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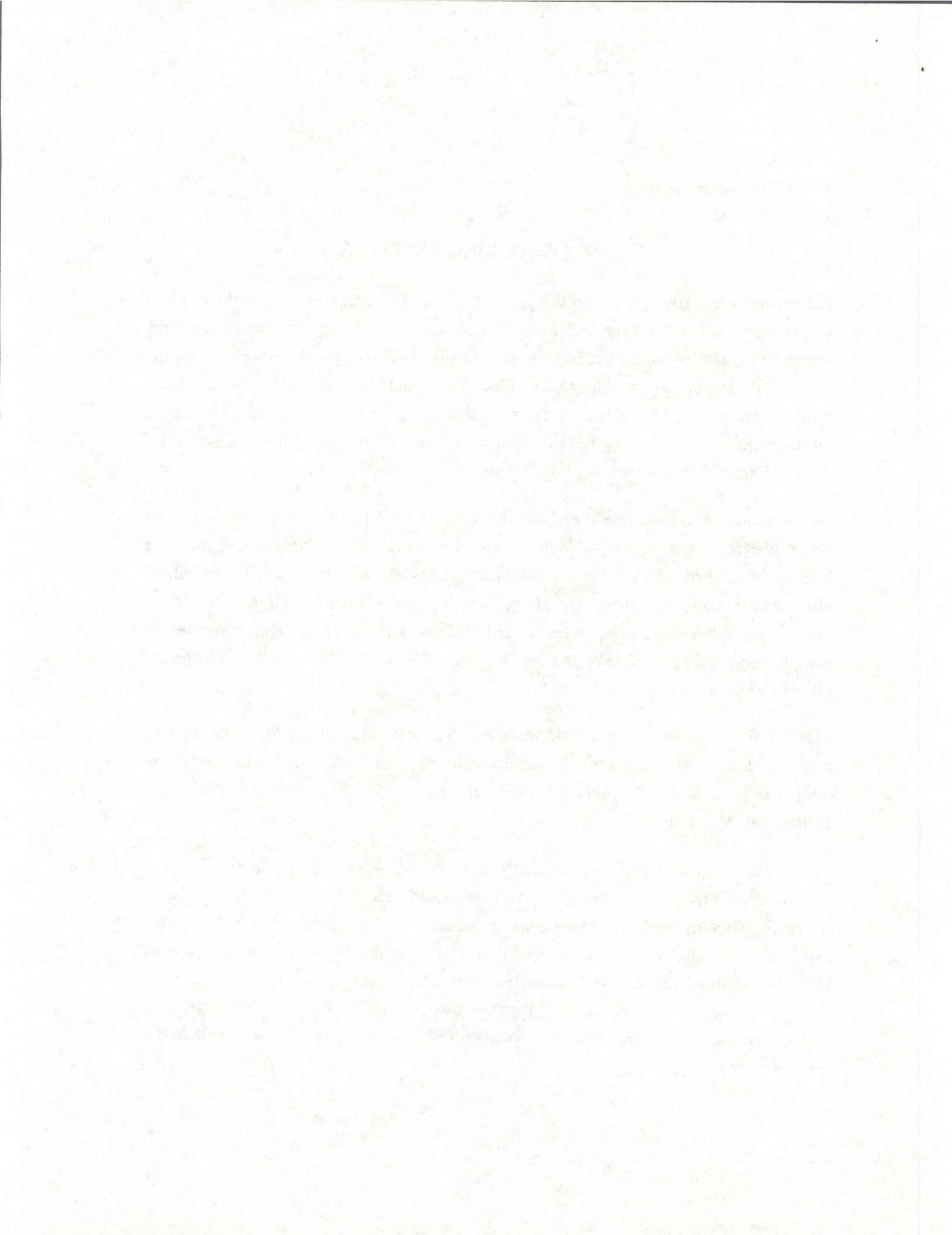
## "MANUFACTURING MATTERS"

As our members know, it's been the practice for Kit Kat speakers to give their essays cryptic titles—a custom going back to earlier and presumably less harried days when some members apparently had time to bone up on the topic in advance and thereby embarrass the essayist. If there are any such members still around, I could be in for some embarrassment tonight, because about the only thing cryptical about my title of "Manufacturing Matters" is whether "matters" is being used as a noun meaning "subjects pertaining to manufacturing," or as an intransitive verb meaning "to be of importance or consequence."

As I'm sure everyone realizes, it's the latter, the **"to be of importance or consequence,"** connotation we're using, and the straight-forwardness of the title was intentional. Like the professor who said on the first day of class, "If you don't get anything else out of this course, remember one thing," the "one thing" I hope you'll remember from tonight is that **manufacturing does indeed matter**—because if too many more of our manufacturing jobs get shifted offshore, America will be a far different and far less happy place in which to live.

Most of my text comes from a 1987 book entitled **"Manufacturing Matters"** by two economists at Berkeley, Stephen Cohen and John Zysman. To make sure that everyone understands what the book is all about, it's subtitled, **"The *Myth* of the Post-Industrial Economy."**

The "myth" that Cohen and Zysman are trying to expose is the currently accepted, sugar-coated rationale that just as America shifted in our grandparents' time from an agrarian to an industrial economy while achieving a major increase in the standard of living, so can we expect today to migrate naturally and painlessly from manufacturing to a **service-based, high tech, "post-industrial," smokeless nirvana** where almost no one gets their finger nails dirty. This is the "myth," the "don't worry—it'll be OK" American sleeping potion, that the authors are trying to expose before it's too late. The first paragraph in the book says it all:



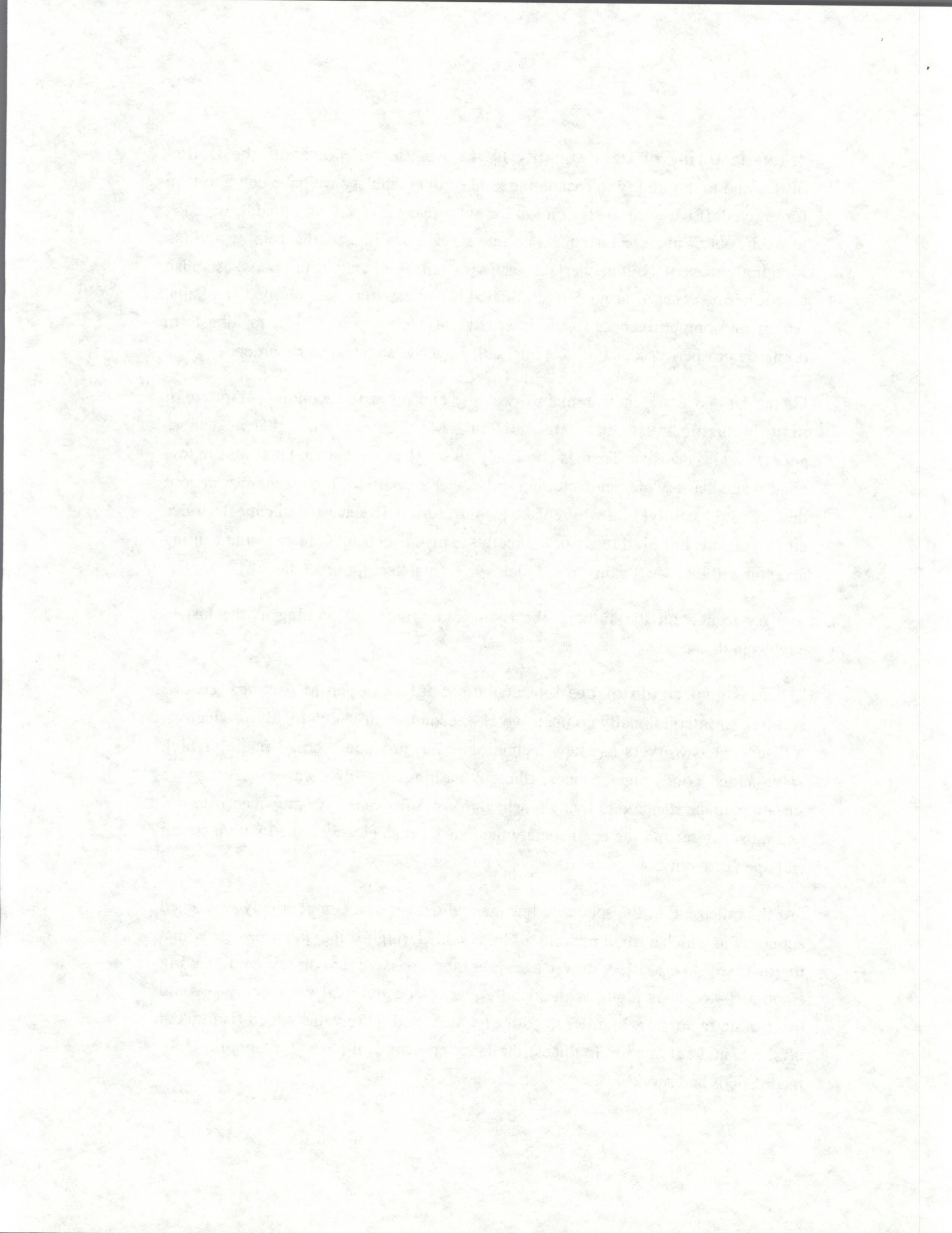
**"Manufacturing matters mightily to the wealth and power of the United States** and to our ability to sustain the kind of **open society** we have come to take for granted. If we want to stay on top [or even near the top, I would add], we can't just shift out of manufacturing and up into services, as [the soothsayers] would [so soothingly] have it. [But neither] can we [with tariffs and trade restrictions] establish a long-term preserve around traditional, blue-collar jobs and outmoded plants. American competitiveness in the international economy is critical to long-term domestic prosperity, social justice, international leadership and world order....

