

AMERICAN ENGINEERTM

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Credit Card Company Helps AEA

Did you know that AEA has a credit card? Well, we do and every time you use it a fixed fee goes to AEA without any cost to you, the user, or AEA. The card has the AEA logo on the front of it for every one to see and recognize you as a member of the engineering community. Our credit card company, MBNA America, is now going to offer the Gold Card to AEA qualifying members without an annual fee. So, here is an opportunity for you to sign up for our credit card, get recognition and have them contribute funds to AEA every time you use the card.

When I received my card I dropped my other one including my gas company card. Every time I put gas in my car AEA gets a contribution. I can do this at any place that takes a MasterCard. Credit card companies like engineers and place us in the same category as doctors and dentists and wish to get more of our business. It's all a matter of good demographics. We will be offered the same opportunities for insurance packages and other items as our membership grows. Engineers have good demographics and that plus our numbers make us a desirable consumer group.

TIME TO HELP AEA and help yourself. Now is an opportune time for each of our members to assist in spreading the word about AEA.

WE need a mailing list. WE need the assistance of all AEA members to help in forming a mailing list of members from the engineering community. The larger this list the more it will benefit you and our members. **Please** list the person's NAME, MAILING ADDRESS INCLUDING ZIP CODE and send it to our office at AEA, PO Box 820473, Fort Worth, TX 76182-0473. Get as many names as possible. Some of you can set up a form with your word processor for as many names as you can fit on a page and ask your associates to fill in their own mailing address. A home telephone number would also be helpful, but not necessary.

So what's the big deal? Why the mailing list? The good news is that the credit card company is willing to send out a special mailing to everyone on the mailing list without any cost to AEA or our members. The special mailing will include membership information about AEA and the Gold Card. Tell your friends to fill out your address list and they will receive free information about AEA and the no fee credit card. And, for those AEA members who want their card today call toll-free 1-800-847-7378. Ask for AEA's Gold Card.

As one volunteer to another; I did my part and wrote this article so please do your part and get the names for this special event.

Best regards
Richard F. Tax

The Case For Shortages

Many reports concerning the engineering profession are often especially amusing—in a black-humor sense—when viewed in historical perspective years after their release. One such report, which is about 10 years old, is titled, "International Competitiveness in Electronics" (Washington, D.C.: U.S. Congress, Office of Technology Assessment, OTA-ISC-200, November 1983, Library of Congress Catalog Card Number 83-600610). This report was requested by the Senate Committee on Commerce, Science and Transportation, the House Committee on Ways and Means, and the Joint Economic Committee.

This report waffles on the issue of shortage-shouting. On page 308 and 309, this report states,

"While the rapid rise in engineering enrollments has led to fears by some that the United States might be headed for an oversupply in the 1990's, such concerns seem overstated if only because many graduates of engineering programs move on to other fields (*Editor: this is exactly one of the reasons why we are concerned about an oversupply of engineers!!!!*). Competent engineers have virtually always been employable in the United States (*Ed: there is that 'shortage-of-good-engineers' nonsense again, i.e., unemployed engineers are unemployed because they are not competent*), regardless of economic conditions. Nevertheless, the American labor force contains nearly 1-1/2 million engineers, and some portions of the engineering community deny the reality of the current 'shortage,' claiming that what industry really wants is a large pool of entry-level people to help keep salaries of midcareer engineers low. There is a good deal of truth to this. Entry-level shortages arise in part because employers prefer to hire new engineers with fresh skills at lower pay (*Ed: congratulations for making an intelligent statement*). This is an easier and perhaps cheaper way of meeting their needs than coupling the experience of midcareer engineers—many of whom find themselves with increasingly obsolescent skills—with well-

designed continuing education programs."

However, though the report in the above statement appears to show some skepticism about the shortage-shouting, the report also states (p. 321),

"Regardless of uncertainties in the projections...few people are worrying (?) that the United States will have too many engineers in the years ahead; capable individuals with training in engineering comprise one of the most employable parts of the labor force. **The prospects of shortage are real in the sense that various projections differ mostly in the magnitudes of the shortfalls predicted.**" (Emphasis in original!!!). On page 10, the report states, "it is hard to imagine an 'oversupply' of engineers or of people with good technical training of any of a wide variety of types in an economy like that of the United States, provided that people are willing and able to shift jobs according to demand within the economy and organizations are willing to help them do so." And on page 321, the report states, "It is hard to argue that the United States could have too many graduates of science, mathematics, or engineering curricula."

We do not find it "hard to imagine an 'oversupply' of engineers"; in fact, we do not have to use our imaginations at all! And we do not find it "hard to argue that the United States could have too many graduates" of engineering or other professional technical curricula. We are vehemently opposed to the "there-cannot-be-too-many-engineers" and the "the-more-engineers-the-better" schools of thought. Working engineers who question the engineering-shortage nonsense are often accused of being motivated by a greedy desire to raise engineers' currently inadequate incomes by limiting supply (as if corporate executives, engineering professors, and politicians are never greedy). However, the engineering supply-and-demand situation affects much more than engineers' incomes; the current engineering surplus actually harms our industrial competitiveness

(Continued)

(The Case For.... continued)

by destroying engineers' morale, stunting engineers' professional growth, and making it difficult or impossible for the engineering profession to attract and retain the most talented and ambitious people. On the other hand, an engineering shortage would have the opposite effects. As Ronald Kohi, editor of *Machine Design* magazine, said in an editorial ("Many People Don't Feel Like Celebrating Engineers Week," *Machine Design*, February 12, 1993), "perhaps a shortage of engineers would be good for the profession overall." We engineers must make the deleterious effects of engineering surpluses a major competitiveness issue.

