. The recent increase in U.S. jobs has been in the low-skill service sector of the economy, i.e. retail chain stores, burger stands, lawn care companies. The few high-skill jobs that are advertised can easily be filled from the ranks of America's unemployed professionals, and there's no need for preferential immigration laws to provide special skills to the U.S. I also believe amnesty for 3.1M illegals was a terrible blunder, and there should be no future amnesties. In addition, I feel U.S. immigration policies should serve the welfare of U.S. workers. Actions and policies of the

Immigration and Naturalization Service (INS) should not undercut activities of the U.S. Department of Labor (DOL) to provide employment for U.S. workers. What do you think? Mr. Stein concludes his article by saying that immigration is not serving the social or economic interests of our country. He thinks it's time we stop and recover from an immigration binge that has lasted for a quarter of a century. Amen to that.

### OUTSIDE ENTERPRISES

I have maintained a policy of not mentioning outside enterprises, except for 1. those who give publicity to AEA and 2. those whose activity offers a definite benefit to technical professionals. For example, in past issues I listed the Young Scientists Network, because they're engaged in a mission similar to AEA: to elevate the status of physicists. I also mentioned the name and business address of a consultant—T. Edward Black. I did so, because he inscribes the phrase "Member of American Engineering Association" on his mailings.

I have another organization to acquaint you with: BJ Wootan Associates, 941 West Moana Lane, Reno, NV 89509-4844. E-mail [bjw@alamodem.com](mailto:bjw@alamodem.com), CompuServe 74762,2410. Voice mail 702/321-9640. This firm runs an E-mail directory called "CyberPages" for technical contractors (job shoppers) and consultants, who have their own E-mail listing and a minimum of two years paid contract experience within the past five years. It is not intended for salaried engineers, looking for a new job. Agencies and client companies contact the technical professionals directly via their E-mail listing in CyberPages. BJ Wootan offers a free one-year listing in CyberPages. BJ Wootan offers a free one-year listing to persons with the above qualifications. For further details, talk to BJ. Tell me how you find this service.

### ORGANIZATIONS THAT WOULD CURB IMMIGRATION

AEA fits into the above category. So do two other organizations, with which I'm familiar: 1. American Immigration Control Foundation (AICF) at Box 525, Monterey, VA 24465. 2. The Federation for American Immigration Reform (FAIR) at 1666 Connecticut Ave. NW, Suite 400, Washington, DC 20009. I mention them because I've reprinted material that they've published, and because they helped me collect information for a paper I'm writing about the immigration problem in the U.S. Readers of "American Engineer" may wish to receive their published material or even give them financial support. I do.

*Robert Bruce, AE Editor*

## Reach Out

Reach Out to the active volunteers that are making this publication possible. Tell them what you like or what you dislike. Provide them with questions, answers and information or just a hand written note of appreciation. Believe me when I tell you that it is important to let your volunteers know that you care. Reach Out to the following:

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#### Richard Tax, AEA VP, General Information

PO Box 2012, River Vale, NJ 07675  
(201) 664-0803

#### Robert Bruce

"American Engineer" publication and related issues  
P.O. Box 620726, Little Neck, NY 11362

#### Dr. David C. Lewis, Immigration

609 Sideling Court, Vienna, VA 22180

#### Richard Plummer, Anti-Discrimination

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#### Robert Rivers, Manpower

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#### R.T. Pinkerton, Staff Cartoonist

Ideas and subjects for new cartoons  
P.O. Box 820473, Ft. Worth, TX 76182-0473

# "Workforce 2000: Engineering Employment in the New World Order — A View from Capitol Hill"

By Edith Holleman, Counsel  
Science, Space and Technology Committee  
U.S. House of Representatives  
Speech at the 1994 IEEE PACE Conference  
Phoenix, AZ, September 2, 1994.

Thank you so much for inviting me to address your conference. I am speaking today, not as a representative of Congress or even of the Science, Space & Technology Committee, but as an observer of administration and Congressional policies that affect global employment. These policies impact your jobs, your future, your standard of living and those of your children. They raise many questions. I have no answers, but think that it is time to admit that these issues exist and begin to discuss them.

There was a cartoon that appeared in the newspapers this spring. It pictured a new college graduate being handed a spatula by the college president who said, "Go forth and serve mankind." That cartoon summarizes much of what we know about the present American economy, and the college graduate could just as well have been a 50-year-old engineer.

The questions raised are three: First, can we maintain our national standard of living in a global economy where there are hundreds of people for every job? Second: What are our policymakers doing to plan for the economic future of our citizens? Finally, what can we do to ensure good employment opportunities?

I am going to give you three short answers based on what I am observing today. 1. We cannot maintain our standard of living. 2. The policymakers are doing little or no planning. 3. We must demand a complete shift in economic policy.

