This essay critiques the book "The Work of Nations: Preparing Ourselves for 21st Century Capitalism" (1991), by Robert Reich, Secretary of Labor in the Clinton administration. Reich described the development of the symbolic-analyst as the new citizen in the economic order, utilizing the basic skills of abstraction, system thinking, experimentation, and collaboration. The two other classes of citizens are the in-person servers performing face-to-face tasks and routine producers performing low-level computations and repetitive tasks. The historical development of the multinational corporation is analyzed, along with the times in recent history when education was given a high national priority, such as during the Harry Truman administration in the Cold War and with the launch of Sputnik. As the international corporations grow, a rethinking of citizenship roles and responsibilities is demanded. All citizens will affect the international corporate webs of the economic system. Yet there is also a cost involved in rethinking the role of citizen, with massive outlays of funds required to reform the education and social welfare systems. The essay suggests that funding might come from reallocations in the defense department budget. (EH)
The Education of Nations:
An Analysis of Robert B. Reich's Economic Theory

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Many of us here today already are familiar with the name Robert Reich. He is our new Secretary of Labor. His recent book, *The Work of Nations: Preparing Ourselves for 21st Century Capitalism* (1991) expresses his economic vision of the world. It is a stimulating, provocative book, well worth reading, for several reasons. First, Reich gives us an excellent analysis of post-World War II capitalism in the United States. He then shows how the structure of US (and world) capitalism has changed and continues to change. Second, Reich shows how these changes have implications for the welfare and education systems in this country. Third, Reich makes a case for the citizens of the US to re-think the old-fashioned notions of corporate America.

In the first section of his book, Reich describes the changing face of world capitalism. The industrial explosion in the 19th century created a number of very large companies, which in turn became nationally-based corporations. These corporations became the keys to success of a national economy. The happiness of the country's citizens was inseparably bound up with the national corporations. A
bargain was struck. "In return for prosperity...Government would no longer intrude on management prerogatives." Big business's interests were the nation's interests. However, this state of affairs has changed.

The contemporary corporation no longer is limited to the borders of the country. They now are part of an international web that places parts of those corporations all over the globe. While General Motors used to be as American as apple pie, it now purchases half of its engineering and design services from 800 companies worldwide. Foreign corporations also are part of the international community. They too have plants in the US, and around the world; a few of them even own some of America's old national corporations outright. The Pillsbury flour that once was used to make Uncle Sam's apple pie now is owned by a British firm. What used to be sacred ground for the nation has become myth - the cries of "buy American" are mere echoes of a voice no longer living. Our hero, the national corporation, has vanished.

The global reach of corporations is not the only reason for the change in companies. Reich points out that there has been a shift from a need for producing a high volume of goods via manufacturing complexes, to a need for producing goods of high value via specialty markets and creative-analytic solutions to complex business problems. The surge of robotic technology has lessened the need for masses of human bodies in the factory. Indeed, since many companies have located
their factories outside of the country, the US needs fewer and fewer factory workers. Massive factory closings and layoffs have signaled the dawn of a new era. The time has passed when bodies were needed to work tedious and repetitive tasks. The old requirements of the corporate nation was for one to work with one's hands and not with one's head. Schools then were needed to teach youngsters how to do repetitive tasks - not how to think. Teaching a child to think was unnecessary. But all this also is changing.

According to Reich, what the country needs today is to step-up its efforts in developing a new type of individual. Those vying for a secure position in tomorrow's economy will have to know how to creatively solve problems outside, but in tandem with, the international corporations. These problem solvers will be high value producers that are needed now, and in the future, in contrast to the high volume producers of the old economy.

The new national hero, i.e., the new key to economic success, in Reich's work is the symbolic-analyst. It is this new breed of individual that will guide the economic future of the nation in the 21st century. High value industries and services are taking over the market place, and they need high value producing personnel. Problem identifiers, problem solvers, and strategic brokers are the jobs that will need to be filled in the coming days. Jobs such as financial analysts in New York, engineers in California, and lawyers in
Washington are just some of the positions that are expanding. Tomorrow's workers will need to be able to think and act quickly in a world that operates at the ever increasing speed of a microprocessor. One's standard of living will depend on what one can contribute to the world economy.

Reich points out that the symbolic-analysts of today have some interesting things in common. They were all exposed to educators who were attentive to their academic needs, partly because of small classes. They all had access to state-of-the-art laboratories, interactive computers, language laboratories, and high-tech school libraries. Also, the education of the symbolic-analyst did not stop at school. Their parents took an active interest in their education. Parents took their children to museums, cultural events, and gave them music lessons. And if a child got ill, he/she was given prompt and adequate medical care.