The Phantom Engineer

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 M.S. Farber of Hicksville: - Bill E. Reed's article on page 8 of the Oct. '93 issue of American Engineer talks about an AEA proposal for a training course in advanced CAD. As Chairperson of the Board of Directors of the Center for Practical Solutions (a 501-3C non-profit organization set up to help Long Island engineers find jobs by starting companies), I think I have some valid observations on the subject of training. We recently finished a U.S. Dept. of Labor program that provided training in entrepreneurship skills, but also involved us with referring out-of-work people to other training courses.

It's amazing how easy it is to fall for the idea that providing training will solve the unemployment problem for many people. When we started, it appeared that networks would be an expanding field; therefore recommending Certified Network Engineering (CNE) courses seemed reasonable. It took about a year for CNE courses to become available in this area. Many of our participants enrolled and took the course. The result? Our older engineers tell us that only a very few, very-young engineers got jobs. One participant learned that more than 17,000 CNEs were trained, far more than needed to saturate the job market.

Colleges and Universities have been going after state and federal grants to provide training to the unemployed, in order to improve skills that would make them eligible for jobs. On Long Island such courses offering to help unemployed technical people enter the electron microscopy or bioengineering fields have been dismal flops. As far as I'm concerned, I think most training offered to improve engineers' skills to make them more acceptable for jobs is a crock. Unfortunately, most engineering schools are training their students in being employees, and when there are no jobs available, it becomes a tragedy. As Robert Bruce suggests in his editorial, training engineers for political leadership might be more useful to the engineering community.

From Dr. W.R. Kleckner of Long Valley, NJ: - I couldn't let your editorial in the Feb. '94 AE pass without comment. The State of New Jersey takes great pride in restricting the use of the designation "ENGINEER" in advertising or business-related names to only those who are registered PEs in the state. One could almost draw the conclusion that the State of New Jersey recognizes only registered PEs as engineers, and all other engineers have to call themselves something else. But then, New Jersey has long been considered as one of the most restrictive and repressive personal liberty/rights states in the nation. In fact, I am unaware of any other state which represses an individual's constitutional rights more than New Jersey. Is it any wonder its overall economy continues to decline?

As an example, the infamous New Jersey Dept. of Environmental Protection and Energy requires a duly licensed New Jersey PE to approve and sign off most, if not all, environmental matters brought

before them. However it's interesting to note that not one question in the State's PE exam deals strictly with an environmental issue. So as a registered PE in New Jersey, what makes them an expert, or for that matter, proficient or qualified to handle environmental matters in the first place?

What makes a PE a professional? Certainly not a seriously-flawed, state-administered exam. I know PEs in the state who have done more harm than good, only because they had no idea of what they were looking at. I have also observed the state turn down plans and reports which were excellently prepared, only because the engineer of record wasn't a PE.

When are we going to recognize that states promote their PE regulations for the sole purpose of obtaining revenue. The old theory of "public protection" went out the window years ago. I have not found any piece of paper that makes an engineer a professional. On the other hand, I know many professionals who are engineers. Maybe the time has come for states to redefine what constitutes a professional. In my opinion, New Jersey still considers an unlicensed engineer as "someone who drives the train."

I'm an engineer and proud of it. I also consider myself a professional, and no state in the Union is going to deprive me of my status. Laws are made by people, for the people and of the people. Maybe the time has come for the people to stand and demand the necessary changes to protect their rights and status.

From S.D. Anderson of Minneapolis: - I have been a member of AEA for at least 20 years and have failed to interest even one other engineer to join. Why? I've asked myself that a lot lately, as I read page after page of disasters that have either befallen us or are about to—disasters that could be averted or at least softened by an organized group of American Engineers speaking in unison. Such a group could have successfully countered the flawed NSF report before Congress. Such a group could have informed a nation that the end of the cold war would bring increased engineering unemployment.

Virtually every other group, from lawyers to bricklayers to school teachers, knows it needs to be organized to protect itself. Why don't we? Why are we missing that essential bit of grey matter or genetic strand that would tell us to look out for our own welfare? Is it distrust of each other that blinds us to what we have in common? Does technical = antisocial = anti-organization? Do we have such varied interests that we can't find common ground? Are there any other groups that share this problem with us? I don't know the answers to these deeper questions. But in my opinion, the following are the surface reasons (excuses?) for not joining AEA or similar organizations:

1. Not my career. I'll spend a few years at this and then become a manager.
2. Feeling of hopelessness. Engineering will not change for the better in my lifetime, so why should I spend the money?
3. No (or not enough) benefits. I'll join if I got _____.
4. Nearing retirement. I'd like to help, but it's over (thankfully) for me.
5. Fear of retaliation. My employer doesn't like this.
6. Nothing's wrong (subtitled What, me worry?). Hey I make more money than a liberal arts graduate, and I get to play with a lot of neat toys.
7. Rugged individual. I don't need it. I can handle anything myself.
8. Too small. I want to join a group with more clout.
9. Fear of opinion. I agree with most of what I saw in the sample newsletter, except for.....
10. Fear of unions. This is too much like a labor union. I want to bargain for myself. Labor unions are what's wrong with the country. Etc. Etc.

Readers can no doubt add to the list. Keep up the good work.

From R.P. of No. St. Paul, MN: - How can I express my gratitude for giving my issue (USE-IT-OR-GIVE-IT-BACK) your *Front Page Headlines* in your April '94 issue of AE? Let me express part of it by enclosing my payment for \$100 as a sponsoring member. Thanks

(Reader's Voice continued)

a million! I can come up with more if AEA continues its good efforts to help the typical American engineer (and all Americans). By the way, I appreciate AEA's policy of respecting the letter writer's request for anonymity. Keep up that policy. One of the reasons I was drawn to AEA was the fact that you help engineers express themselves without disclosing their names. That indicated to me that the staff of AEA "has been through the mill" and is not simply another set of journalists, just out of college. You guys appreciate the trauma of trying to get your case heard without risking your already-shaky job! Publishing the name of some unknown engineer working at the bench contributes nothing to the issue, yet puts his livelihood at stake. I'm happy to see AEA understands that issue.

