

expenditures, you'd virtually eliminate this gap—this \$420 billion gap. . . . This is former Secretary of Defense Harold Brown's point. . . .

Now, Harold Brown says another thing here. . . . It's not just the United States against the Soviet Union, although the CIA's figures are always *exclusively* U.S. against the Soviet Union; but actually it's NATO versus the Warsaw Treaty Organization. Now, even in dollars, the NATO countries are outspending the Warsaw Treaty Organization—even in dollars. . . . which exaggerates the Warsaw Treaty Organization and doesn't exaggerate NATO.

The gap here is something like \$250 billion over a decade according to the the Defense Department, which is the relevant gap.

Now, the thing that worries people is that the Warsaw Treaty Organization is catching up, and there's no question about that, and that's the reason these charts are presented—to show that they're catching up. But if you want to look at this history, this is a more relevant one; and if you add to this \$250 billion the fact that the Warsaw Treaty is spending 20 percent of the Soviet expenditures against China, then the gap (you could add another \$200 billion to this gap, if you want to get the confrontation between the Warsaw Treaty Organization and NATO), you'd have to subtract the fact that of these expenditures over the decade, about \$200 billion is directed at China and not at the United States.

Now, I feel that this constant stress on the United States being outspent by the Russians, in light of these kinds of figures, is extremely mistaken.

Now, one possibility is that military power is something that has an enormous number of dimensions; just in terms of equipment and types of missions, you have dozens and dozens of them. I don't know how many, because I'm not a military expert in that sense. And some people will concentrate on strategic, and others on tactical, and so forth. By stressing one thing, you can come up with the result that you think that the Russians are ahead, or they're not ahead: But maybe it's true that the Russians aren't ahead of us; that may be one implication of my figures. If I'm right that they really haven't been outspending us, the implication may be that the reason that they're ahead of us is that we're spending badly, that there is too much of what is called gold-plating; that there is money being put into technology which is worthless and yet costs an enormous amount; that there is too much pork-barreling going on, bases being kept in states where they shouldn't be kept, because some Senator or Congressman insists on it. Now, if that's the reason we're not ahead of them, even though as I'm arguing they haven't outspent us, then it's because we're inefficient; and the moral of that story is that we shouldn't throw more money into defense, but we should try to spend our money more wisely and more efficiently.



Dr. Bardwell on the science-technology gap with the U.S.S.R.

Excerpts follow from the conference presentation by Dr. Steven Bardwell, Editor-in-Chief of Fusion magazine.

There was a document published in the closing days of the Carter administration, called *The Global 2000 Report to the President*, which is at this point providing the strategic underpinnings of the assigned missions of the armed forces of the United States. It describes a foreign policy based on continual, enforced underdevelopment of the rest of the world population.

In terms of identifying its roots in U.S. policy, it's an efficient starting place to look at James Schlesinger and his tenure in various posts in the U.S. government. He wrote a book in 1960 which I think defines most sharply the philosophical roots of this *Global 2000* document, which is now determining our military policy. This book was called *The Political Economy of National Security*, and it lays out an explicitly Malthusian view of man's condition in the world, and then uses that Malthusian overview to define military and strategic policy. Basically, what Schlesinger says is that the raw materials for modern life—industrial raw materials, energy, and land—are of necessity finite.

Since they are finite, it's either us or the other guy who gets those resources. Both of us can't have unlimited resources, given a finite supply.

He summarizes this in a couple of paragraphs I'd like to read to you:

Economics is the science of choices in a world of limited resources. The same dualism that underlies economics underlies the true condition of man: for anything you have missed, you have gained something else; for anything you gain, you lose some-

thing. However, we have gone around the world spreading the gospel of plenty, raising the level of expectations. In the nature of things, these rising expectations can never be satisfied. Despite the modifications of the original Malthusian dogma over the years, the danger remains that excessive growth of population will wipe out the gains of economic progress. Any economic revolution will be shortly wiped out by a Malthusian counter-revolution and the illusion of growth. It is unwise to overstate the importance of economic growth per se. We must, in our strategic policy, return to the days before the Industrial Revolution. We must prepare to fight limited wars. Higher Soviet industrial development rates than are obtained in our production will have very little strategic significance. The industrial mobilization base is only one of several gauges of power. In fact, the strategic menace may be based upon a rather modest economic structure. We must build our military force on the exact opposite of the industrial potential notion.