The end of the Cold War, the globalization of the economy as exemplified by the North American Free Trade Agreement (NAFTA) and the General Agreement on Tariffs and Trade (GATT), the continuing advance of automation and information technologies and the relentless downsizing of corporations are affecting employment as never before. These are not job-creating or job-enhancing events. Computer-aided design systems help one engineer do the job 6-12 did two decades ago. A Cummins Engine factory in Indiana has a new, team workplace where a smaller number of workers make \$8 per hour, about half of what the previous workforce made. People talk of the eeriness of production floors because of the small number of workers.

Information technology has facilitated the elimination of a whole layer of management. I'm sure most of you know that how risky to have obtained membership in the "50-50 Club." That means 50 years old with a salary of over \$50,000—in other words a mid-

manager. Multinationals compete with each other to eliminate these mid-managers and others. In the first quarter of this year, these companies eliminated 192,572 jobs, or 3,106 every day—mostly in the communications, aerospace, computer, transportation and retail industries. Many more jobs were eliminated by smaller companies.

Announcements of job cuts and management restructuring are rewarded with stock price surges the next day on the Dow Jones. I would not expect this trend to stop. Earlier this month, the *Wall Street Journal* (8/1/94) reported that major companies increased after-tax earnings 39% over last year. Those that did best contained costs. According to the *Journal*, "Heavy investments in technology and years of restructuring have resulted in 'relatively low unit labor costs and profit-margin improvement.'" This is also the corporate model that the Baldrige Award rewards.

It is a different story, however, for those who get laid off. When they get rehired, it is for lower salaries, fewer benefits and less security. And this is a worldwide phenomena, extending even to companies in the developing world who hope to compete in the world market.

The world is already short of jobs. According to the United Nations' International Labor Organization: 120 million people are unemployed, and 700 million are underemployed. 47 million more enter the job market every year, and there will be 750 million in the next 20 years. With the demise of subsistence agriculture that is the inevitable result of free trade in agricultural goods, hundreds of millions more will be moving to the cities and clamoring for jobs.

Another way to improve profits is to move facilities overseas to cheap, productive labor markets. Motorola, for example, gets workers as skilled as those in the U.S. in Beijing for \$65 per month. Even a superb education system cannot protect against this type of move.

We praise the European and the Japanese educational system and their apprenticeship training programs for young people. But, according to the *Financial Times* earlier this week (8/31/94), joblessness in Japan is at an all-time high, creating the worst job outlook for new college graduates in many years. There are 100 job seekers for every 62 jobs. The cause? Corporate Japan is shifting production to cheaper south-east Asia locations and cutting domestic recruitment.

BMW and Mercedes-Benz are willing to leave their highly skilled workforce behind, build new plants and train new workers in the U.S., not because they are better, but because they are cheaper. And U.S. companies do the same with Mexican or Chinese workers. According to the UN's World Investment Report, multinationals

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("Workforce 2000..." Continued)

created 8 million jobs since 1985. Virtually all of them were in foreign affiliates; 7 million were in developing countries.

But while their productivity climbs, Third World workers face multinational corporations no more conducive to improving the workers' lot in life than were the coal and steel barons of another century. Just as a Cummins Engine factory in Indiana has developed a new, team workplace where a smaller number of employees make \$8 per hour, half of what the previous workforce made, Third World plants are also looking for ways to cut salaries and employees. When I visited a GM-owned maquiladora in Matamoros last fall, the manager told us that the company moved there because of the low wages. Workers make \$2 an hour, but the plant's technological, productivity and quality levels are equal to or greater than comparable plants in the U.S. But even at \$2 an hour, reduction of the workforce by upgrading technology is already underway.

Maquiladoras in Matamoros are also trying to reimpose a 48-hour work week. Just recently, Sony broke the 40-hour ceiling gained after a long union struggle by setting up a dual system: 40 hours for old workers and 48 hours for new. It also is forcing its mostly female workforce to work on Sundays, their only family day. So much for family values.

Nissan, Texas Instruments and Xerox have state-of-the-art facilities in Aguascalientes, Mexico, employing tens of thousands of Mexicans. But they don't share the profits of their work. Most of them live in slums with two telephones. The developed countries cannot maintain their standards of living if forced to compete with equally productive, but dramatically cheaper, Third World workers. These countries will continue in a labor oversupply mode for many years.

What we have then is a situation where the developed world is losing good, well-paying jobs that have supported a consuming middle class. These jobs are being replaced with poorer, low-paying jobs. The developing world is getting the "good" jobs, but they aren't middle-class jobs any more and don't support much more than a subsistence lifestyle. It may actually be a net loss of consuming power.

