

LUNCHEON ADDRESSSOME CHANGES IN THE BUSINESS
ENVIRONMENT SINCE 1945

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I appreciate very much your invitation to join you today and to have a role in your annual meeting. I hope that the time you are spending together here in Delaware is proving to be pleasant and rewarding.

I bring the perspective of a businessman rather than that of an historian. However, I thought you might find it helpful to hear brief comments on important changes in the business environment since the end of World War II made from this perspective. While I cannot attempt comprehensive review or rigorous analysis, perhaps my comments will touch on matters that will be receiving this kind of attention from you and your colleagues.

Businesses navigate in the tide of national and world events. The power of industrial leadership to shape these events is generally narrow, and its ability to shape the underlying forces at work is limited. The mood of the country at large, and its changing values and sense of purpose, as reflected in government and our institutions, have a profound effect on what business can accomplish.

At the end of World War II, the mood of the country and of much of its industry was one of high confidence. We had seen the development of antibiotics, jet engines, the first computers, synthetic fibers, and atomic fission, to mention a few. These developments had led to a very positive view of science and science based enterprises. Later on, I shall touch on the degree to which erosion of this confidence has taken place. But first, let me address myself to some broad changes and trends of the past three decades.

The first of the changes to strike a businessman's eye is the rise in affluence. In the United States, and in great measure elsewhere (especially Western Europe and Japan) the past quarter century has brought more people more real purchasing power than they would have had in any earlier period of history. Even if you wish to reject some of the gain as undesirable, this has still been a remarkable period of economic advancement. Per capita disposable income in the United States has gone up 85 percent in the past 25 years, -- and that is in real dollars, adjusted for inflation.

Second, we have enjoyed comparative economic stability. The operative word is "comparative." There have been booms and recessions, but it has been a time when the Western world in general has seen that it is indeed possible for an economic structure involving a number of nations to operate without catastrophic swings and crashing depressions. During the great American depression, real Gross National Product declined by 30 percent in four years; but in the period since World War II, even in the worst year, there has been no decline in real Gross National Product as large as two percent. To be sure, there have been critical international currency difficulties, and problems with the balance of international trade. And these problems will continue to challenge us. Moreover, we all share concern about inflationary trends of recent years, and the risk that recent events could breed a malignant inflation. I am personally optimistic that we will muster the wisdom and resolve to prevent this. But it has to be viewed as a most crucial problem.

In this connection, I get concerned from time to time by signs of economic hypochondria. We live in an age of instant statistics -- widely disseminated. Like results of medical tests they are valuable in professional hands, but subject to amateur misinterpretation. And I do not believe we can brag about our general level of economic education and understanding.

So, we at times develop an unwarranted preoccupation with economic health. This blended with unreasonable expectations -- often politically aroused -- can lead to premature and faulty corrective fiscal or monetary actions or regulatory actions.

The third change is the internationalization of business. Today's pattern of commerce is different from that of a quarter century ago, in shape as well as size. There has been a large expansion of export-import business -- not just the export and import of products, but more significantly, the export and import of technology and capital. United States direct investment abroad now stands at \$94 billion. As an example, twenty-five years ago Du Pont's presence in Europe consisted of a sales office in England and some export products landing on the docks. Today, we have investments in subsidiary or affiliated companies in ten countries in ten countries in Europe, and are doing three-quarters of a billion dollars worth of business there annually. Other United States companies have similar stories to tell. We have come a long way from the days when the plants of Esso and Singer and a few others were the lonely representatives of American enterprise overseas. At last count more than 4,000 United States firms had at least one foreign affiliate.

The flow goes both ways. Companies headquartered in other nations now have \$14 billion invested in facilities in the United States. For example, one of Delaware's chemical companies, the old Atlas Powder firm that was a spinoff from Du Pont, is now owned by Imperial Chemical Industries of England.

In recent literature concerning multinational companies, much is made of conflicting transnational and national interests and jurisdictions. At their best, multinational corporations can do much to help the progress of less developed countries, can build valuable communicational bridges and economic ties between nations, and longer range can be an important step towards world-wide political economy.