Editor: R.P. mentioned corrections to our Apr. '94 article, and they are picked up in the Editor's Column.

From L.F. of L.A.: - On page 15 of the Nov. '93 issue of *Engineering Times*, published by NSPE, there's a subarticle entitled "U.S. Engineering Unity Elusive." This is part of a larger, front-page article entitled "AAES Strives Toward Being Unified Voice of Engineering." The subarticle states, "While members of other professions have formed powerful, occupation-wide lobbying organizations—AMA, ABA spring readily to mind—engineers have remained splintered since specialized technical societies began emerging outside the auspices of the American Society of Civil Engineers (ASCE) in the late 1800s. The American Association of Engineering Societies (AAES) is the latest of many attempts in the past century to remedy this situation."

For too long, the old-line engineering societies have gotten away with the excuse that this splintering by specialty has prevented them from adequately representing the interests of working engineers. The fact is that the old-line societies are large enough to have considerable clout even when acting individually, and certainly when acting in concert (via AAES). Societies such as IEEE, ASME and ASCE each have memberships in or near six figures, multimillion-dollar annual budgets and huge paid staffs, sometimes including registered lobbyists.

No, the real reason these societies have failed to represent the interests of working engineers is the tyrannization by self-serving engineering professors and corporate bosses. And the creation of the new AAES, which would represent just the old-line societies and their allies, will not cure that problem. Indeed it will just make the problem worse by uniting the enemies of working engineers (the societies) instead of the engineers themselves.

A related editorial in the same issue of *Engineering Times* ("New Representation for Engineers") stated that the NSPE "has gone on record as no longer aspiring the never completely fulfilled mantle of being a voice for all engineers. The society has decided to make its true core membership—PEs and those aspiring to that status—its primary focus." However NSPE, with only 69,000 PE members out of a total of 400,000 PEs in the U.S., does not even qualify as a good representative of PEs.

Robert Bruce, AE Editor

P.O. Box 4493, Great Neck, NY 11023

Editor's Column

ILLUSORY JOB ADS

The Mar. '93, Dec. '93 and Feb. '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. Besides that, the ads listed only a state employment service, and the employer remained unidentified, so that his reputation would not be affected by the ad. Why do I run these ads? Two reasons—first because some reader might be qualified and apply for the job, which would be a source of embarrassment for the state employment service that ran the ad and maybe even a job for the reader; second because I want to get our readers MAD. If they just get mad enough,

they might get more active in professionalizing engineering. Now here's an ad similar to the previous ones I've run: too many requirements and too little salary.

Electrical Engineer for instrumentation manufacturer in Boulder, CO to design analog and digital circuits. Program microprocessors in circuits using C language and Assembly language for microprocessors. Testing and repair of high technology conductivity detectors and other instruments used in high performance liquid chromatography. Using knowledge of optics and microprocessors, redesign and re-engineer evaporative light scattering detector which uses laser beams to detect very small particles. Requires M.S., Electrical Engineering; 3 years experience as Electrical Engineer, including instrumentation research and design; working knowledge of optics and microprocessors (knowledge may be gained in employment or academic setting); ability to design and program microprocessors. \$32,000/year; 8:00am-5:00pm, M-F. Respond by resume to Rolynda at the Colorado Department of Labor, Division of Employment and Training, 600 Grant Street, Suite 900, Denver, Colorado 80203-3528 and refer to job order CO4355329.

CORRECTIONS DEPARTMENT

A) The April issue of AE carried a front-page article entitled "Use It Or Give It Back..." The author, Mr. R.P. of No. St. Paul, was happy with the article and the prominence it received. However, he mentioned some small corrections. There is no Minnesota State Assembly; there is a Minnesota House of Representatives. Readers wishing to write to the MN state legislators should address letters to the House. Secondly, Mr. R.P. wishes the article to refer not just to patented discoveries, but also non-patented. Many employers will not even spend the money to obtain a patent on an invention with little commercial interest to them. The thrust of the proposed legislation is to RETURN CLEAR TITLE to the individual inventor, if the employer fails to invest significant effort and money into producing the invention, patented or not.

B) In the Reader's Voice column, I referred to the Assistant Secretary for Pension and Welfare Benefits as a 'Mr. Berg.' I'm told the Assistant Secretary is a Ms. Olena Berg. Sorry Ms. Berg.

LEGISLATION AFFECTING IMMIGRATION

Here are some bills in Congress that might curb inordinately-high immigration levels, something that concerns U.S. engineers who lose their jobs to aliens. I understand that a total of 257 bills dealing with immigration have been introduced in the 103rd Congress. The ones below are bills the IEEE Manpower Committee is studying, with a possibility of backing them.

Immigration and Nationality Technical Corrections Act (S1197) Senators Kennedy and Simpson — Contains a provision to make the Labor Department's Pilot Information Program discretionary instead of mandatory. This means that the Secretary of Labor is not obligated to raise immigration limits if there's a *perceived* shortage of technical or other skilled professionals. Instead the Secretary can use his/her judgment.

Immigration Stabilization Act (S1923) Senator Harry Reid — To curb criminal activity, defend against acts of international terrorism, protect American workers from unfair labor competition, and relieve pressure on public services by strengthening border security and stabilizing immigration into the U.S. Includes provisions to reduce current annual ceilings on family-based immigration from 480,000 to 300,000 per year and current ceilings on employment-based immigration from 140,000 to 40,000 per year.