Now, that conception has been elaborated and turned into the dominant thread, the unifying thread of U.S. foreign and military policy. That strategic outlook defines the aim of our military strategy to be first, regional control over natural resources—therefore, the Middle East becomes a strategic area. And second of all, and going hand in hand, is a policy of population control or reduction.

Right now as far as U.S. strategic interests are concerned, some areas of the world are overpopulated at the present time. . . . On the dove side of this Malthusian strategic conception, you have the explicit statement that nuclear war is unthinkable, unwinnable, and inconceivable. On the hawkish side, you have an implicit acceptance of the same thing, and I think this has been a consistent thread throughout the last 20 years of military policy. What does become an acceptable kind of war, are local, regional conflicts, primarily fought with conventional means, although not limited to conventional means; limited nuclear war is certainly a possibility in that situation. Victory becomes a particularly bizarre conception. If your goal is regional hegemony over resources, and population control, victory does not necessarily mean military control over an area; it does, however, mean continuing destabilization of an area and enforced underdevelopment.

The optimal deployments to achieve are exactly the ones that have been outlined in the statements of the last several Secretaries of Defense, with an emphasis on regional deployment, the rapid deployment forces, conventional war in Third World areas, and a conception of the dominant mission of the American military being one of

colonial wars, either fought by our forces or by proxy forces. Confrontation with the Soviet Union is to a certain extent ruled out in principle within this conception. . . .

In the strategic arms area, the order of battle prescribed there verges on what I would call a *wunderwaffen* conception—the hope that there is some technological fix, some technological gadget which will provide a cover or an umbrella under which regional wars as defined by the *Global 2000* document might be fought.

My basic contention is that if that strategic policy were to be successful, it would be absolutely disastrous for the United States, because we would then have created a world condemned to permanent underdevelopment, a world situation of continued and perpetual instability. . . .

If you look back at the roots of the American military, the Cincinnati Society, the beginning threads of the philosophical grounding of West Point, and the kind of military doctrine that informed Lincoln during the Civil War, the first thing to note is that the aim of that military and its assigned mission is no different from that of the country as a whole—namely to ensure the most rapid economic development, on a world scale.

Now, that means in very concrete terms maximizing the rates of growth of material production and population.

What kind of wars become conceivable if that's your military mission? There is no war too large, too costly that might not be fought to ensure the destruction of anyone opposing that international development. Victory would be achieved at the point that the political military power of an opponent to that development struggle was destroyed. If you cast, for example, the thinking, writing, and actions of General MacArthur in that light, you see a very interesting case-study in what that policy looks like, both before and after hostilities. There was a situation where the aim of the military policy, MacArthur's occupation of Japan, was first the destruction of any political military capabilities that opposed the idea of economic development, but second of all, the imposition of a set of policies that ensured economic development and economic growth once hostilities were concluded.

The armed forces then become as much an engineering capability as they are a destructive military capability. In that conception, the armed forces become a city-building capability that can move into an area, destroy the opposition to economic development, and then lay the basis for successful resolution of economic problems. . . .

Infantry with logistical support is the essential element of a strong military capability. Yes, it needs long-range artillery like ICBMs. Yes, it needs and has cavalry capabilities provided by an air force. Yes, it needs logisti-

cal support provided by naval forces. But the essential, irreplaceable ingredient in a successful military strategy is a well-equipped, logistically supported infantry, because the ultimate goal of military deployments is the occupation of, or the potential occupation of the adversary's country, and the implementation of a policy for economic development. That's done by people. In the military context, those engineers, those machinists, those scientists, are called the infantry.