"If the United States is to remain a wealthy and powerful economy, **American manufacturing must automate, not emigrate.** The difference [between these alternatives] is decisive. There is absolutely no way [say the authors] that we can lose control and mastery of manufacturing and expect to retain the high-wage service jobs that we're [blissfully] told will replace manufacturing, [because so much of] service employment is linked [directly or indirectly] to manufacturing.... Lose manufacturing and you will lose—not gain—those high wage, [high tech], service [jobs].

Let me try to cement the authors' thesis in your minds by jumping to the last two paragraphs in the book:

"There is a **spectrum of possible economic futures** open to America. At one end lies an internationally competitive U.S. economy in which highly productive, well-educated workers use new technologies...to produce a broad range of high value-added goods and services, [thereby earning] the high wages necessary to sustain both the standard of living to which many Americans have grown accustomed and most aspire, and the open society that has been so closely linked with a strong and open economy.

"At the other end of the spectrum lies the real danger of a competitively weakened economy in which a small minority of high-skilled, [high-wage] jobs coexists with a majority of low-skilled, low-wage jobs and massive unemployment. Living standards—perhaps along with social equality and political democracy—would deteriorate rapidly as, in order to compete, more and more value added [is moved] offshore, and automation [reduces] the labor content of the [few] remaining U.S.-made goods and services."



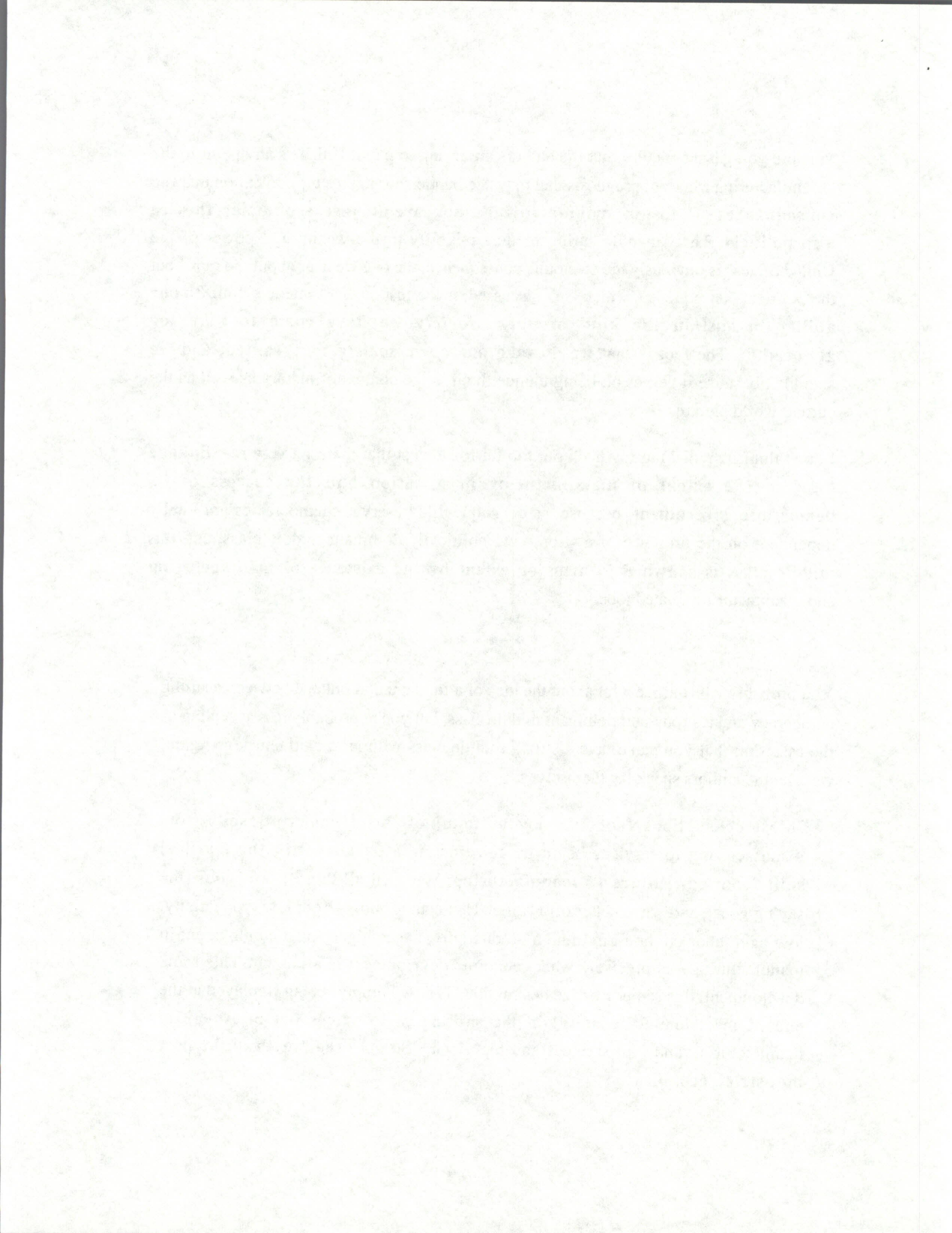
I'm sure you get the picture that the authors are trying to paint. If there's any point in the "Manufacturing Matters" prognosis that may need underscoring, it's the contention that **the consequences of losing manufacturing jobs aren't just economic; they're also political.** That "manufacturing matters mightily to the wealth and power of the United States" is obviously the economic consequence, the one we hear about the most, but the political consequence, which isn't discussed, is the rest of that sentence, **"and to our ability to sustain the kind of *open society* we have come to take for granted."** The fact is that **we do take our *open society* for granted,** and we shouldn't because it verges on being unique, both in the context of history as well as the current world picture.

I don't think I'm sticking my neck out too far to suggest that there's a very real **linkage between the extent of manufacturing in a nation and the success of its democratic government,** because, as de Toqueville observed, democracies are vitally dependent on the presence of a strong and politically dominant middle class, and this **middle class is spawned to a major extent by the existence of manufacturing and manufacturing-related jobs.**

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You probably won't argue a lot about the idea of a fundamental linkage between a strong democracy and a strong and dominant middle class, but you're probably less accepting of the assertion that you can't have a strong middle class without manufacturing. Again, we'll let the authors speak for themselves.

"Most celebrations [note the joyous term] of this [wonderful] shift from manufacturing to services begin by constructing a **parallel with the [earlier] shift from agriculture to manufacturing.** We shed all those [farm] jobs [the saying goes], and we're better off for it.... That classic shift—from low productivity, low-paid labor on the farm to high productivity, hence higher-paid employment in manufacturing—is precisely what economic development is all about. This same development, this same 'creative destruction,' is now [simply] being [replayed at the end of the twentieth century] in the shifting of resources out of American manufacturing and into services and high tech." So goes the **"myth of the post industrial economy"**



The authors contend that "this reassuring view of economic history as a long process of shifting from sector to sector while moving to higher and higher levels of productivity" is misleading. Citing the American shift from agriculture to manufacturing as proof of this phenomenon is misleading in particular, because it confuses two quite different kinds of transition, one of which actually occurred and one of which didn't.