What should the role of the policymaker be in meeting these challenges: First, he or she should get his or her respective head out of the sand and stop mouthing platitudes about free trade, the shortage of scientists and engineers in the U.S. and the magical future awaiting anyone who undergoes additional training. It is, however, very possible that the dominance and political correctness of the free trade gospel will stop any meaningful discussion. One of the most disappointing aspects of the NAFTA debate was the refusal of any of its proponents to have a serious free-trade policy debate. They squandered the opportunity for a critical debate on where our country is going. At a time when we should have been discussing what kind of society we wanted, and how we were going to achieve it, all we heard from the administration, the think tanks and other pro-NAFTA forces was, "Trust me, free trade will give you whatever you want."

I believe that the goal of policymakers should be to ensure that U.S. workers—and I am including all of us in that phrase because we are just professional workers—are free to compete on an even playing field with other workers who are receiving a fair day's pay for a day's work. We should not become a Third World country ourselves by running a dual society of (1) low-wage jobs held by new immigrants and the unfortunate and (2) overpaid Wall Street, legal and CEO jobs. The policy works, however, seem to have accepted the latter scenario with barely a whimper. A recent meeting in Jackson Hole, Wyoming, of government officials, economists and other experts from industrialized countries concluded that these countries had only two choices: keeping their minimum wage low and below inflation growth to attract low-paying jobs for their citizens or keeping their income support benefits high with the resulting high unemployment rates of the European countries.

Paul Krugman, who is described as a "wunderkind" among academic economists, was at that conference. He recently wrote in *Foreign Policy* that "it is obvious that something has gone wrong with the promise of economic growth" stimulated by technological gains. The paradox created is "growing misery in the face of growing wealth." Market forces, Krugman said, are increasingly pushing

against income equity. I often wonder about the innate intelligence of economists. Have they looked around? Do they understand supply and demand? Do they understand that their economic theories have helped create a worldwide oversupply of workers of all types and an undersupply of consumers? Perhaps if they untangled themselves from an unquestioning adherence to free-trade theories, they could come up with some more creative ideas. What the economists are saying, ladies and gentlemen, is that free trade and technological advances will bring us increasing income inequities, and there is nothing we or our governments can do about it. I call that "Third Worlding" our own society.

President Clinton crows about the new jobs created, but a survey of American industry indicates that most are not high-paying jobs; they are service, temporary and retail jobs. It is part of the "service economy," but it is not exactly designing the information highway. It is maids, fast food workers and lawn care people.

Labor Secretary Reich says that all American workers need is more education. I ask you, if 50 percent of our college graduates had science, math and engineering degrees, would they find high-paying jobs in their field? No. There would be too many of them.

The *New Scientist* reported in June (6/13/94) that current science and engineering college graduates were having a hard time and might want to think about combining their degrees with study in law, business, public policy or communications so they could get a job.

And we must remember that 75% of our citizens are only high school graduates. They are the majority and the ones who establish our standard of living. If 50 percent of the new high school students went on to become skilled technicians, would they find high-paying jobs in their fields? No, because the country can absorb only so many of them. The result would be falling wages. I have nothing against better-trained workers, but that is the India solution, where you train workers and then have to export them because there are no jobs domestically.

You may think that competition for these industrial jobs have nothing to do with your highly skilled jobs. To a great extent, professional salaries are based on blue-collar salaries. In a world economy, if blue-collar salaries are low, professionals who compete worldwide will be affected. Computer programmers and engineers seem to be the shock troops of the global, white-collar, free-market labor battleground.

Let's look at computer programming for a minute. According to the August issue of *CPU*, IBM, Motorola and Texas Instruments have production and research facilities in Bangalore, India; Oracle will soon put its *fifth*—and largest—R&D center outside of the U.S. in Bangalore. Apple is setting up a development and education project in the Ukraine which has 500,000 computer programmers. Apple will train them and assign programming tasks at *one-quarter of the price* of a U.S. programmer. Their inventions—like ours—will be sold worldwide. This has to impact the job prospects of the average programmer.

Engineering is described as the discovery, refinement and application of technology. It shapes all aspects of our society. It is not surprising that one of the first professions every country promotes is engineering. A developing country is a country that needs engineers to build its infrastructure and its industries. Right now, there are a lot of good engineers in the world and not enough work for them. This fact has changed the entire engineering employment equation expected just a few years ago. You probably remember that IEEE's *Spectrum* a year ago in its "Jobs at Risk" issue found the only place in the world there was a shortage of engineers was in Hong Kong.

It's true that there are some new, high-tech jobs for engineers, but they are not reserved for you in the First World. As international corporations move their facilities to countries which combine access to burgeoning markets, cheap labor and trainable workforce, jobs in fields such as product design, process engineering and software development are moving with them. You were used to competing with your counterparts in Germany, France and Japan. Now you must compete with the best that India, Mexico, Korea, China and Brazil have to offer. They cost a lot less than you do, and often they are just as good. Two years ago, Rustum Roy, a professor of

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(*Workforce 2000...* Continued)

materials engineering at Penn and a native of India, told a Congressional committee that there was no shortage of engineers because engineers must be seen as part of a global, not just a U.S., market. India alone probably has enough engineers to fill several countries' needs. People thought Roy was a little crazy; but he was right on the mark.