The weapons and logistical capabilities that that infantry is armed with depend on, obviously, the industrial base of the mother country. And second of all, they depend on the scientific and engineering capabilities provided by that country.

That still defines the cutting edge of military strength; it rests on the development and deployment of the most advanced technologies possible. Today that means, without any question, directed-energy beam weapons. Without the cutting edge of new military development being guided by the science and engineering defined by the development of space-based laser weapons and particle-beam weapons, both earth and space-based, you cannot vector a competent military deployment.

In the next five years, we'll find a window of opportunity which is being taken by the Russians right now and is not being taken by the United States, for the development of the next generation of weapons, which will make the ballistic missile a useful piece of artillery but by no means what it is today, as the absolute determinant of strategic thinking.

Within that framework of the two contrasting ideas of strategy, what I'd like to do is now look at the question of relative U.S. and Soviet capabilities.

First, on the economic side, there is not a measure of economic health today in which the United States has not done abysmally in the last decade; and in fact worsened at an accelerating rate, by any measure of real production. The United States economy today faces an adversary who, while confronted with some economic problems, is still growing, still investing in new industry and is widening the gap.

I have several slides here that I want to show you.

These are taken from the testimony that was given by Gen. Alton Slay, the former head of the Air Force Systems Command, where he summarized U.S. industrial capabilities. The most basic measure, absolutely most basic measure of economic strength and economic health, is provided by productivity; and I've got a bar graph here that compares average productivity increases in the Western industrialized nations for the last 20 years; this is growth per year, the compounded rate at which growth has changed in those countries over the last 20 years, for the total economy. The United States is at the bottom of the heap, with about 1.5 percent productivity growth.

The next slide shows an even more abysmal situation,

in an area more relevant to military production, namely manufacturing productivity. And here the comparison is even worse. Again the United States is on the bottom; I think most people think of the United States as, in spite of these current problems, still the world's greatest economic power. That is not the case. Even comparisons with the Soviet Union, a relatively primitive economy, show the U.S. economy in a disastrous light. The Soviet Union has been outproducing the United States in tonnage of steel for roughly 10 years. At this point, the Soviet Union produces 50 percent more steel than the United States.

In concrete, another basic engineering raw material, if you're interested in city-building, the Soviet Union again outproduces the United States by 60 percent; at this point the United States produces 80 billion tons, the Soviet Union 138.

Machine tools—again, absolutely essential groundwork for economic production and growth—the Soviet Union produces more than three times the number of machine tools the United States does today.

The Soviet Union outproduces the United States in petroleum by, again, about 50 percent. In 1978 their production was 4,468 billion barrels, compared to 3,100 billion barrels in the United States. . . .

This slide shows U.S. capital investment as a percentage for all industry in the United States, and then compares that with one of the key components of military and related industry, namely aerospace. In aerospace, you can see it's about half, or a little more than half, the rate of investment in that sector. Now this is a systematic feature of economic production in the United States for the last 20 years, is that the more capital-intensive the industry, the lower rates of capital investment that have gone on in those industries. The result of that is that the more capital-intensive an industrial sector is, the more obsolete its equipment tends to be. The most obsolete industries in the United States are those that are the most capital-intensive. . . .

The figures I am showing you here are all pre-Paul Volcker and the high-interest policies. All the figures I've shown here about U.S. production, U.S. investment rates and the rest, you can discount by 20 percent if you're interested in the *current* figures today.

In every category of basic economic production, the Soviet Union today is either leading the United States or has momentum for a jump above the United States in the next six months to a year. It is an illusion to think otherwise.

The second component of this most significant military comparison is the question of education and manpower development. And here again what I think I can document is that the situation in the United States is disastrous, that we're not training enough of the basic components of our economy, and that translates imme-

diately into military deficiencies; we're not training enough of the scientific and engineering cadre that are required to provide for the future.