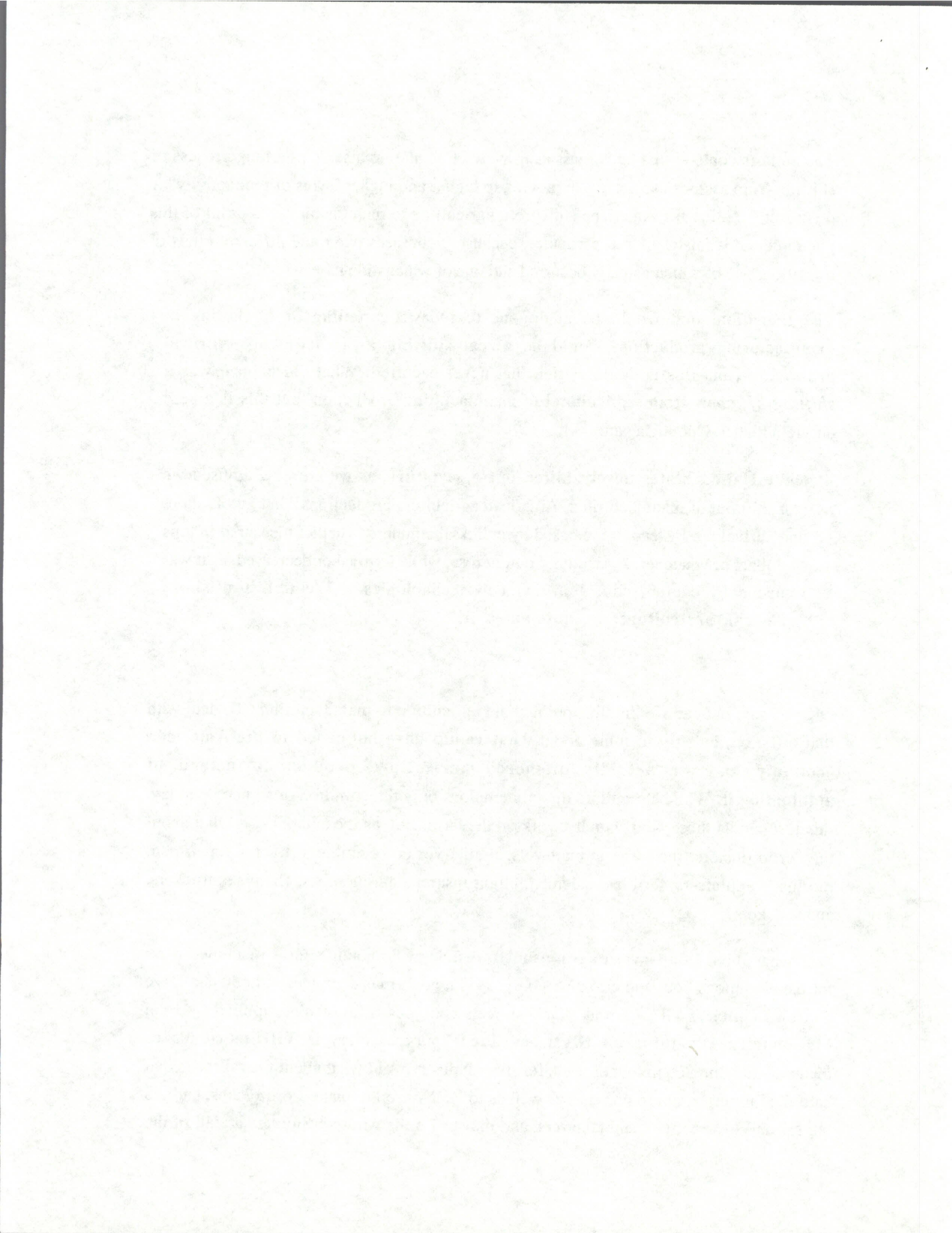
The transition, that would be analogous to today's curtailing or offshoring of manufacturing production, would be **a real shifting away from agricultural production**, but this is the transition that never occurred. What did happen was a *shifting of labor* from agricultural to manufacturing production, but this is a very different matter. Quoting again:

**"The United States never shifted out agriculture, as we are now advised we can shift out of manufacturing. American agriculture production didn't go off shore and shrivel up. Instead, it increased by colossal amounts, whether measured in tons or dollars or whatever. Agricultural output rose, while farm labor decreased, as it was replaced by capital, education and new technologies.... We didn't offshore American agriculture; we automated it!"**

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OK you say, but can we link this point about agriculture to manufacturing? To deal with that question, let's try to think about **what would have happened to the American economy had we actually offshored agriculture production instead of automating it**. While agriculture directly employs only three million or so people today, this just counts those who actually work on the farm. But, as the authors say, what about the "crop dusters, the large animal vets, the harvester assemblers, tractor repairmen, mortgage appraisers, fertilizer salemen, blight insurers, agronomists, chemists, truckers, and shuckers?"

And what about Bob Navarre's **Simpson Industries** who manufactures machined parts for the ubiquitous Ford and GM pick-up trucks that no farm is complete without, and Dave Durrell's **Union Tool** who make farm shovels and hoes from blanks supplied by John McConnell's **Worthington Steel**, and Fred Spurk's factory in **Tiffin** that makes materials handling equipment for the fertilizer industry. And what about the railroads that haul the farmers' grain to port and as well as to Kalamazoo to make Corn Flakes, and the boxcar and locomotive manufacturers, and the steel mills whose customers are all of the





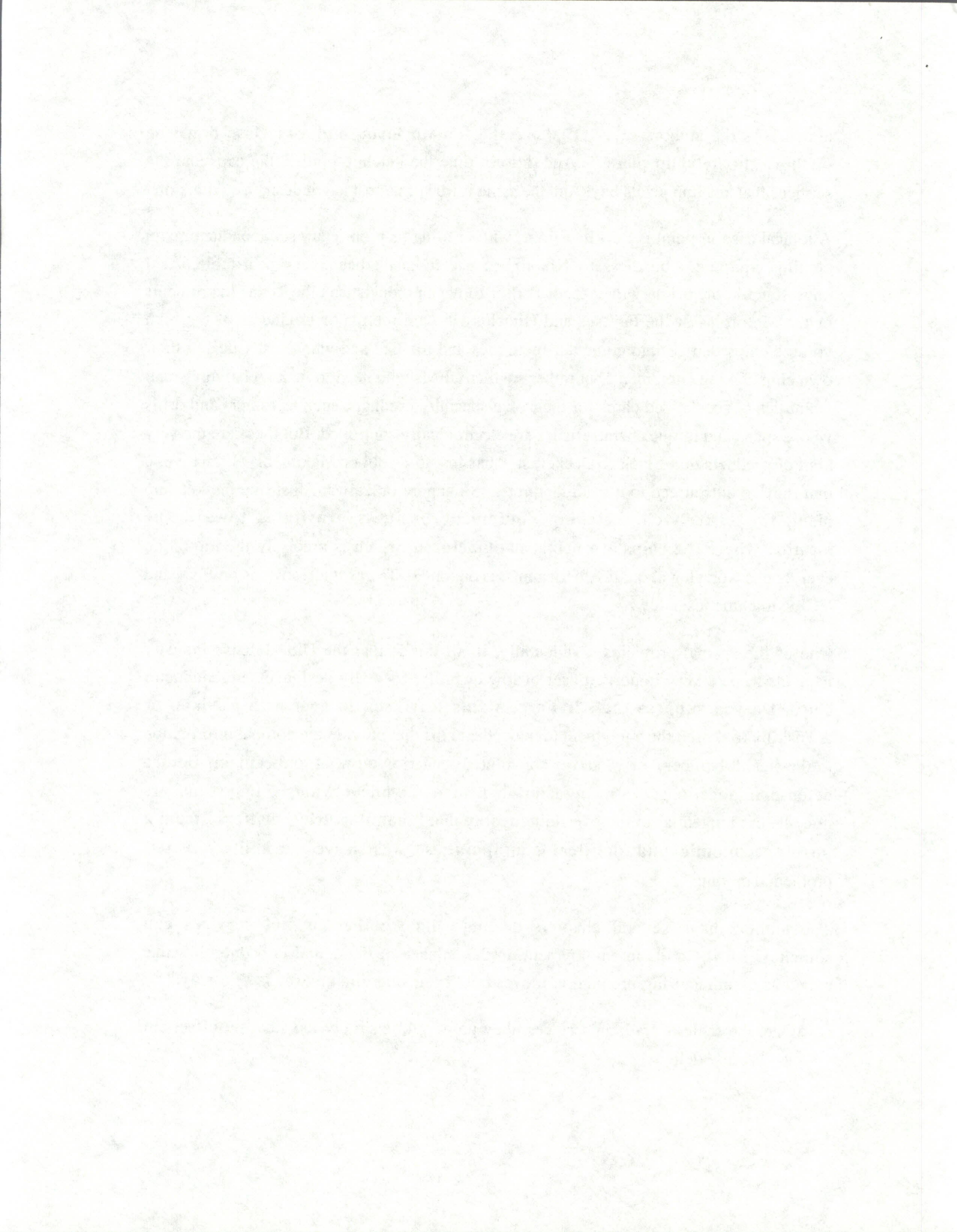
above. As the authors say, **"Offshore the tomato farm, and you close down or offshore the ketchup plant."** And ditto in time the ketchup bottles, the caps and the services that ketchup plants buy. And the same is true of almost any industry you think of.