The pell-mell rush of the world's nations into free-trade agreements, with their accompanying international joint ventures further weakens the connections of any corporation to the well-being of a specific country's economy. The *bottom line* controls all. Our research efforts are also being internationalized, with the result that the skilled jobs created are shared with other countries. The end of the Cold War has only speeded up the process. There are no longer two competing, somewhat duplicative systems. We all compete for the same jobs.

Additionally, although very high-tech research continues to be done successfully in the United States, it cannot be counted on to spin off into domestic manufacturing facilities providing employment for many engineers and skilled workers. Let me refer to the Sematech experience. After a \$1 billion federal investment which did help recapture leadership for the U.S. in the semiconductor equipment manufacturing field, the General Accounting Office warned that a net job increase was not evident because of what it termed "increasingly complex international business relationships." That's a delicate way of saying that semiconductors continue to be manufactured in cheap labor markets because that is where the profit is.

Downsizing of U.S. corporations by eliminating large numbers of middle managers—one economist calls it "wringing out" excess employment in the American economy—also impacts on you. It holds down payrolls—and wages. More senior engineers frequently move into management and free up jobs for younger people. Where are these people going to go—back to the drawing table—or the computer? Into contract engineering? And I don't need to discuss with you the impact of defense downsizing on engineers. From 1976-86, the decade of defense build-up, resulted in a 100% expansion in the number of scientists and 90% for R&D engineers,

a greater expansion than in any other field. Defense engineers also got top salaries compared to other engineers. Defense build-up accounted for 17% of all new jobs in U.S. during this time. This is a thing of the past. All of these factors add up to a very tight job market with no salary growth expected. There has been buying power loss for several years, and there will be more. This year, for the first time, graduating nurses received higher wages than engineers.

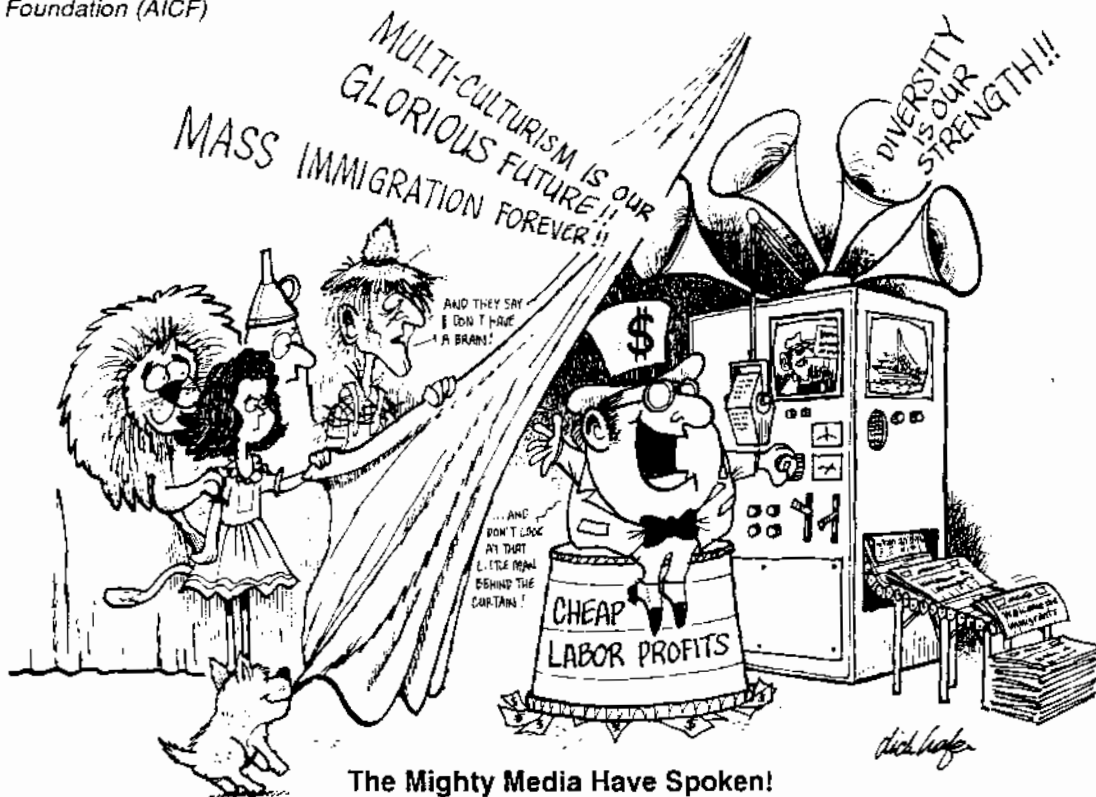
What are our policymakers doing? Very little. Many are in a state of denial, where they have been for quite some time, or they are trying to preserve existing jobs through defense technology conversion programs. As you may know, there is growing resistance in Congress to further defense cuts because it means more skilled job cuts. But four to five years ago, there were plenty of signs that a crisis was coming, which were ignored by the policymakers and, frankly, I don't have much hope for them. One thing that I have appreciated about working with engineers is that you know the difference between reality and feel-good talk and policies. But too many of our policymakers seem not to know or are afraid to know.