These aspects of symbolic-analyst nurturing imply that we need to improve a number of the social programs that we already have in place. We need a comprehensive welfare state that provides the necessary health care, social services, and education to produce the army of symbolic analysts required to compete in the changing world economy. Without proper medical care, many students will not be able to achieve membership in the symbolic-analyst class, no matter what. Services such as day-care, Headstart, and student loan programs also are necessary for succeeding in creating the
large number of symbolic-analysts required in the next century.

Reich's analysis has striking implications for the future of education in this country. We must restructure our schools so they will refine four basic skills: abstraction, system thinking, experimentation, and collaboration. We must teach our youth how to think, not merely how to deal with repetition in the work place. Libraries, laboratories, and computer instruction is just part of the story. Classes must be kept small, so more schools may have to be built. More teachers must be trained - and in a way that they can nurture budding analytical minds. Indeed the whole notion of filling-up kids with facts must be abandoned. After all, the way technology and science are moving, many of the facts that are learned today will be replaced tomorrow. The training of the symbolic-analysts requires hands-on, problem solving, exercises that will prepare them for the future.

These aspects of formal education will also benefit the other two classes that Reich talks about: in-person servers and routine producers. In-person servers perform person to person tasks, like taxi-drivers, nurses, and secretaries. While routine producers perform low-level computations and repetitive tasks such as data entry. These jobs are impersonal much like the assembly-line jobs of old. Although these two classes perform many simple and repetitive tasks, an education of the symbolic-analyst type will not hurt them.
In fact, such an education will serve as groundwork for adult continuing education sometime in the future.

The real importance of a change in emphasis in formal education from memorization to analysis is found in the informal education of the symbolic analyst. Reich talks about symbolic-analytic zones. These are places where symbolic-analysts congregate. For example, engineers assemble in the San Francisco area, lawyers convene in the District of Columbia, and financial analysts gather in the New York area. This phenomenon brings two things to bear. First, informal education goes on in these zones as people converse on the golf course, in the gym, or at the tavern. Problems and possible solutions get knocked around and through this ongoing conversation symbolic-analysts further their growth. Second, people are needed to support these zones - namely in-person servers and routine producers. After all, someone has to keep the golf course in shape, do the books for the gym and refill our beers at the local tavern. To think that these tasks cannot be improved through a more analysis oriented curriculum is foolish. A golf course is made better by an analysis of the players desires. A good bookkeeper is one that can analyze the figures she deals with. And a good on-top-of-it bartender is much more appreciated than the dullard. In short, the education that emphasizes abstraction, system thinking, experimentation and collaboration can positively effect all levels of society
clustered in and around the symbolic analytic zones.

All levels will either directly effect the international corporate webs, like the symbolic-analyst, or indirectly effect them, like the in-person servers. The shift from a high volume to a high value society will not be easy, nor will it be inexpensive. A vast amount of investment is necessary, investment not in the corporation directly, but in people who will form the support for the international corporate webs down the road. The wealth of a nation is no longer tied to the large corporations, but to the value that its citizens can add to the world economy.

What is implicit in Reich's analysis is that we must begin investing to defend our nation in a different way and to a greater extent. For centuries we have spent trillions of dollars to protect the natural resources that keep our nation strong. We still need to invest to preserve our resources today, but it is not in minerals or guns that we must invest - it is in people. The phrase "people are our most valuable resource" is not just political rhetoric; it is now imperative. We must invest in people's well being and education to keep our nation a world leader.

We must not only come to terms with the new world order and its global corporate webs, but we must get away from old-fashioned thinking about the defense of our nation. Great military strength is not enough; a powerful nation must have a powerful economy. Today a great economy is based on the
amount of high value producers a nation has. Education, industrial development, and national security are inextricably bound together, so we must invest in the social welfare and the education of our citizens to be victorious in the coming economic battles.

Coupling notions of education with notions of defense is not as absurd as it first may appear. Often it seems as though education and defense occupy completely different arenas. This is simply not true. After all, this is not the first time in this century when thoughts about national defense have included education. On the eve of World War I, the Smith-Hughes Act established vocational education to make the country stronger. In 1949, President Truman said "Education is our first line of defense." And after Sputnik's launch, the National Defense Education Act funded mathematics and science education. The times demand that, again, the federal government should provide an infusion of capital to defend our nation against an economic bomb.

Reich's analysis gives us an opportunity to step back and reevaluate the society in which we live. His vision of the new world economy is both descriptive and prescriptive. While painting a picture of the new world in which we find ourselves, he demands a revision of our social welfare policies, our educational system, and (as we have inferred) even the way we think about national defense. The biggest problem with such a scheme is its financial costs. The cost
of such an upgrade in social services and education promises to be significant. However, if we can divert some of the money we already invest in the defense department to education (to defend ourselves on the economic front), perhaps a solution to the problem is at hand. After all, we have entered a post-nuclear age where brains rather than brawn must prevail.

Reich now is Secretary of Labor and an influence on the President's cabinet. So here is a chance to test theory with practice. We will see what happens.