A topical case-in-point is **Perkin-Elmer**, who's selling its proprietary semiconductor chip etching equipment business to Nikon because it hasn't been very profitable. As I understand it, the primary market for Perkin-Elmer's products isn't the Texas Instruments or the Motorolas or the Fujitsus and Hitachis who are the major producers of the high volume chips that go into computer memories and the like and who mostly design their own chip etching equipment, but rather smaller OEMs who need to make relatively small quantities of specialized chips for their own specialty products, such as routers and drills whose speed and torque characteristics are electronically controlled. But these are the very kind of products that Black & Decker, say, has lost to Ryobi or Makita, or, alternatively, that they've outsourced to a manufacturer in Singapore or Taiwan. Just like the ketchup plant, **the hi-tech chip etching equipment business gravitates toward the location where the chips are being manufactured**, which is precisely the migration everyone is worrying about if America misses out on HDTV, as it already has on FAX and VCRs, to name just a few.

One of the special problems, incidentally, in all this is that the U.S. defense industry happens to be a very important user of low quantity, specially designed semiconductor chips. **Do you suppose the Air Force wants Raytheon to deal with a Nikon or a Toshiba** to design the equipment to make the chips that provide the combat information to the stealth bomber—or whatever convoluted scenario you want to dream up? But the defense implications of "manufacturing matters," while obviously important, are nonetheless tangential to the overriding reality that **"manufacturing matters" from a purely economic and political standpoint**, so we'll leave the military secrets problem dangling.

The authors have several chapters dealing with **whether or not services can somehow fill the gaps** in employment, in the balance of trade, and in economic value added as manufacturing production moves out. Their **one line answer is "no way."**

- One, the scale of trade in services, they point out, is simply too small to offset our merchandise deficits.



•Two, there's no reason for assuming—or even wishing—that the United States is somehow going to be better at exporting services than it is at exporting manufactured goods, or that we have any special *comparative* and/or *competitive* advantage in services, to use two terms that economists use a lot in talking about foreign trade.

•Three, the international environment for trade in services is even less liberal than that for trade in goods, which is to say that Dave Durrell would probably have an easier time getting Green Thumb shovels into Japan than Don Shackelford would have in opening a State Savings office in Tokyo.

•Finally, the authors make a big point of their contention that large segments of trade in services are directly tied to the existence of a strong and technologically advanced manufacturing sector. **When leadership in production changes hands, it's soon followed by a switch in the direction of service flow.** As a case in point, the United States used to export high-end services in the steel industry. But now we import those same services from our former customers in Europe and Japan, and before long, we'll probably be importing them from Korea and Brazil. And the steel industry isn't an isolated case.

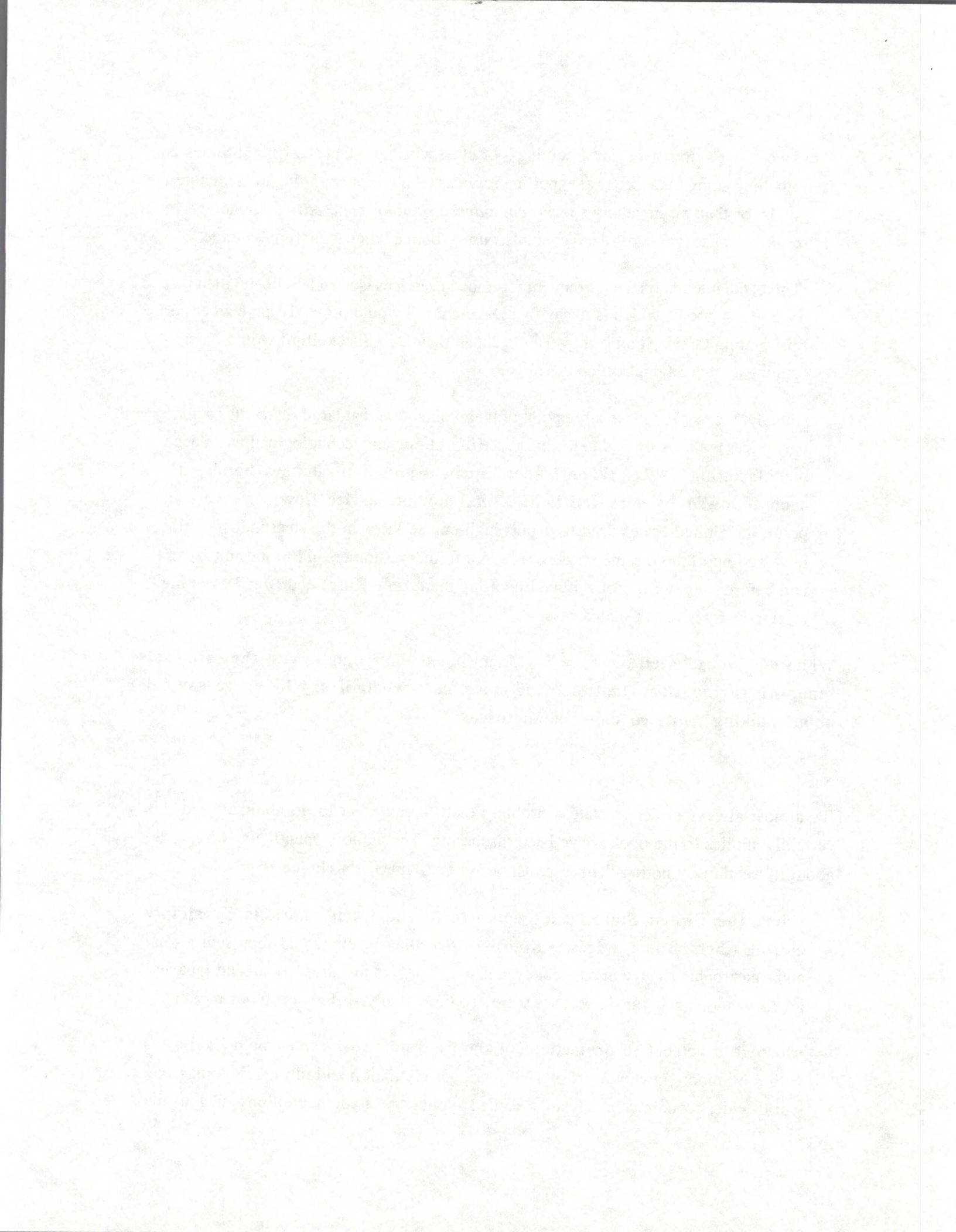
While I've probably left out some important points, I'm going to **rest the case that "manufacturing does matter,"** and move on to **what, if anything, we can do about making America more competitive.**

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It's almost always easier to state a problem than to say what to do about it, and this certainly applies to the book we've been discussing. The authors open their "what to do about it" section by noting **"three constraints on America's choices:"**

•**First, the United States can't compete in the world markets by simply cutting wages.** To cut wages to Korean or Brazilian levels would represent a total and catastrophic change in our society, and to cut, say, to just the German and Japanese levels wouldn't help much, because there's so little, if any, difference to begin with.

•**Second, a retreat to protectionism simply won't work,** and would likely—as with the Smoot-Hawley tariff of 1930—trigger retaliation and ultimately a massive, world-wide, economic cataclysm. Socalled "voluntary" trade restrictions, such as the



Japanese auto import quotas, are presumably more acceptable, but they become a crutch, "a habit and drug," if used very long, as the British learned to their detriment in the early part of this century as they tried to devise ways on paper instead of on the shop floor to compete with the more efficient Germans.