The bulk of the machinists in the United States were trained during World War II; they are going to be retiring in this decade. There has been a tremendous shortage of journeyman-apprentice machinists in the past 10 years, so that we are faced today with a shortage. Sixty thousand journeymen could be hired today. Five thousand completed training in 1978.

I was talking to a welder who works on the Trident submarine plant, and he said that there are critical steel plates used in those submarines which are imported from Canada because there is no factory in the United States which will produce enough of that steel plate—not because there isn't steel, but because there aren't the machinists or welders to produce that steel.

Last year a little more than 50,000 engineers were graduated [in the U.S.]. Compare that figure with the Soviet Union; they're graduating on the order of six times as many engineering students every year. Approximately 40 percent of the [U.S.] graduates are foreign students, and a lot of them go back to their own country. The quality of elementary and secondary education in the United States compared to the Soviet Union is absolutely frightening.

Let me read you the required course of studies integrated over 12 years of secondary education in the Soviet Union which includes the following: 5 years in algebra; 10 years of geometry—that includes geometry, 3 years of semi-rigorous plane geometry, 2 years of solid geometry; 2 years of calculus; 5 years of physics; 4 years of chemistry; 5½ years of biology; 3 years of mechanical drawing; 10 years of workshop training. Whereas in most American high schools you are required to take one year of science and no mathematics beyond algebra. More than half of the high school graduates in the United States graduate with no mathematics beyond algebra and one year of science.

Now I think it's obvious that an absolutely essential part of that story is the problem of drugs among United States youth. This is, more than any other single factor, responsible for the destruction of cognitive capabilities in the American workforce.

Let me read you again from the testimony of General Slay, who summarizes these figures in a particularly useful way—not so much in terms of a snapshot of tanks versus tanks, Warsaw Pact versus NATO tanks, tactical aircraft versus tactical aircraft; but in terms of the momentum. He says the following: "At the time of the Cuban Missile Crisis, we had an overpowering edge over the Soviets; that strategic power edge has vanished. The Air Force had almost 350 major squadrons with 850,000 military people operating 16,000 first-line aircraft for nearly 250 installations worldwide. Today we have only

250 major squadrons, not 350, and we have 550,000 military personnel, not 850; we're operating 7,000 aircraft, not 16,000, from 134 major installations, not 250. About the same degree of decline can be measured in every other service." Then he says: "You can forget the old tale of poorly built, ineffective Soviet military equipment. If that tale was ever true, it's certainly not true now, nor was it true when the equipment they have in the field today was manufactured. They have highly sophisticated, reliable and efficient weapons, and don't let anyone try to tell you anything different. I also want to put away the myth that the Soviets are bumbling when it comes to production: they are efficient producers and their factories are modern and well-equipped. They are far outproducing us in every aspect of military production."

Now those things might be dismissed as, well, the qualitative superiority of the United States in each of these weapons fields far outweighs any quantitative discrepancy. I think that that's a self-consoling delusion; to imagine that your surface-to-air missile is 18 times better than the Soviet one or is 18 times more likely to have kill success—I think this is insane. I'm not going to debate that question; I think the thing that's more to the point is present and projected investments in scientific and engineering development. These research and development questions are to my mind the absolutely key element for the next 10 years.

The situation with American military R&D today is the same as in civilian R&D; namely, it has been hit tremendously hard by economic problems over the last 10 years, and we have, today, insufficient numbers of scientists and engineers and insufficiently equipped laboratory facilities, insufficiently supported by the government; and we're facing an increasingly serious situation in that regard. . . .

This is a short quote from William Perry who was the Undersecretary of Defense for Research and Engineering. He said in January of 1980: "The Soviet Union now has about twice as great an effort as we have in military research and development, creating a growing risk of technological surprise. The Soviets have applied their investment program to their research and development base, devoting an increasing share of their total defense expenditures to improving their military technology in an attempt to negate our technology lead."