Unemployment Based Immigration Adjustment Act (HR2259) Rep. Lamar Smith — Amends the Immigration and Nationality Act to provide for the adjustment of levels of immigration to reflect changes in the unemployment rate in the U.S. The base for the level of immigration would be 700,000, set by the 1990 Act, and the base level of unemployment would be the average 1990 rate of 5.5%.

Immigration Enforcement and Asylum Reform Act (HR2602) Reps Mazzoli, Schumer and McCollum — Amends the Immigration and Nationality Act to improve immigration enforcement and anti-smuggling activities, to reform the asylum law, and authorized appropriations for the INS.

Immigration Moratorium Act of 1994 (HR3862) Rep. Stump — Waiting for details on this one. I understand that FAIR supports it.

(Editor.. cont. from page 3)

EL CINCO DE MAYO

The title means the fifth of May, which is a holiday celebrated in Latin America. On Thursday May 5, New York's FM station WBAI ran a segment of its "Talk Back."

Talk Back is a program of listener response to social issues introduced by the program host and expert guests. WBAI is a station with lots of coverage of topics concerning disadvantaged local residents. This makes it interesting to me, because it departs from the glossy coverage offered by the big networks. The topic of this particular segment was, as far as I could discern, the plight of Latino immigrant residents of New York, both documented and 'undocumented' (meaning illegal). It also dealt with organizations that can help these persons with their difficulties. The host was a Puerto Rican American, and the expert guest was a Cuban American.

I tried phoning in, to comment on the detrimental effects of large immigration on those New York residents who have the legal right to be here and work here. I never got through. The callers who did get through offered their sympathy to Hispanics and other disadvantaged minorities and helpful suggestions about how to cope.

Be aware that many aliens in the Northeast and elsewhere in the U.S. are suffering human beings who wish to live the American dream. Many are 'the tired, the poor, the huddled masses yearning to be free.' Be aware also that efforts by AEA, American Immigration Control Foundation and FAIR to curb immigration, may sound to some ears like jingoistic noise. AEA, AICF and FAIR simply wish to get a square deal for those individuals who have a legal right to be here and hold a job commensurate with their skills. They (we) wish to curb immigration and the burdens it imposes on citizens. We especially wish to do so during the worldwide recession that faces us. When there's not enough to go around, the immediate family comes first.

We're sorry to find ourselves on the other side of the fence from some proponents of rights to the disadvantaged. I in particular am sorry. I attended engineering college in New York's Spanish Harlem, danced to the rhythms of Tito Puente in the Palladium Ballroom, and tried with very modest success to understand Spanish movies without sub-titles at El Teatro Del Mar. They say politics makes strange bedfellows. Well it also makes strange adversaries. Out of deference to America's citizens and legal residents, I must stick with my point-of-view. We must drastically curb all immigration, but especially illegal immigration. We must write our Congressmen to get the above bills out of Committee, onto the floor of Congress, and passed. And no more amnesty! That's what I think. What do you think?

MATERIAL FROM "ENGINEERING TIMES"

This publication from National Society of Professional Engineers (NSPE) has a different point-of-view from AEA. NSPE has given up trying to represent all U.S. engineers and confines its attention to the interests of PEs. However, much of the material in its publication is food for thought.

The Jan. '94 issue contained an article entitled "Time's Right for Women To Enter Engineering Field." It quoted a Jane Daniels, currently on leave as director of women in engineering programs at Purdue University. She stated that although companies are cutting back on technical professional staffs, they still wish to maintain 'diversity in the workplace.' Also the increasing emphasis on the environment and the demand for safer and higher-reliability consumer products may open up jobs (emphasis mine) in environmental, agricultural and industrial engineering. I read Ms. Daniels' statements to mean women should register in engineering college, to keep enrollments up, thereby assuring survival of the colleges.

Ms. Daniels recently finished a three-year term as president of the Women in Engineering Programs Advocates Network, which she also co-founded. This organization was established in 1991, with a grant from the National Science Foundation (NSF)—that good friend of the U.S. working engineer.

Another article in the same issue tells that a group of black, Hispanic and Native American engineering and science organizations formed the Coalition for the Advancement of Minorities in Science and Engineering. Their goal is to further diversify the U.S. technical work force by promoting interest among minorities in

technology fields. They too are assisted by an NSF grant. All this was made clearer by still another article that told how NSF added four new regional projects to its 11 other Alliances for Minority Participation. Each of the four new programs is funded with up to \$5M of NSF money.

A historical article told how NSPE came into being in 1934. On Labor Day the NSPE founders, including the first president, D.B. Steinman, met to create a professional engineering society. They sought to improve the lot of engineers during the great depression by increasing federal projects that might employ engineers. Mr. Steinman is quoted as saying, "The only way to improve the economic situation of the engineer is to increase demand for his services and reduce the oversupply of engineers." One tactic was to encourage engineering schools to follow the lead of medical schools—raise admission standards and lower the number of graduates. Mr. Steinman said there would be high unemployment in engineering, if schools did not institute enrollment caps. How prophetic.

STAGNANT PAY DOESN'T PREVENT RISE IN ENGINEERING DEGREES

That's the title of still another article in this rich issue of *Engineering Times*. It tells how, despite the current tight job market, the number of BS degrees in engineering in 1993 was about 65K, up 2% from 1992. This statistic comes from Richard Ellis of the Engineering Workforce Commission. He says that civil and chemical engineering graduates increased by 9% and 21% respectively, while industrial and aerospace engineers bachelorette degrees decreased. Mr. Ellis predicts that soon, 10% of U.S. engineers will have doctorates, which he attributes to the "lousy job market." Persons without jobs try to improve their skills, in the hope of landing a job.