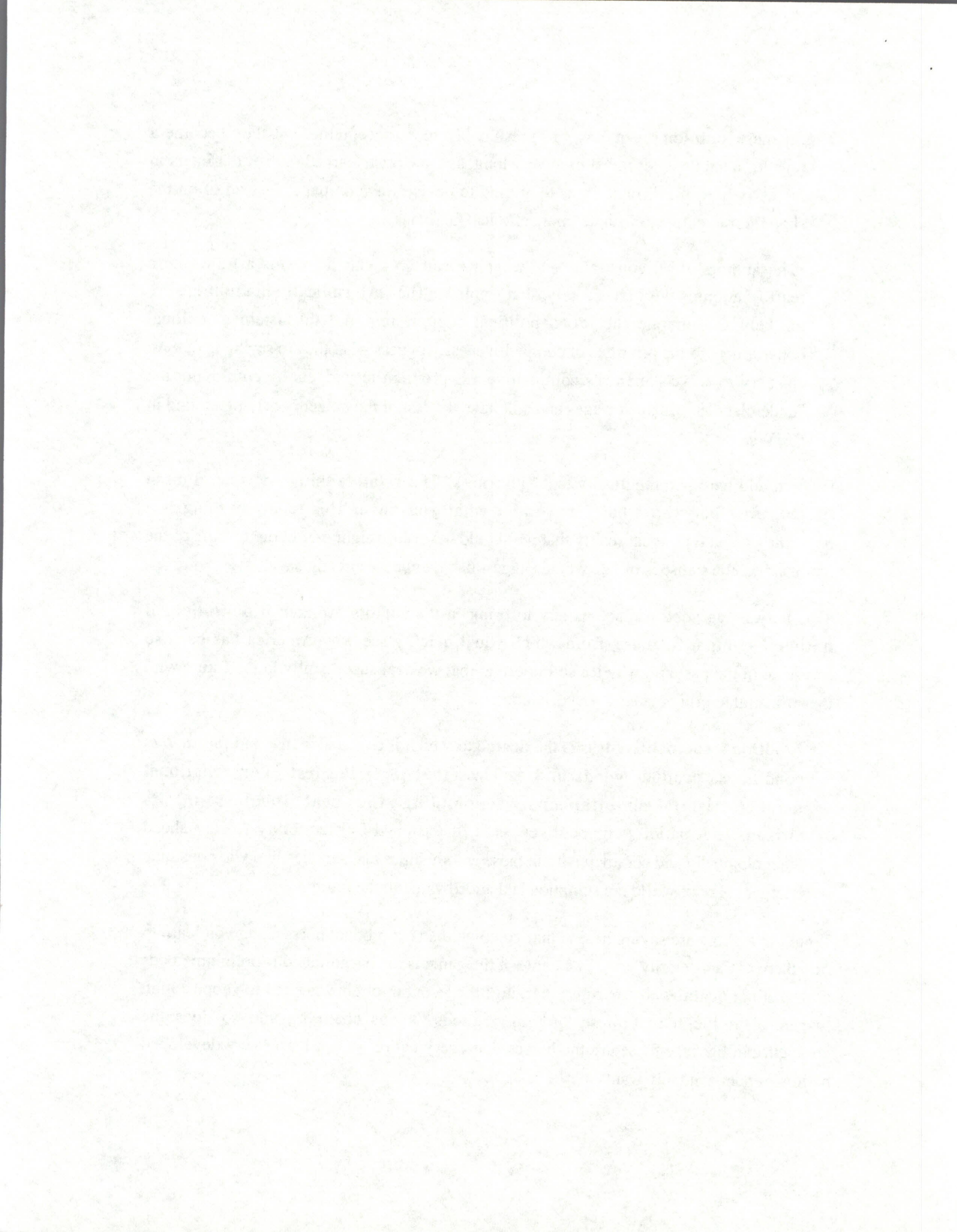
•The authors' third constraint on "what we can do about it" seems a little like a reaffirmation of the first, namely, that "**policies that are radically inequitable** are unlikely to generate the broad political support required to sustain a national commitment to the priorities of competitiveness." I guess what they're saying is that we can't try to solve America's competitiveness problem in widgets by employing the "underclass" at Mexican wages and still have the rest of the citizenry driving around in BMWs.

I would add here parenthetically that "**poorness**" is a **relative thing**, by which I mean **the contrast between what I have and what you have**. This relativity thing is a psychological and political reality that we should never lose sight of, although some of the national income statistics of late would suggest that maybe we already have.

This may be as good a place as any to bring in the authors' wonderful **definition of national competitiveness**, from which you'll quickly see why America has been so fortunate in the past and why it's so important that we deal successfully in the future with these "manufacturing matters" opportunities.

**A nation's competitiveness** is the degree to which it can, under free and fair market conditions, **produce goods and services that meet the test of international markets while simultaneously expanding the real incomes of its citizens....** A nation's competitiveness is [determined by] its ability to stay ahead technologically and commercially in those commodities and services likely to constitute a larger share of world consumption and added value in the future.

What the authors are saying here is that you pick the best product horses, and you learn to ride them extraordinarily well. The name of the game is to concentrate on "premium goods with distinct qualities that permit [charging] the 'economic rents' needed to support high wages." But the list of these "premium goods" keeps changing and so does the competition, because these are the horses that every nation—or at least every developed nation—understandably wants to ride.



**"Only a sustained capacity for design and manufacturing innovation will permit American firms to sustain high-value-added industry [say the authors], and that in turn depends on mastery and control of production as well as innovation and design."**

The mastery of design and manufacturing innovation and control of production are worthy goals to be sure, **but how do we get there from here? And can we?**

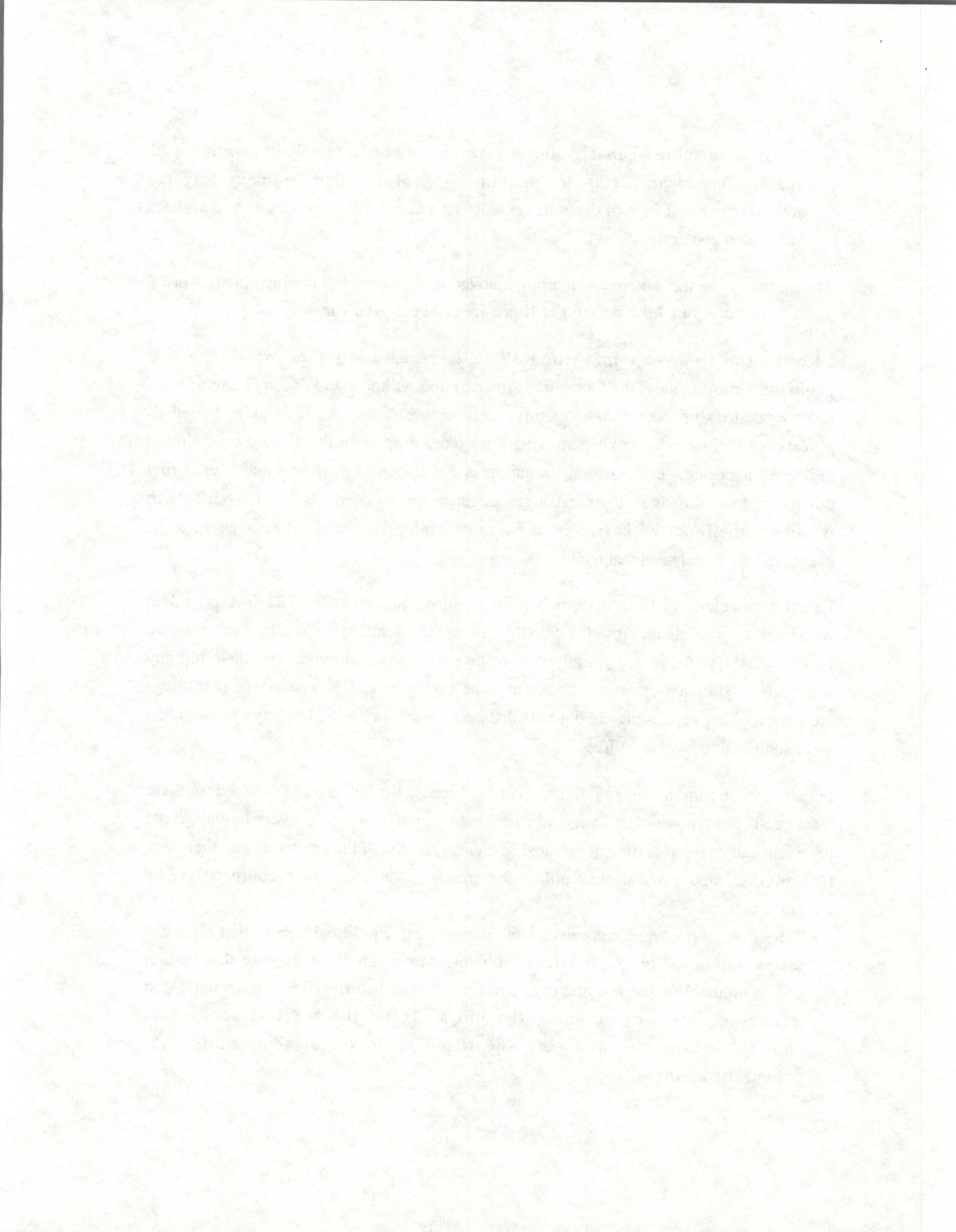
Clearly, **the first step in getting there is recognizing that we do have a problem.** Unfortunately, the fact is that America doesn't know and doesn't seem to want to know that it's become non-competitive in most world markets. Like today's football players on TV, Americans keep sticking their index fingers in the air and proclaiming they're number one, despite having an unimpressive season's record of 6 and 5 and being down two touchdowns in the present game. Except in isolated cases, **we aren't #1 in world competition;** we haven't been for some while; and we aren't ever going to be again until we understand that reality.