On the other hand, we have to acknowledge that a problem exists with enterprises trying to get started in the less developed countries which cannot as yet support the big plants or the technological superstructure that have become commonplace in the industrialized world.

Here, and in Europe, we were able to build our economies through an evolution of technology, scaling up step by step. If the less developed countries were to try that now, working upward from cottage industries to small-scale manufacturing, the products of many of their industries would not be competitive in world markets. This is an important problem, and one to which multi-national corporations can bring important contributions in the next quarter century.

As a fourth change, there has been a steady rise since the end of World War II in governmental involvement in business. In the United States, as elsewhere, government has always had much to say in business affairs. Free enterprise has never been as free as its publicity. There have been regulations, tariffs, incentives, and so on.

What is unusual is the degree and intensity of recent governmental involvement. There are few parallels in earlier history to the recent buildup of stringent regulatory codes administered by "umbrella" agencies. The older agencies such as the Food and Drug Administration and the Federal Communications Commission were set up to monitor individual industries or limited sectors of the economy. The newer agencies such as EPA, OSHA, and the Consumer Products Safety Commission reach into all parts of the economic structure, and have far reaching authority.

Fifth on my list is the institutional trend of science and technology. The lonely basement inventor still finds his way to the Patent Office, but most science and engineering now takes place under institutional aegis, with industrial laboratories performing most of the work. While about 40% of U.S. patents continue to carry the names of single inventors, the development and commercialization often require very large team effort. In the past 20 years, total spending for research and development in this country has gone up by a factor of six, to about \$30 billion. An important factor is the rise in costs as we develop third- and fourth-generation products. For example, the first successful wholly synthetic plastic, "Bakelite", was invented in a shop behind the home of Dr. Leo Baekeland. The actual amount that he spent is not recorded in his notebooks, but it's certain that our friends at Union Carbide, who bought out the Bakelite operation, would regard the invention as a great bargain today. Dr. Baekeland worked

with only a few helpers and sometimes none at all. It is unlikely that his out-of-pocket costs were more than a few thousand dollars -- at most, one order of magnitude larger.

A few decades later, Du Pont invested something on the order of \$6 million for the research and development efforts of Dr. Wallace Carothers and his team leading to the development of nylon. More recent major developments have often cost tens of millions of dollars.

Number six on my list is a change in social expectations or, if you prefer, in social priorities. Perhaps it is because of prosperity, perhaps because of rising educational levels, perhaps for more subtle reasons. Whatever the explanation, the instructions given to American business in 1945 or 1950 were far different from what they are now. Then the message was simply: "Produce more and better products, and be quick about it." Now we hear: "Produce some more, but take care of the environment; and by the way, you had better step up the equal opportunity program. Also, we'd like to talk to you about urban renewal."

This of course is gross oversimplification, but you will follow my meaning. The old cry for growth has been tempered. More qualitative goals have surfaced, and new assignments have been laid on the doorstep of business.

These are generally desirable objectives. But at the same time, the limits of corporate capacity to solve broad social problems must be recognized. A prosperous corporation can help in the pursuit of desirable social goals in many ways; but it must first and foremost husband its resources to ensure the health of its business and its organization -- carrying out this task in a responsible manner.

The last item on my list is also the most recent to see the light of day, and this is the shift from an economy of abundance to an economy of relative scarcity. In peacetime periods of the past, the kind of scarcity that struck fear in the hearts of businessmen was the possible shortage of customers or markets. That is the classical scarcity of recessions and depressions. What we see around us now are plenty of customers but a scarcity of supplies, of raw materials, of energy, and even (in many parts of the world) a scarcity of skilled labor.

In this connection, it is of interest that we depend on "Third World" countries for a critical share of our supplies of oil, minerals and other raw materials. The oil problem has become all too familiar and needs no elaboration. In addition, four of the less developed countries control 80% of exportable world copper; two control 70% of the world's tin; and four countries control 50% of the supply of bauxite for aluminum. The price and balance of payments implications of this loom large in our future.