For example, when I came to the Science Committee in July of 1991 as an investigator, by the end of my first week, I had heard allegations that the much-repeated statement about a pending shortage of scientists and engineers was false. You engineers know the underlying study well. Alan Fechter of the National Research Council's Office of Scientific and Engineering Personnel and Dick Ellis of AAES wrote the first articles questioning it. When I started to ask more questions, the first people I heard from were engineers telling me it certainly wasn't true for them. Older engineers were being off-loaded into contract positions, losing their benefits and their careers as quickly as the new ones were graduated. Young engineers were doing work that in years past was done by draftspeople.

Then I heard from the young scientists who were struggling from one post-doc to another to patch together a career until some university would give them a position. Often that never happened, and, after years of education and near-poverty, they were forced into other careers. Mathematicians, geologists, biologists and, of

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This cartoon reprinted with permission from the April '93 issue of "Border Watch", a publication of American Immigration Control Foundation (AICF)



The Mighty Media Have Spoken!

("Workforce 2000:..." Continued)

course, the physicists, all confronted their reality while the policymakers denied it was happening and said these particular young people must not be very good.

The Committee's attempts to expose the myth were not welcome. The National Science Foundation, the National Science Board, AAAS, the universities and influential members of Congress stood behind the idea of a shortage. The NSF had produced the study that made the projections and orchestrated with others the media and public policy campaign that put hundreds of millions of dollars into science and math education. I have no quarrel with money to improve the science and math literacy of our children, but we should never mistake basic literacy with degree achievement or market demand. However, these projections of shortage had no basis in reality, and the NSF knew it. But because everyone had a vested interest in getting more federal dollars, no one would admit it, even after the Berlin Wall fell, and there was clear evidence that the defense budget was going to be cut.

The Hudson Institute also manipulated figures to project an enormous demand for highly skilled workers. Again, the media and the policymakers used this number to play "Chicken Little." Both studies have been discredited, but the popular media still cites them today.

I believe that NSF and the Hudson Institute studies were the impetus behind a provision in the 1990 immigration reform bill that allowed 65,000 skilled, temporary workers into the U.S. annually and also generated the ill-fated pilot labor market certification program. The latter program would have allowed immigrants in 10 different fields supposedly in shortage to obtain permanent work certification in the U.S. by simply demonstrating that they had a job offer in one of the shortage areas. Engineering societies, along with other scientific organizations, banded together last year during the proposed regulation stage to object because the Labor Department could not credibly demonstrate any labor shortages in the selected occupations. Secretary Reich aborted the program when you brought it to his attention.

I called the authors of the Hudson study a few years ago and asked them why they had not tried to stop the misuse of their numbers. They had no answer, just as the National Science Foundation had no answer for why it had allowed a discredited study to continue to be used in the policymaking forum. But that does not excuse the carelessness of our policymakers in failing to ask the questions that you and I did and look at the world around them before they make their speeches and cast their votes. And the S&E shortage *did* make a great speech.

Clearly, the "vision thing" is still lacking among many of our policymakers. Now they tell us that if we train or retrain, there will be new high-tech, high-paying jobs waiting for us. And for some, there will. But all of us know highly skilled people already out of work or taking new jobs that pay significantly less than their previous ones. If there aren't good jobs for them, where will the jobs be for the new workers? Policymakers are very careful not to mention the number of jobs that will be created, and the salaries they are going to pay. Perhaps it is then true, as one economist said, the whole purpose of all this is to reduce our salaries.

India has *one-third* of the world's Ph.D scientists and engineers, and they work in India for less than you do. Other countries have thousands more. The information highway makes it easier and easier to work with these people in their home countries.