**But the problem is that no one wants to blow the whistle.** The last president who blew the whistle on America didn't get to be president again. And he was replaced, understandably I suppose, by a guy who made everybody feel good. And then that guy was succeeded by another guy who seems to be saying we're OK, and maybe that things are even looking up, despite the big bills that keep rolling in for the last guy's lunches that were supposed to have been free.

I don't mean to turn this into a political diatribe, because the fact is that I've voted for these "feel good" guys myself. But I am concerned that we aren't going to get very far until some president can develop sufficient political consensus, first with the electorate and then with Congress, to mount **a national policy for making America more competitive.** As our authors say:

**"The first step toward consensus is a framework for political debate that does not assign responsibility for America's problems on one group, or require that certain groups adjust their lives so that others can carry on undisturbed. [And the second step is to recognize that] pursuing the quick fix or the magical solution is [simply] a means of *avoiding* the tough choices that reorienting U.S. priorities involves."**

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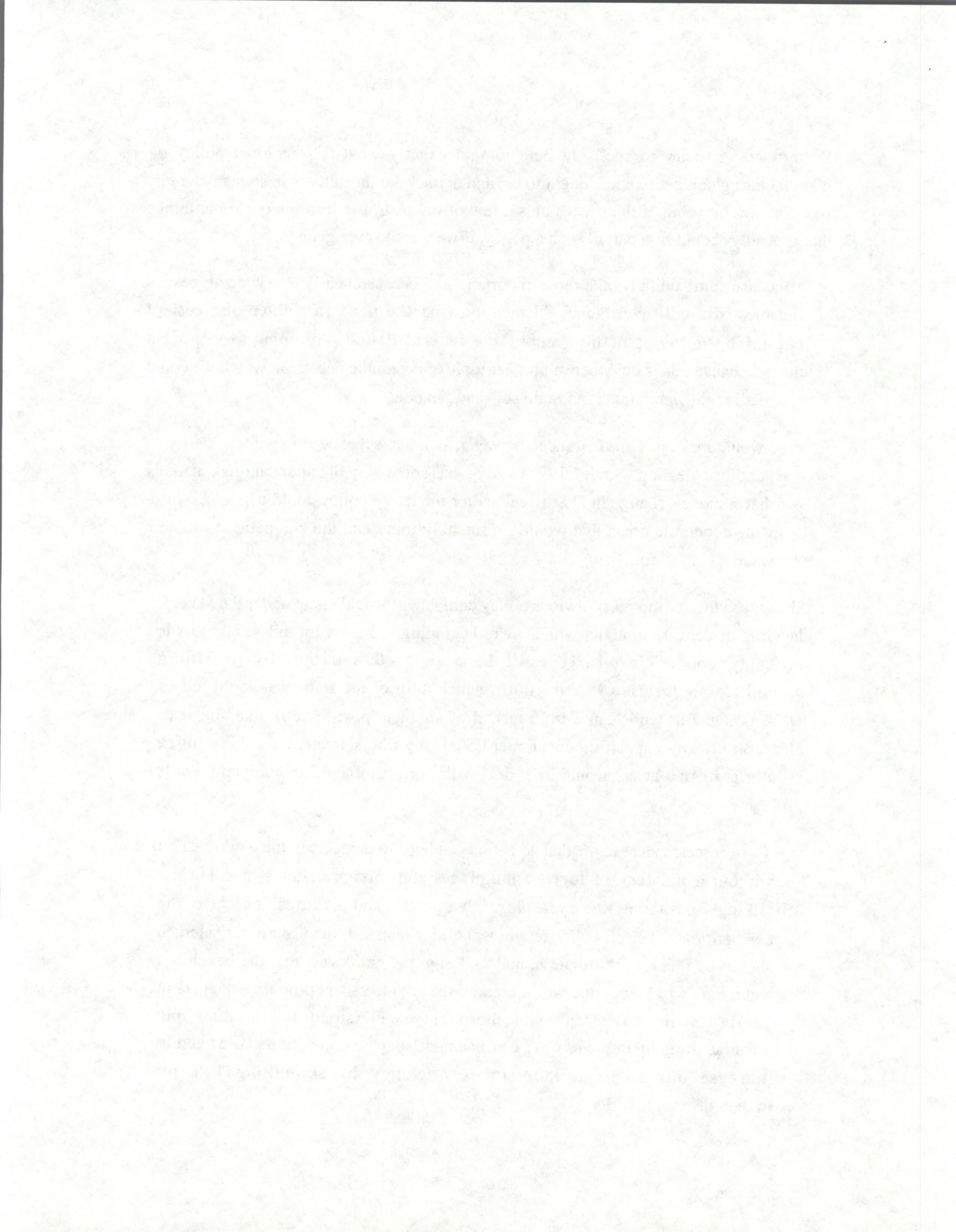
I'm not going to try to spell out here tonight exactly what this national policy on manufacturing competitiveness ought to be, and neither did the authors in so many words. But drawing on some of their ideas plus a few of my own, I will throw out some things that probably should be a part of such a policy, if we were to ever get one.

- Because some think it's the most important, and because nearly everyone agrees it's the most difficult to achieve, I'll mention first **the need to reduce our cost of capital by doing something about the federal deficit**. I'm going to stop right there, because this is obviously a premier topic of economic debate on which we could spend all night were I qualified to do so—and I'm not.

I would make just one comment, however, and that is that dealing with the deficit—or at least dealing with it fairly quickly—has some very big attendant risk, namely that a sudden change in U.S. fiscal and/or monetary policy could trigger a worldwide economic crisis that would presumably transcend the competitive problem we're trying to fix.

- I suppose the second most obvious policy component would come under the general heading of education, about which we're beginning to hear a lot today, and this is probably good. **We clearly can't be a first class nation by providing second class education to our youth**, which a lot of the statistics would tell us we're doing. But while I'm a little fearful of another "post-Sputnik-like" burst of attention on some specific educational deficiency like science, I do think **more emphasis in two areas** would help deal with our manufacturing competitiveness problem.