THE OTHER AEA: FOR ENGINEERS, BY ENGINEERS

That's the title of an article 38 column-inches long on pages 91 and 93 of the May 2, 1994 issue of *EE Times*. It included a photo of AEA President Bill E. Reed. Rather than summarize the article, I encourage our readers to look for a copy of the May 2 issue of *EE Times*. You can write them at 600 Community Drive, Manhasset, NY 11030. This article will contribute to the visibility of AEA, which should raise our membership and improve our ability to give real help to U.S. engineers.

CLARIFICATION OF OUR COPYRIGHT POLICY

Sharp-eyed readers have noted that the masthead of AE states the publication is copyrighted, while the Reach Out column suggests that readers copy articles and send them to their representatives. Is this a contradiction? We hope not. Our intent is as follows:

1. We want any other publication to ask for and obtain our permission in writing before reprinting any of our articles or other published materials.

2. If the publication wishes to reprint an item that AE has reprinted, we'll refer them to the original source.

3. On the other hand, members (readers) are encouraged to copy and circulate articles for the purpose of influencing their representatives or other political figures, or for any other purpose that benefits the engineering profession.

4. In case of doubt, write us and ask. Thanks.

PENSION PORTABILITY IMPROVEMENT ACT (HR1874)

In the Oct. '93 issue of AE, we recommended that our readers write their Congressmen to back this legislation. It offered benefits of more rapid pension vesting and a semblance of portability. The bill did not pass during that session of Congress, but it's up for consideration this year. I find that bills which benefit the general public are slower to be passed. However, since publishing the recommendation, I've had much correspondence with a Mr. Les Sipkema, some of which I've published. Mr. Sipkema has found a serious shortcoming with HR1874. It fails to remedy the lack of disclosure information that employers and pension plan management companies give to the employees who await the pension. In fact, Mr. Sipkema contends that HR1874 aggravates the disclosure problem by referencing requirements that are even more vague than before. Particulars to follow. Thus pensioners are obliged to take the word of the employer about how much money they look forward to. Instead, pension recipients should have the exact formulas for

(Editor's Column continued)

pension payout, so they can plan their future finances. Based on this new information, I advise readers who back HR1874 in 1994 to suggest that concrete disclosure requirements be added to the bill. Disclosure should take place as soon as the employee is eligible to be a plan participant, which is before vesting. I suspect engineers will have little difficulty in understanding the formulas.

Robert Bruce, AE Editor

Get Well Bob!

Bob Bruce, AE's Editor, underwent emergency open heart surgery on Tuesday, June 7th. and is reported doing very well.

We all wish Bob a speedy recovery and gratitude for doing a fine job as editor of AE.

A Federal Court Challenge

ACES (the American Council on Economic Security), a nationwide organization formed in 1993 to prove, publicize and litigate the numerous violations of the U.S. Constitution woven into the Maquiladora, NAFTA and GATT trade pacts, is conducting a nationwide search for American engineers and other technical personnel who have lost employment and/or been underemployed as a result of American companies moving out of the U.S or simply being forced to close due to those unconstitutional treaties.

Also included in the pending litigation are the U.S. immigration policies that allow or encourage U.S. based employers to import and employ foreign engineers and other technical personnel who will work for a fraction of the salary and benefits of the American citizens whom they replace.

After years of accumulating statistics from U.S. Government records (the Labor Department, Commerce Department, Treasury Department, C.B.O., B.L.S., etc.), plus years of lecturing, letter-writing and lobbying for a return to the clear mandates of the U.S. Constitution, the three founders of ACES decided in March of 1993 that only the filing of a Federal Court lawsuit would stop the U.S. Government's trade treaties destruction of America's manufacturing base and stop the three-step extermination of the U.S. engineers and technicians so vital to America's economic health and national security.

The U.S. Government's own records clearly show that the Free Trade policies through several U.S. administrations have energetically propounded and defended, have done more damage to America (just since 1980) than all of America's wars, natural disasters (hurricanes, tornadoes, earthquakes, floods, droughts, wildfires and plagues), riots, depressions, recessions and crime COMBINED since America was founded.

America's economic losses to U.S. Free Trade policies, just since 1980, are in the *double digit trillions*, with Free Trade declining the

U.S. standard of living over 22% (by the year 2000), and resulting in the loss of over 10,000,000 U.S. jobs. The U.S. Government that is so pooring (by policy) the American people, is at the same time enriching itself.

Some of the destruction of the U.S. economy is illustrated in the statistics below, with the damage projected through the year 2000 shown in the right column.

A partial list of U.S. casualties and national economic destruction from U.S. Government Free Trade policies:

	1980-1994	Projected 1980-2000
1. Cumulative U.S. Trade Deficit	\$ 1.3 Trillion+	2 Trillion+
2. U.S. Ripple Effect Economic Losses	6.5 Trillion	10 Trillion
3. U.S. National Debt	3.4 Trillion	5.8 Trillion
4. Daily interest on Cumulative U.S. Debt.	.55 Billion	1 Billion+
5. Part of U.S. National Debt caused by Trade Losses	1.87 Trillion	4.1 Trillion
6. U.S. Good-pay Jobs Lost to Free Trade	6.6 Million	10.2 Million
7. Decline, U.S. Living Standard	Minus 12%	Minus 22%
8. Congress Living Standard	Plus 107%	Plus 132%
9. Lobbyists Living Standard	Plus 2,700%	Plus 4,300%
10. U.S. Losses Per Second, (1 through 7 inclusive)	\$17,000 Per Second	\$23,000+ Per Second

All data in the 1980 to 1994 column is from U.S. Government records.