Labor Secretary Reich already knows these problems; he built his academic reputation on alerting us to the challenges of the global labor market. In a 1991 article in the *Harvard Business Review*,<sup>1</sup> he said "corporate decisions about production and location are driven by the dictates of global competition, not by national allegiance.... For the past two decades, U.S. businesses have maintained their shares of world markets even as America has lost its lead." Let me quote Secretary Reich:

"In deciding where around the world to do what, the global manager seeks to meet the needs of the customers worldwide for the highest value at the least cost. Some production will be done under the company's direct supervision; much will be outsourced. Often design and market-

ing activities will be sited close to the markets to be served; research and complex engineering, where skilled scientists and engineers can be found... When two or more locations are about the same, the decision will be based on where the global manager can secure the most profitable deal.... The global web's highest value-added activities—its most advanced R&D, most sophisticated engineering and design, most complex fabrication—need not be in the nation where most of the company's shareholders and executives are. Ford's state-of-the-art engine factory is in Chihuahua, Mexico, where skilled Mexican engineers and technicians produce more than 1,000 engines per day."

Profit. That's why Mercedes-Benzes for the U.S. market will now be built in Alabama—not because the workers are better than those in Germany. They aren't, but they certainly are cheaper.

What Secretary Reich recommended was not more trade agreements—he said they were irrelevant—but a U.S. Investment Representative whose job was to bring international investment and good jobs to the U.S. by threatening to close the huge U.S. market if this was not achieved. That's what China did with Ford Motor Co. earlier this year. But now as a key policymaker, Reich is constrained by political pressures to downplay both the ability of the rest of the world to compete with us as workers and the need for us to develop any concrete action plans. In his non-speech addresses, he admits that he doesn't know any more than you or I do where the high-tech jobs are or how many there are going to be or what his training programs are for. His main legislative program, which will probably not succeed in this Congress, is combining six dislocated worker programs and beginning to simplify the employment and training system. These are laudable goals, but they do not create jobs.

I believe that Labor Secretary Reich has a full appreciation of the difficulty of creating the new, high-tech jobs that he talks about. He stopped the pilot labor certification program and is proposing changes to the temporary immigration regulations to preserve as many jobs for U.S. residents as possible to a not terribly receptive Congress or business community. But when he is promoting NAFTA and GATT, Secretary Reich touts the government's line. He warns us that our young people—and our existing workers—must be trained to meet the challenges.

I want to pose a solution, and it's not a unique idea. It is just an unpopular one. We have the right to demand, as a condition of access to our markets, that Third World countries trading with us give their workers the opportunity to organize for better pay and living standards. *Only if the standard of living of Third World workers increases will our standard of living remain constant.* Notice that I did not say improve. We are struggling just to maintain our standard of living. In addition, we must allow subsistence farming to continue in the developing countries so that they can limit the urban labor market supply until the standard of living has increased. That means that U.S. agricultural interests must have restricted access to other countries' agricultural markets.

One of the most devastating impacts of NAFTA in the next decade will be the replacement of Mexican corn by U.S. corn. Millions of subsistence farmers will be driven off the land with nowhere to go because we are the most economical corn producers in the world. They will skew the labor market for decades if this happens.

If you look at the legislative battles over both the NAFTA and the GATT—or the recent dispute over granting most favored nation status to China—you can see how controversial the idea of taking deliberate step to raise workers' standards worldwide is. The multinationals fought so hard to keep workers' rights out of the NAFTA and the GATT because countries that allow their workers to organize aren't as cheap as those which don't. Corporations site their operations in cheap labor markets because they are cheap labor markets, not in spite of it. The same is true for environmental standards. Countries that enforce environmental laws instead of allowing helter-skelter use and disposal of toxic chemicals increase

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<sup>1</sup> Robert Reich, "Who Is Them?", *Harvard Business Review*, March-April 1991, pp. 78-80.

*("Workforce 2000..." Continued)*

the cost of doing business—and leave their workers with the energy to demand better salaries.

What is the immediate impact of the failure to include provisions for worker rights in trade agreements? Look at the health care battle. Of the many powerful lobbies weighing in on that bill, none was more significant than the National Federation of Independent Businesses, the small business lobby. It said small business could not afford to pay for health care and compete globally with countries who don't provide any benefits at all.

Just as we were once told that our society would demand more engineers and scientists to function, we are now being told that high-paying, high-skill jobs for everyone are the foregone result of free trade, and we must prepare for it. It is not true. We must say that loud and clear so we can take the first step toward changing the reality. As AAES' Dick Ellis said in his report "At the Crossroads: Crisis and Opportunity for American Engineers in the 1990s", if we do not create prosperity for the rest of the world, there will be no room for our own prosperity. The policymakers need to hear that from you.

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## Reader's Voice

*This column in the "American Engineer" is for readers to voice an opinion about issues that affect the professional life of an engineer or other technical professional. Readers are encouraged to write AEA with their professional concerns. Each submission should include the name, address and phone number of the writer. Except for short excerpts, we'll publish the writer's name, city and state (unless the writer requests anonymity). In that case, we'll publish initials, city and state. Let's hear from you.*

**From G.S. Diehl of Richmond, VA:** - I've been meaning to cut out ads from *Computerworld*. Enclosed are some from a recent issue. As you mention in your columns, there is no way an American worker would accept the offered salaries with the experience and education required for these positions (unless he/she has been unemployed for an extended period). I have worked about 7 months in each of the last three years: am currently making what I made in '85, and am 3 hours from home. Why? Because of section 1706, cheap immigrant labor, and other factors as enumerated in your newsletter. Please keep up the good work.