First, it seems clear to me that no nation can hope to compete in the world market without **a mastery of foreign languages** and foreign cultures, and I'm not talking just about the *customers'* languages and cultures, but also the *competition's*. To sell bulldozers in Brazil, for instance, the Caterpillar salemen should be fluent in Portuguese; and to design the bulldozers that the Brazilians and others will buy on the world market, the engineers and product managers in Peoria should have read and thoroughly understood the product and manufacturing literature of Cat's German and Japanese competitors. **We need to increase our national language proficiency by something like an order of magnitude.**

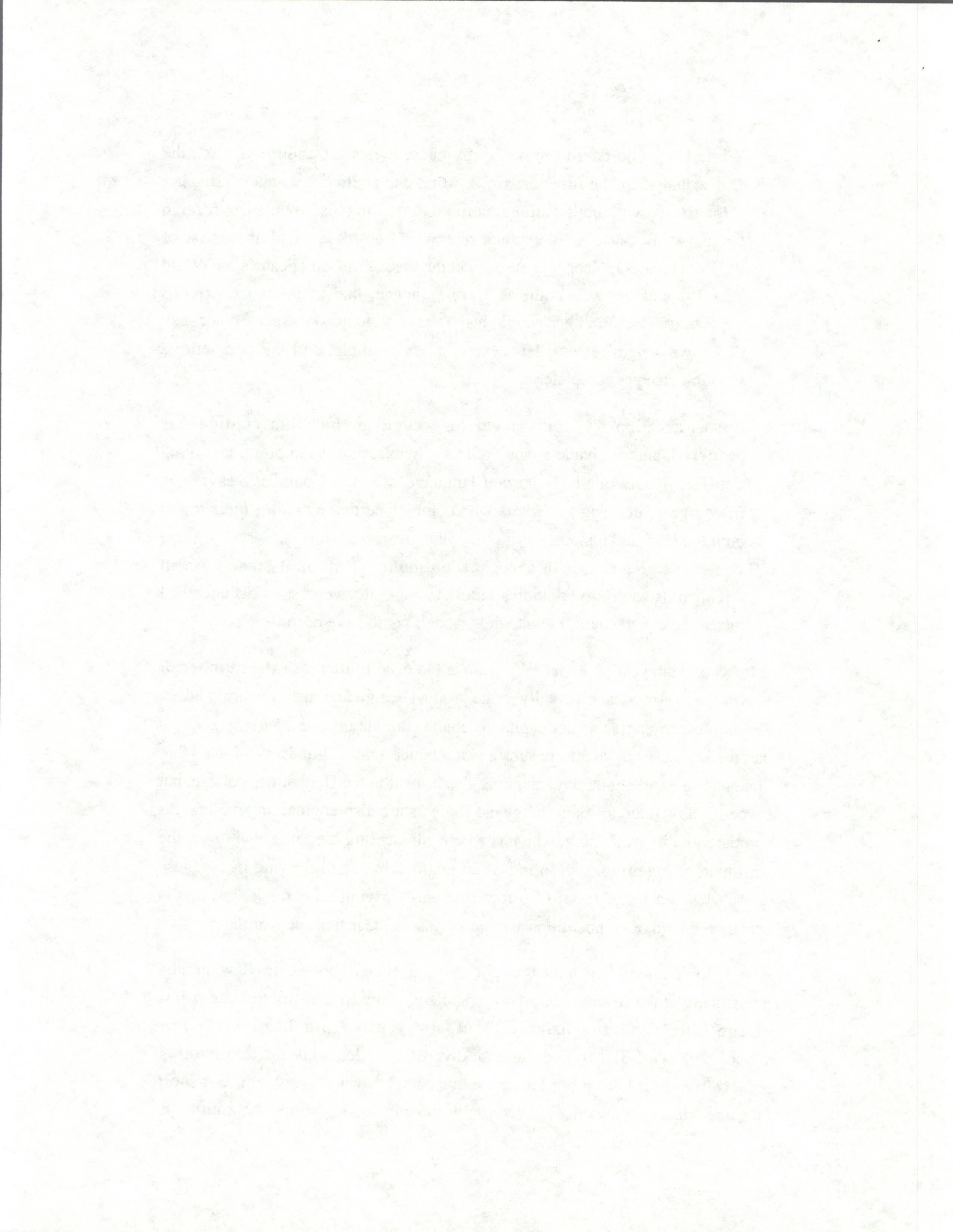


While I have no data to prove it, my guess is that the failure of, first, the British and, then, the Americans to be world competitive in manufacturing has a lot to do with both nations' cultural unwillingness to master foreign languages. Because each had their own **world empires**—real in the case of the Brits after Napoleon and de facto in the case of the Americans after World War II—and because both, as a consequence, had their own enormous **captive markets**, neither people had an economic need to speak other than their own language; but, let these empires crumble, and the competitive situation changes completely.

But as a nation we **don't seem to recognize that this change has occurred**, and our leaders won't tell us. The classic case in point, involving a different but equally important language, was the Congress's caving in fifteen years or so ago to voters who complained that **learning metric** was both too hard and unnecessary in this, "the greatest country on earth." If there was ever a greater case of **arrogant, nationalistic stupidity** (and I use all three words advisedly) than this failure to adopt the world's almost universal measurement standard, I don't know what it could have been.

•My second suggestion under education is the need to **increase the number of engineers** in America, especially in the product design and manufacturing areas. The number of engineers per capita in Japan is double the U.S., and my guess is that the Japanese engineers are substantially better trained. I understand that Ohio State has an excellent oriental language department in the Humanities college, but I wonder how many of these language students are also engineering majors. As compared with accounting, which is where engineering dropouts tend to go, the workload of majoring, say, in industrial engineering and minoring in Japanese doesn't leave a lot of room for protesting and partying on campus, but this is exactly the kind of competition we're up against in the rest of the world.

And I don't intend my next thought to be a cheap shot at our lawyer and investment banker friends, but if we could somehow find a way to **keep a few of the "best and the brightest" of our youth from heading to law school and Wall Street**, and, instead, divert their talents instead into **making something**, we'd have a big leg up on our competitiveness problem. But short of some kind of unwanted government subsidy to overcome the enormous



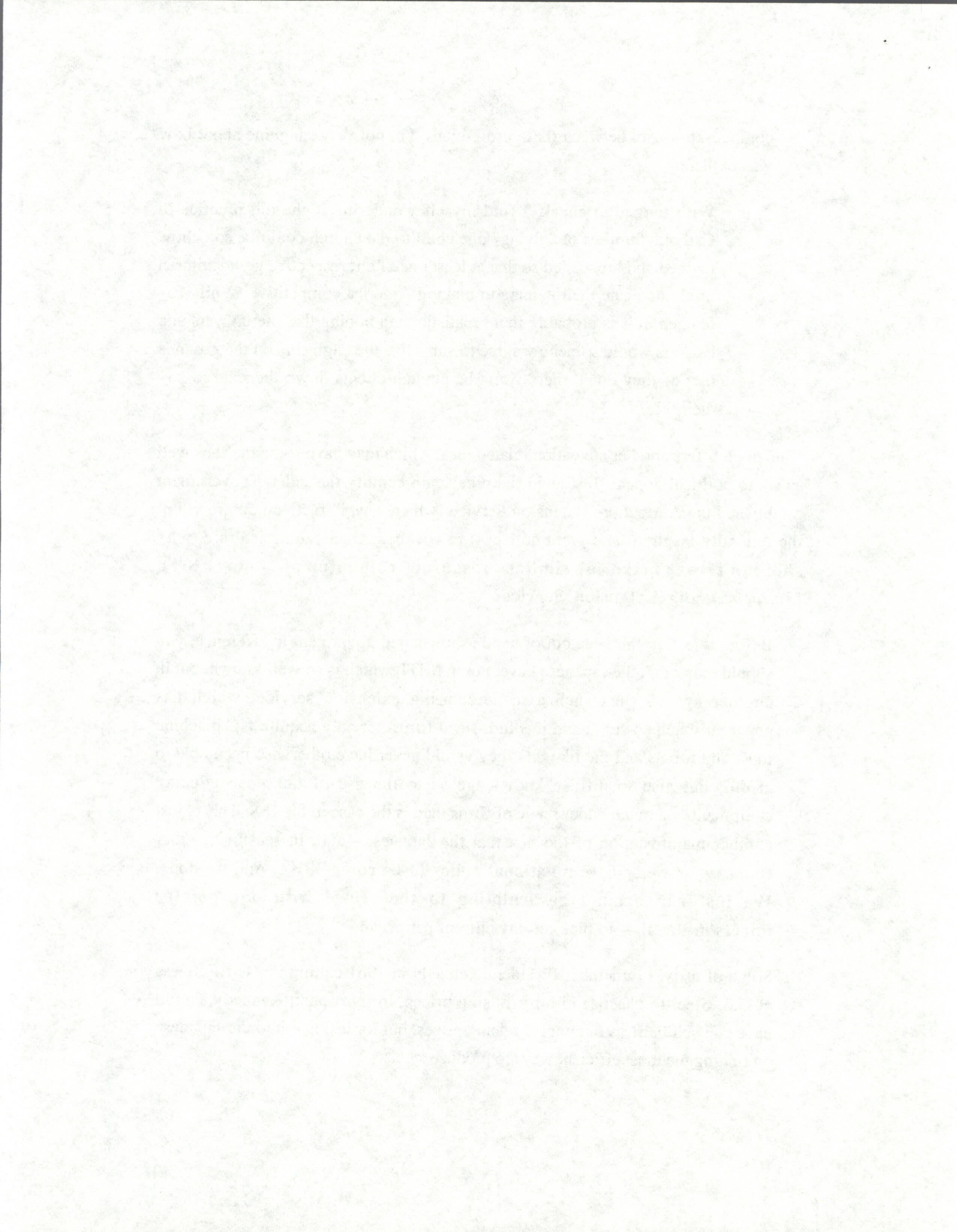
compensation gap between these professions, I'm not very sanguine about how we get there.