Gus Stelzer of Mill Creek, Washington, Larry Mattera of San Diego, California and Jim Hill of Medford, New Jersey, the three co-founders of ACES, have fought the trade and immigration destruction of the U.S. economy for over a decade, and all are writing books about the different aspects of this deliberate U.S. Government policy of "pooring America." The three books are scheduled for publication before the 1996 elections.

Only 2,500 members are necessary for ACES to file this thunder-clap lawsuit, litigation that Hill likens to the 2nd Battle of Midway, the Economic War.

American engineers and technical personnel (in fact, any Americans) who have been "injured" by U.S. Government Trade and immigration policies, who would like ACES membership and agenda details and other information can write to ACES, Box 366, Medford, New Jersey 08055 or call 609-953-9566.

Bill E. Reed, AEA President

I am concerned about my career and U.S. Engineering capabilities.

Please enroll me as a member of AEA at the following grade.

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The End Of Jobs

(Continued from April '94 AE - Conclusion)

Biotechnology, on which great hopes are pinned, is anything but labor-intensive. Amgen, the largest biotechnology company, employs a mere 2,639 people. The genetic-engineering industry—bovine growth hormones that produce supercows and in vitro laboratory production of basic fruits and vegetables—could end up destroying many more jobs than it spawns by wiping out millions of farmers in hot, poor countries. Some, including Vice President Al Gore, argue that an "environmental revolution" in the direction of better pollution control, weatherization, recycling, renewable energy sources, and energy-efficient appliances will spark all sorts of new job-creating technologies. While proposals to control pollution should be pushed, it is not at all clear whether more jobs will be lost than created in the end. Given the nature of impending technological developments, the declining purchasing power of more and more people in rich and poor countries alike, and the size and composition of the global workforce, it is not prudent to count on technological rescue to solve America's job problem, much less the global job problem of which it is an inextricable part.

What can government do to ensure that citizens have good jobs? Tinkering with the economy as a whole appears less effective than it used to be. Harold L. Wilensky, professor of political science at the University of California at Berkeley, has studied eighteen wealthy democracies, including the former West Germany, Japan, Switzerland, Italy, Australia, Finland, and the Scandinavian countries. His conclusion is that even when governments are unusually successful in stimulating job creation, this has no predictable effect on the level of employment or the economic performance of a nation. Great Britain and France were among the poorest job creators and had above average rates of unemployment, but West Germany and Austria, both well below the median in job creation, had low rates of unemployment in the twenty years examined in Professor Wilensky's study. His basic finding is that demographic, social, and structural forces within a society rather than macroeconomic government policies determine who will have jobs and who will not.

As Wilensky sees it, forcing mothers into the job market to feed their infants and toddlers at a time when they would rather stay home and raise them is an excellent way to drive down wages generally and to make the employment crisis worse. (It is also a cruel and shortsighted family policy.) Strategies aimed at improving education and family support in order to reverse the feminization of poverty and "balance the demands of family and work and to avoid child neglect," as Wilensky puts it, will have a greater impact on the job market than policies designed to encourage private investment in job creation—lowering taxes, investment tax credits and other breaks, easing interest rates, and so on.

A recent study by Steven M. Fazzari for the Economic Policy Institute (based on data from firms that account for between 40 and 50 percent of all plant and equipment spending in the United States) lends support to this argument. Fazzari notes that "interest rates and the cost of capital play a very uncertain role" in investment decisions; these have much more to do with financial conditions and prospects of the companies than with interest rates. Fazzari's study suggests that cutting the deficit, a worthy objective under the right conditions, is not the way to put the country back to work.

According to the prevailing credo, however, the way to get more jobs is to enable entrepreneurs to keep more of their earnings so that they can invest them in job-creating technologies and expansion. In the Alice in Wonderland world of the 1980s and 1990s, it is ideologically sound to spend millions of dollars in taxpayers' money on "incentive packages" to lure corporations and the jobs they promise into a city or state, but it is politically incorrect for the government to act as employer of last resort, hiring unemployed young people to clean up cities, rehabilitate houses, visit the elderly, and the like.

Subsidizing corporations to make jobs is no answer. Unless long-term obligations are written into the deal, private companies are free to take the money and run once the benefits run out, and they do. Enforcing obligations on global companies is hardly easy. As global competition becomes fiercer, the odds are increasingly stacked

against governments that try to buy jobs. Once the corporation has received the land, money, and tax breaks, company executives have every incentive to keep payrolls down. Flexibility, downsizing, outsourcing (hiring temporaries or subcontractors), automation, and relocation are the buzzwords of the day.

What remains? There are a number of sensible ideas for attacking aspects of the job crisis. None is a quick fix.

For example, shortening the workweek could encourage job sharing. This, in turn, would create more jobs, accommodate working mothers, and perhaps encourage the healthy notion that a job is not the whole of life.

Government programs that target poor neighborhoods, where unemployment may reach 40 percent, can help create some jobs if the goal is local self-reliance and the support is designed to enable people to make maximum use of the considerable skills, relationships, and savings that exist even in inner-city blocks from which drugstores and supermarkets have fled. There are now operating in the United States more than a hundred programs to furnish start-up capital for neighborhood businesses along the innovative model of the Grameen Bank in Bangladesh.

And small business begun with small amounts of capital, usually from relatives, make up much of the informal economy that is all that stands between millions of people across the world and starvation. This mix of off-the-books activities, ranging from sidewalk barber-shops to global drug cartels, eases personal financial problems around the world. The drug trade aside, much informal-sector activity is legitimate, meets important human needs, and should be encouraged rather than repressed by governments.