*Editor: I hope AEA's work is good enough to help the career climate for this reader. Keep in mind that the editor and the other AEA functionaries are unpaid volunteers. On the other hand, staff members of the National Science Foundation (which circulates technology shortage information) are handsomely paid. What can technical professionals do to reduce the odds against them (and us)? Do at least as much as the above reader did. He wrote us. Maybe also join some organization that truly works for the professional well-being of engineers. Then participate in their activities. Does any organization come to mind? Also see our Illusory Job Ad in the Editor's Column.*

**From S. Clark of San Diego (sclark@cts.com):** - Having lived in southern California for the past 6 years, I've had the unfortunate pleasure of being laid off three times. I am a degreed Electronics Engineer with a fairly impressive list of achievements (one of which was published in *Machine Design*). With 10 years of experience and extreme effort, I have yet to receive a single job offer in the past eight months.

The really sad thing is I know several other talented engineers in the same boat, who have not worked in an engineering job for years. Often many of them take jobs delivering pizzas, working as a cashier or flipping burgers while still sending out resumes. (Of course these engineers are considered by the government as employed.) In today's job market a typical employer will receive hundreds of resumes for a single job listing. Unless your qualifications match the job description perfectly, you can forget about hearing anything from that company.

It's a real shame that this engineering crisis of under/ unemployment is going unnoticed by the media. I wish more engineering associations and journals would address the real problems facing today's engineer.

What has been happening in many corporations that are downsizing, is the remaining engineers are essentially forced into taking on additional tasks and working unpaid overtime, or face layoff. At the same time, executives continue to collect their bonuses and CEO's salaries continue to rise at unprecedented rates. In some cases, I've seen hard-working engineers pushed out the door, while new VP positions (with six-figure salaries) are filled from the outside. We engineers are disproportionately subsidizing the executive payroll.

Even worse is the fact that so many engineers refuse to speak up and get involved in the issues presented by AEA. Why is it in this country, physicians, lawyers and even teachers have strong representation, while most engineers don't? I surmise part of the problem is in the inherent nature of the engineer: when faced with a problem, our natural response is solely to work at a solution. Unless we engineers stand up and speak out, the crisis will continue.

**From Dr. A. DePalma:** - I'm a PhD chemist who now works full-time as a freelance writer. I have the pleasure of reading your newsletter at the office of one of my clients. I wish the equivalent of your organization existed for chemists. Physicists have the "Young Physicists Network," and there's a fellow at one of the electrical societies, I think, who produces a similarly cynical but always truthful monthly.

Truly, I don't see how we can turn this awful situation around. The attack on scientists and engineers in the U.S. is two-pronged: many jobs are farmed out overseas. For jobs that must be done here, they import cheap scientists from India and China (because of the so-called 'scientist shortage'). At the same time, our idiotic politicians keep telling us to go to school and earn advanced degrees—so we'll compete against 100M foreigners (many of whom were educated here at our expense).

I don't think there has ever been a country as successful as ours, which has committed cultural and economic suicide in this way. Keep up the good work.

*Editor: The American Engineering Association (AEA) serves the interests of all technical professionals, including chemists. We cordially invite you to become a member. The more members we have, the more clout we exercise. This clout works for you. A membership application form is in this newsletter.*

**From J. Greco, Jr., 76460.543@compuserve.com:** - I'd like to offer my thoughts on the engineering profession and the role of your organization. First, I graduated with a BSEE in 1991 and entered the job market at a poor time. I've been employed as a field applications engineer (FAE) in the area of ASICs. My long term plan is to enter marketing or sales, but right now I'd rather work as a creative designer (*engineer*) rather than an overpaid FAE technician. At least I'm employed.

Your organization does right to hammer upon the waves of immigrants being brought into this country to work as cheap engineering labor. The effect of these immigrants on our profession goes far beyond unemployment for citizens. The sight of an engineering firm populated by cubicle after cubicle of foreigners, many able to speak only broken English, inspires jokes from non-engineering coworkers that breaks down what little respect remains for the profession. The long-standing image of an engineer being a nerdy hermit, an emotionless drone, boring and self-absorbed, looks more correct every day.