It is hard to assess how pervasive or influential changes in raw material supply will be. It has been suggested that the ethic of conservation might be as profound a factor in our thinking in the next quarter century as the ethic of growth was in the previous 25 years.

I mentioned earlier the sense of confidence that prevailed in the years immediately following the end of World War II. Today, science and technology are no longer on a pedestal; nor are many of our key institutions; nor is the business community.

In the intervening years, science has enlarged our understanding and knowledge of the universe in many ways -- from the structure of DNA and its role in life processes to the understanding of the evolution of stars and galaxies. These should have enlarged rather than diminished our sense of the value of scientific endeavors.

The benefits of the application of science by business and our institutions, as reflected in medicine; agriculture; communications; new man-made materials for clothing and construction; large increases in industrial productivity; the "one small step" on the moon -- all these, and many more, have been diminished in the public eye by applications of our technology having less felicitous results or undesirable side effects, such as impairment of the environment or waste of critical resources.

In the United States, technology has brought some most impressive changes in working conditions. In the modern chemical plant you will see people working in carpeted control rooms, drawing upon computer memories and closed-loop electronic systems to run the safest and most efficient manufacturing processes ever built. These are not the white collar engineers but the plant's wage roll employees.

To be sure, there are still some tote-and-carry jobs in industry, and some boring assignments, but the past quarter century has done a lot to demolish the old generalizations and stereotypes of the industrial workers, and has set the stage for further improvements in the future.

Perhaps bureaucracy has driven some of the vivacity and personality out of science and engineering, but don't leap to that conclusion too quickly. Institutionalized technical work does not have to be depersonalizing. We have found that some of our larger technical groups, where people are supposedly most anonymous, have a high record of creativity, and a high sense of accomplishment.

Without trying to minimize errors made by industry, and we have made our share, I believe that in the balance the last 25 years come out strongly positive. The roots of the diminished confidence prevalent today may reflect disappointment in the business system, but also run in other directions. The sheer velocity of recent history; the crumbling of many traditional ideals; and the tendency of some of our democratic processes to bog down in balancing unenlightened self-interest -- all these have had their impact.

Kenneth Clark in his Civilization Series observed "it is lack of confidence, more than anything that kills a civilization." On a much smaller scale, the same is true of business enterprise. I believe that we

would all benefit from a more balanced view of the achievements as well as the failures of our business system in the past few decades. I believe it would provide for restoration of confidence. As far as our business system is concerned, your group could do much to develop such a balanced view.

The tasks of business have become more complex. I don't expect this trend to change. The future will require that we be increasingly adaptable and flexible -- more adaptable in our investments and less frozen into old ideas about the boundaries of markets and industries, more flexible and imaginative in devising and assembling diverse technologies.

Quite probably we will have to be more frugal, certainly more thoughtful, about the ways we utilize resources -- not just energy, but all sorts of resources. We need to be more ingenious in developing substitute technologies and recycling systems. If we play our cards right, the chemical industry can have a large opportunity here, because we cut across so many branches of technology and all industry lines.

It is certain that business will have to be ever more thoughtful and careful about the way it applies technology, so that we can match science and engineering to human needs in more effective ways, and to avoid unwanted and possibly hazardous side effects. The second- and third-order impacts are simply too important to be left entirely to chance, and while we can't always see them in advance, we have to try our best and move fast when we do encounter problems. Otherwise, the responsibility for decisions in this area could well be taken entirely out of our hands.

As a final point, and in a way this is a summation of the others, I believe business management has a real job ahead to demonstrate that the market system still has the ability to allocate resources in an effective way. Business also must show that it can still offer the incentives and organizational structures to combine people's individual talents so that they can fill their personal and community needs and aspirations. For all the imperfections in the present operation of our business system, there is in this country a greater opportunity for a higher proportion of people to reach their potential than anywhere else. But there are still many people who do not -- and so there remains much for us to do.