The suggestions that Walter Russell Mead and other analysts have made to apply Keynesian full-employment policies on a global level are theoretically sound. There are no national solutions to the job crisis. Coordinated strategies at the global level are needed to promote the sort of world economic growth, that avoids flooding the planet with goods and services far in excess of what people want or the planet can afford. The government of every industrial power, however, faces such acute problems that cooperation of this sort seems improbable at this time. Clinton's call for an international jobs summit at least makes the global dimension of the crisis more visible. Yet a concerted look at the job-destroying incentives built into the global industrial system and a cooperative strategy to alter this system may well be the only means for dealing with the very domestic political and economic problems that threaten world leaders with early retirement.

The lack of decently compensated jobs under decent working conditions is a global deficit so vast as to require fundamental rethinking about the global economic system itself. The global machine for producing goods and services in ever greater quantities depends upon a growing population of consumers with enough money in their pockets to keep the system going. Even the super-rich buy only a limited number of refrigerators and computers. Yet the pressures on the production system are pushing income distribution in precisely the opposite direction. While millions in the workforce dropped out or dropped down, the average CEO of a large U.S.-based corporation in 1992 was taking home \$3,842,247, a 56 percent increase from the previous year. Between 1960 and 1992, the average salary of a CEO jumped \$3.6 million while the average worker's pay rose from \$4,665 to \$24,411. The recent trend toward greater inequality in the United States, and throughout much of the rest of the world, means that the vast majority of the 8 billion human beings expected to be living on the earth in the first quarter of the next century will be neither producers nor consumers in the new global economy.

The global job crisis is the product of a value system that prizes the efficient production of goods and services more than the human spirit and of an economic strategy riddled with contradictions. Contemporary society is built on a social system in which the individual's livelihood, place, worth, and sense of self are increasingly defined by his or her job. At the same time, jobs are disappearing. The global economic system is fragile because it depends on growth fueled by the expansion of consumption, but the fierce drive to eliminate work and cut wages is clearly not the way to bring

(End Of Jobs continued)

spenders to the car lots and shopping malls. Except for cigarettes, Coke, and a few other products, most of what the global production system disgorges is consumed by fewer than 2 billion of the more than 5 billion people who now live on the planet.

In the end, the job crisis raises the most fundamental question of human existence: What are we doing here? There is a colossal amount of work waiting to be done by human beings—building decent places to live, exploring the universe, making cities less dangerous, teaching one another, raising our children, visiting, comforting, healing, feeding one another, dancing, making music, telling stories, inventing things, and governing ourselves. But much of the essential activity people have always undertaken to raise and educate their families, to enjoy themselves, to give pleasure to others, and to advance the general welfare is not packaged as jobs. Until we re-think work and decide what human beings are meant to

do in the age of robots and what basic economic claims on society human beings have by virtue of being here, there will never be enough jobs.

Some of the elements of a global strategy for reorganizing work are beginning to take shape, but politicians everywhere continue to promise prosperity without confronting the international dimensions of the problem. We have yet to summon the courage and imagination to face the human assault on human beings that we call the "job problem."

By Richard J. Barnet

Richard J. Barnet is a senior fellow at the Institute for Policy Studies, in Washington. "Global Dreams: Imperial Corporations and the New World Order," co-authored by Barnet and John Cavanagh, will be published early next year by Simon & Schuster.

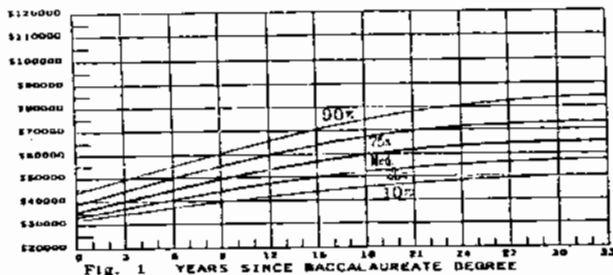
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EWC SALARY SURVEYS BY AND FOR INDUSTRY NOT MEMBERS

What determines salaries paid to engineers in the United States? Is there free market price competition or is there some form of organized process that controls compensation?

The method used by industry to trade salary information for engineers is the Engineering Workforce Commission's annual salary surveys. Somewhat less than 300 engineer employing units contribute salary information to the EWC which compiles the data. The data is then massaged to produce a number of smoothed curves based upon a preconceived notion that salaries should increase most rapidly in the early years from graduation and then flatten out in later years. Presentations are made by industry sector, by supervisory responsibility, by region and by years from BS degree. Figure 1, shows the generated salary curves for all engineers in electrical machinery, electronics and computers.



Is this really activity for engineers by an engineering professional organization or is it an activity by and for industry? The only way to answer that question is to give it the "Duck Test". If it looks like a Duck, quacks like a Duck, and walks like a Duck then it IS a Duck.

Question one, Is the Salary Survey publication disseminated directly or indirectly to the 1,700,000 members of the engineering profession? There are approximately three hundred copies of the publication sold in a given year. As a long term member of the IEEE, one organization providing substantial support for the EWC, I cannot recall a single incident where the salary survey data was published for the

IEEE member. The number of copies sold is consistent with the number of employing units providing information. The number of copies sold is inconsistent with the number of members of the profession. That, combined with the lack of evidence of publication for the benefit of the members of the profession indicates that the output is dominantly for the benefit of the inputters of the data.