Further we're ignoring the fact that many of these immigrants are slowly moving up the ladder to supervisory positions, where they influence or control hiring decisions. Whom do they hire? Their fellow immigrants of course! One look at the main office of my firm, where all the supervisors are foreign, reveals a disturbing pattern of Chinese and Indian hires. Almost none have U.S. citizenship. I have seen cases where clearly more competent U.S. entry-level workers were bypassed in favor of foreigners who can barely speak English and are frankly good for little except glorified button-pushing. The argument that they are taking jobs that Americans don't want is not valid. They're taking the first jobs that Americans don't want to spend their whole lives in, but desperately need as stepping stones to the

*(Continued)*

*(Reader's Voice Continued)*

next position.

Who do we have to blame for this? At risk of being called something other than a political conservative (which is what I am), I place the blame squarely on the shoulders of American business. The business community has consistently sold out the interests of average Americans for the sake of profits. Eager for cheap labor, they encourage immigration and discourage a crackdown on illegals (who are even cheaper). Rather than invest long-term in an American employee, they'd rather hire an Indian national and save \$15K, while hanging a green card over his head. This is fair neither to native nor foreigner.

*Editor: The above letter is edited for the sake of space. The Compuserve address is the only one I have for J. Greco. Also I may not agree with everything Mr. Greco says, but it's worth hearing.*

**From E. Telander, PE, of Tallahassee, FL:** I've been an electrical engineer for over 42 years and plan to retire next March. I've managed to stay employed the entire time, mainly because after the 2nd layoff in 1974, I left aerospace and went to work for the state of Florida. The work is less exciting, and they don't pay much, but at least you don't get laid off at age 40. In the many letters you read about the plight of engineers, there's almost always an implicit assumption that somebody (government, policy makers, academia, technical societies, NSF) cares about engineers. I have news for you! Nobody cares! There are too many other things for society to worry about: drugs, crime, health care, minorities, lousy school systems and their uneducated products, etc. If they think about engineers at all, it's 'Those guys can take care of themselves. We (society) have too many other things to worry about.' The only thing that could help engineers is organization. Only engineers can help engineers. The problem is that the engineer is a funny bird. Each thinks he's smarter than every other engineer, and it won't happen to him. He won't even think about joining with other engineers to attain some bargaining power. Instead when layoffs come, they get led away one by one, while the rest say to themselves, "It won't happen to me; I'm smarter."

**From L.F. of Los Angeles:** - The NPRM ("New proposal for rule making," or something like that) addresses participation in professional societies by government employees. The NPRM is still on the agenda of the Office of Government Ethics (OGE); it's scheduled date has been moved to 10/95. I hope that date allows the OGE enough time for concentration on rules pertaining to professional societies by government employees. I feel it's not too early to start discussing these rules, since they allow U.S. tax dollars to pay for government employees' time off to transact the business of professional societies. Weak rules will result in our tax dollars benefiting old-line engineering societies at the expense of largely nontechnical societies like AEA. We don't want OGE to base these rules on deals transacted in smoke-filled back-rooms with spokespersons from

IEEE, NSPE, law societies, etc. Unless we act now, this will be the case. In the flood of comments responding to the original proposed rules, there were many requests for carte blanche use of official (government) time and other official resources for professional society activities. One group actually requested that federal employees be specifically authorized to do what the original rules specifically prohibited. Here are some suggestions: (1) I propose that specific activities be prohibited, like fund-raising, lobbying, recruiting members, etc. (2) I propose that federal agencies enact liberal rules to permit unpaid leaves of absence for government employees to participate in affairs of professional societies.

**From C. Bladon of Plano, TX:** - It's true that the lawyer can write the (*blind job*) ad, but it can be written by any of three parties: employer, employee, lawyer. In my years of contracting, I've met many foreign engineers and computer scientists. 95% (*of those I've met*) are Indians. Most are hired as contractors at dramatically reduced rates. In return the companies sponsor them for the H1 visa which lasts 3 years (I think). H1's are very restrictive, however, and most pursue green cards. For this they must show they are suited to jobs that cannot be performed by U.S. citizens, as you know. Some of them proceed through the green card process represented by a lawyer; some don't, trying to save money. In either case the foreigner crafts the ad making it as tailored to the job in question as possible. There is one restriction. They can not include as a job requirement any expertise or knowledge gained while working at the prospective job for the prospective employer. This restriction, however, is rarely obeyed and never enforced. Additionally, contractors are not technically employed by the prospective company, but instead work for a middle-man company, thereby avoiding the restriction. At the company I work for, the foreigner writes the ad, and the company publishes it. If a lawyer is involved, it's only to file the necessary papers. The list of "acceptable" publications is a joke. The company tries to place the ad in the most unrelated publication to minimize responses. Most foreigners say that after they've gotten their green card, they'll quit their sponsoring company and seek higher paying work. I think, soon this temporary, cheap work force will create such a glut of American and soon-to-be-carded Indians that engineering will change forever and the result will not include us.  
*Robert Bruce, AE Editor*  
Box 620726, Little Neck, NY 11362

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