With tongue in cheek, I find myself wondering if the old practice in Catholic families of "giving" one child to the church could be somehow revived and broadened so that at least one of our respective grandchildren might dedicate their careers to making America competitive. While far-fetched, this is probably more realistic than hoping that the lawyers and bankers would somehow agree to subsidize the engineers on the grounds that, if they don't, there won't be enough clients down the road to pay their fees.

•The book offers another education related idea, which may have some merit as well as some political appeal. Just as in the nineteenth century the federal government established the Agriculture Extension Service (which was, in fact, an outgrowth of the federally inspired land grant colleges) to advance American agriculture, **why shouldn't we make a similar resource commitment today to a *Manufacturing Extension Service*?**

Before rejecting this idea out of hand as unwanted government interference, you should know that the Japanese have, not in MITI, which is so well-known, but in another agency, just such a manufacturing extension service, which has apparently helped small and medium-sized firms not only acquire NC machine tools and robots and the like that they would never have otherwise been able to afford, but also to diffuse knowledge as to the use of this cost-reducing equipment to a much wider range of firms than is the case in the U.S. This is just another manifestation of the fact that the Japanese—and, increasingly, other countries as well—have **a national policy to be competitive**. And we don't. **We just run around gesticulating to the crowd with our pointer fingers in the air—to pick on my current pet peeve.**

Some of us will remember President Kennedy in 1961 calling up **Ben Fairless** at U.S. Steel to chastise him for raising prices. In retrospect, Kennedy should have chewed Fairless out not for raising prices, but for losing out to the Japanese on finding the most efficient ways to produce steel.



While I don't suppose Roger Smith needs much more grief than he's already getting in the press, or that Lee Iacocca will get if Chrysler goes down again as some predict, someone needs to start saying loud and clear that **America isn't getting what it needs to be world competitive from its seven figure salaried, corporate leadership.**

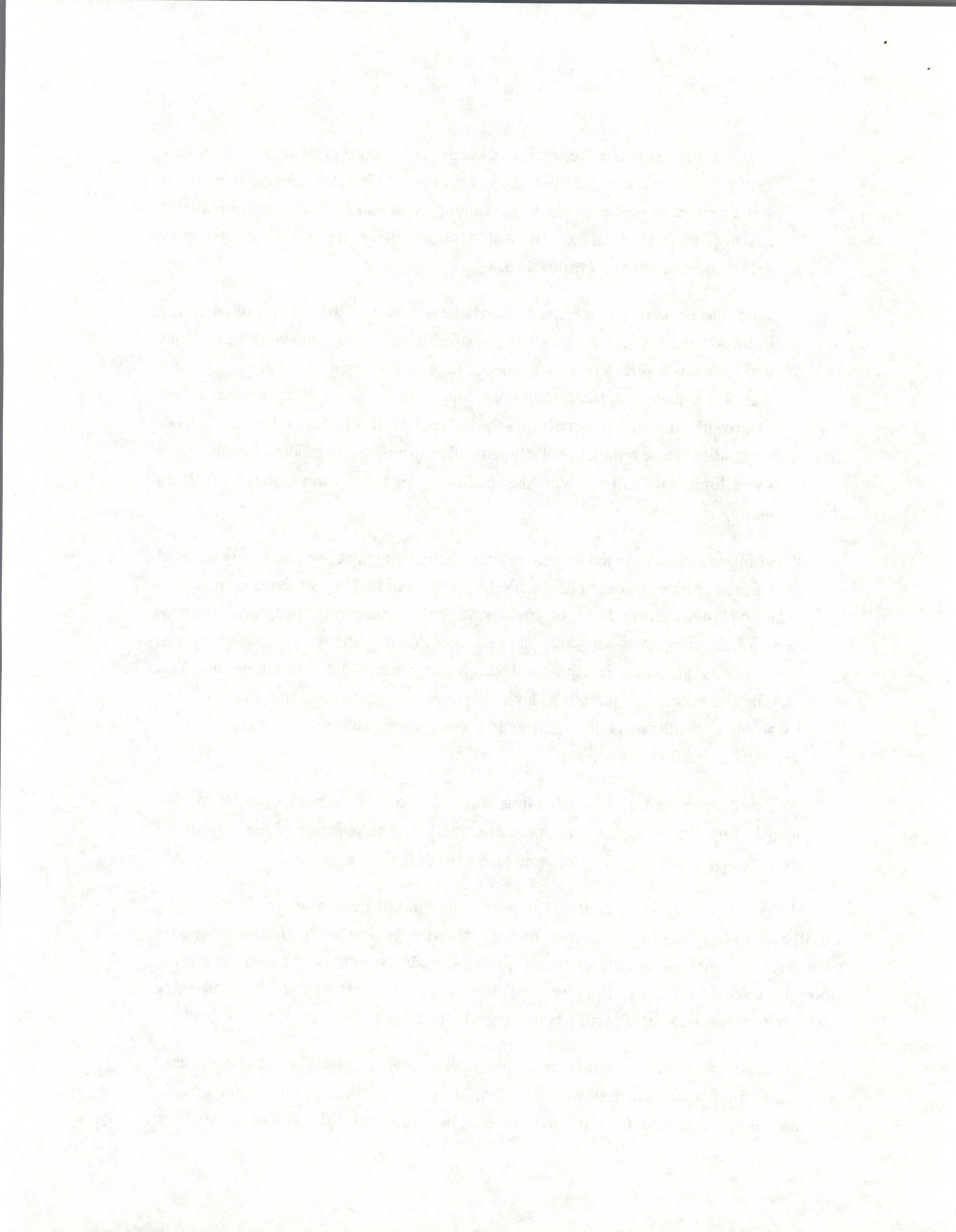
It used to be, perhaps, that we could blame our competitiveness problem on Joe Polowski and his \$25 per hour fringe loaded labor rate and the work restrictions that Joe's union forced on management (forgetting, I might add, that management was also signatory to these contracts). But today Joe, Jr. is likely to be **the first Polowski in four generations to be less well off than his dad.** Like the soldier whose regiment got mauled without gaining any ground, Joe may have some legitimate gripes about the quality of leadership the troops have been getting.

I'm going to stop here in the interest of time, recognizing that I've just barely touched the surface of how we might deal with the problem of making America competitive again in manufacturing. Some of you—perhaps the management people who're here as members and guests—may feel that I've come down too hard on management, and not hard enough on the foreign competition, the government, and the unions. You may be right, but my "parenting" style, if you will, is to assume that **the best way to solve a problem is to assume it's your own, and not somebody else's whom you mostly can't control.**

And while it comes out sounding a little wimpish—to use a currently popular word—it strikes me that dealing with important matters like these is one of the reasons we management types get paid a lot more than most of the other players.

While I'm generalizing, of course, I think it's the kind of people who're in this room tonight who have the best chance of making America aware that "manufacturing does matter," and then of hopefully doing something about making the country more competitive in this regard. **The costs of failing in this leadership role are simply too great to disregard.** Let me close by quoting once again from the book:

"That America will lose if it takes the low-skill [in manufacturing] route doesn't mean that America will close down or that *all* Americans will lose out. It does mean, however, that **most of us will lose a lot, and that this country will be**





**transformed in ways that many of us will find terribly unattractive. We would become more like a Latin American society. We could have a small minority of high-skilled...jobs coexisting with a majority of low-skill, low-wage jobs, and massive underemployment and unemployment. For the vast majority of Americans, living standards would deteriorate rapidly—probably along with social equality and political democracy.... It's not an attractive scenario."**

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**I hope we can do something about it before its too late.**

Thank you, and I'm looking forward to your questions and comments, most of which I hope I can lateral off to our guests.