Question two, who is contributing to and controlling the EWC activities? The stationery of the EWC lists itself as of the American Association of Engineering Societies. As of December 1992, there were two Patron Sustaining Associate members, one of which was the General Electric Foundation. There were two Senior Sustaining Associate members consisting of the Amaco Foundation and Chevron Corporation. There were fifteen Sustaining Associates reading like the Who's Who of corporate America. Four Contributing Associates added two more industries and two professional societies to the total of non engineering member supporters. Finally, there were thirty three Academic Associates consisting of engineering schools. The only connection between the EWC and the members of the profession is through the AAES that only has engineering societies as members, has no direct members of its own, no publication going to the members of the profession, and no member election of any of its officers. It is subject to the top management of the member societies only. The AAES is financed by assessment against the member societies. Part of the member society assessments are funneled through the AAES to the EWC. Industry and engineering schools directly support the EWC.

The controllers of the EWC are the 42 Commissioners. Eighteen of those can be identified as industry representative. Of thirteen listed as society representatives, seven have an industry affiliation and two have an engineering school identification. seven more have an engineering school affiliation. Summarizing, twenty five out of forty two Commissioners can be characterized as industry representatives and the EWC can do what industry wants done.

It is fairly conclusive that employers are the contributors of the salary information, the controllers of the survey and the users of the survey data. The salary survey is a Duck, that is, it is by and for industry not the members. It is useful in setting salary scales for the range of performers both for engineers and supervisors. It is useful on an industry and geographical basis. It is useful in negotiating with individual engineers.

I would like inputs by mail or phone of cases where salary survey data and curves were used on an individual basis in salary discussions or negotiations.

GATT May Send Our Patents Packing

For weeks the computer ads have carried a breathless promise for their latest products, "Pentium Ready!"

And what is Pentium? It is the newest high-speed computer logic chip from Intel Corp.—faster than a 386, five times more powerful than a speeding 486DX, able to leap tall buildings at a single bound. This is a digital processor so fast that you could probably send a 14,400-baud fax while running a spreadsheet while shooting the Runway 22L instrument approach to Kennedy Airport on your Flight Simulator 5.

Pentium is, in short, the pinnacle of American applied science, the most advanced commercial logic chip in the world, the renewed promise of America's high-tech future and the foundation for some of those new, globally competitive, good-paying high-skill jobs we keep hearing about.

So why do we have to give it away to Korea?

Because although we lead the world in computer chips, although we are the greatest experts in artificial intelligence, although our hard drives are bigger than anybody else's hard drives, there are some things we never learn.

Under the General Agreement on Tariff and Trade now being negotiated in Geneva, any foreign country would be entitled to approach Intel, developer of the Pentium, and demand the blueprints. For a small fee—to be determined by international bureaucrats—Intel would have to agree to "compulsory licensing" of its patents and the "mask works" that show the chip's circuitry.

This would allow foreign nations to duplicate the Pentium, manufacture it—and then export it back to America or anywhere else, all in the name of free trade. Korea has already expressed its interest in making the Pentium under license.

Does this sound familiar? It should. It is the story of how America let its electronics industry slip away over the past 30 years. Oddly enough, it is a story told most eloquently by President Bill Clinton's old friend and new-age economic adviser, Robert Reich, now secretary of labor, in his 1987 book "Tales of a New America":

"Americans invented the solid-state transistor," Reich wrote. "In 1953, Western Electric licensed the technology to Sony for \$25,000 and the rest is history. A few years later, RCA licensed several Japanese companies to make color TV production... In 1968, Unimatics licensed Kawasaki Heavy Industries to make industrial robots; the nascent American robotics industry never quite recovered, as the Japanese developed ever more elaborate versions. Americans came up with the big ideas for VCR recorders, basic oxygen furnaces, continuous casting for making steel, microwave ovens, automobile stamping machines, computerized machine tools and integrated circuits. But these big ideas and many others quickly found their way into Japanese production."

Over this same period, American wages have remained stagnant.

Worst of all—the competitors who licensed our technology came up with the next-generation improvements on our inventions.

The GATT treaty is supposed to protect "intellectual property"—the inventions, copyrights, production processes that are America's best hope for the future. But does it?

"This agreement gives a green light to piracy," says Michael Maibach, an Intel representative who has been monitoring the negotiations in Geneva. "Article One of the Constitution tells Congress to provide inventors exclusive rights to their patents, and this would supersede Article One."

In the debate over NAFTA, Clinton found himself fighting organized labor, which feared that free trade with Mexico threatened industrial jobs. The administration countered that NAFTA would produce the high-wage jobs of the future.

But in the debate over GATT, the next item on the president's free-trade agenda, Clinton will have to fight off the high-tech industries that are supposed to produce those high-wage jobs. This promises a battle royal over the next couple of months; Clinton will be fighting some of the richest corporations in America, not the beleaguered labor unions. And the corporations have a strong case.

"The entire U.S. standard of living depends on our working smart, on coming up with these inventions," Maibach said from Geneva. "This GATT is a blow against that."

Why does the Clinton administration fight for GATT? It has some benefits: It would help U.S. farmers export grain. It might help Hollywood films break into European markets. It could eventually open some other closed foreign markets—though don't hold your breath. But at bottom, GATT is deemed to be good because free trade is trusted with a religious devotion to be always and everywhere good for everybody regardless of what it does in real life to real people.

Lars-Erik Nelson

(A "Newsday" article reprinted by permission, from the Dec. 12, 1993 issue of Newsday, Inc., Copyright, 1993.)

Looking For A Few Good Men Or Women!

AEA is looking for engineers and scientists who were unemployed during 1993, and were actively seeking employment during that period. We are also looking for engineers or scientists who felt they were being discouraged from applying for jobs through their local state job service because that job "belonged" to an alien worker.

AEA has documentation on many engineering and scientific jobs for which foreign workers were approved during the past year. We wish to be able to show specific engineers and scientists who were unemployed at the same time jobs were going to foreigners.

If you fit into either or both of these categories, please drop us a note to let us know. Include your mailing address and current phone number(s).

Bill E. Reed, AEA President

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