He goes on to point out that the thrust of their investment in these military research and development areas has been on the development of first, space technologies, and second of all, directed-energy beam-weapons. His estimate is that they spend roughly five times as much as the United States does on the development of laser beam weapons and a significant amount more, though it's hard to say, on particle-beam weapons.

The budget changes suggested by Mr. Weinberger, the

most recent set of budget revisions mandated by the Office of Management, carry out the same strategy the OMB tried to do on the whole budget of the United States, namely cut research and development. We see \$2 billion cut from Navy research and development, for example; \$2 billion out of \$9 billion is the suggested cut. That's where they see "slack," in research and development.

To the extent that the United States has a dying or dead nuclear industry, it is incapable of supporting the kind of progressive broad-based nuclear research that's required for military capacity. This is a fact of industrial life. The same thing is true of more advanced energy sources, like magnetohydrodynamics and the breeder reactor, two other advanced technologies which impinge directly on military capabilities. This is most devastating, though, in the nuclear-fusion program and in the space-research program, two areas where the present expenditures by the United States are significantly less than the Soviet Union, and the momentum is on their side in both of these areas. I think today if you took a snapshot, you'd have to say, well, roughly equal capabilities in space and advanced-plasma and nuclear technologies you need, for example, for beam weapons, which come out of the nuclear fusion program—we're roughly equal today. However, the momentum is unquestionably on their side.

I have seen no one dispute the Soviets' own schedule for the deployment of a permanently manned, orbiting space-station. The Soviets say that they will have by 1985 a permanently manned orbiting space-station with 12 cosmonauts on board—that's in three to four years.

The United States has no plans today for what NASA calls a space operations center. In spite of the Space Shuttle, and as brilliant a technological achievement as that is, it has nowhere to go.

The most recent budget projections put out by the Office of Management and the Budget show the United States cutting our space research project even further. The nuclear-fusion budget is under the same kind of attack. At this point, the Office of Management and Budget is suggesting a 12 to 13 percent cut, which would delay indefinitely the development of that technology, as well as the corollary technologies of electron beams, lasers, and the things whose scientific spinoffs are directed energy beam weapons.

The United States faces an adversary who has, at least in some approximation, adopted that military strategy that I described at the beginning—one committed to at least the possibility of total nuclear war and the necessity of marshalling one's whole economy toward a national effort of economic development. That has ceased to be the case for the United States; and once this *Global 2000* doctrine became the stated mission of the American military, there was a systematic disruption of American economic, manpower, and scientific capacities.



Criton Zoakos indicts American strategic policy

Below are excerpts from the luncheon address at the conference by EIR's Editor-in-Chief, Criton Zoakos.

... Why *are* we pained and why are we angry, either at the speaker [Asia Editor Daniel Sneider on Cambodia] or at the picture painted by the speaker? We are conducting something which is akin to judgment of our common life, of our national life, and when, after long stretches of time, nations find it necessary to pass judgment on themselves, on their lives, that is painful because we do not merely pass judgment on our nation, we pass judgment upon our individual lives as they have been lived within the national life. . . .

The moral flaw that we have found in ourselves is that we have accepted, unconsciously and unquestioningly, the Global 2000 doctrine. Global 2000 is the mistake. The story begins in 1964-65, when a few very smart little academics thought that the NASA program had gone a bit too far, so they sat down to scheme up the "post-industrial society." Zbigniew Brzezinski was one of them; he wrote *The Technetronic Era*, one of the founding documents of the post-industrial society. And they started chiseling away and sawing away against the scientific and technological and industrial traditions of this country.

The way to understand military doctrine is that you are dealing with three simultaneously connected concentric, nested situations, or manifolds. One is your actual shooting military capability at hand. Above it, that which determines it, is the technology, the technological might and the industrial might which produces this fighting edge, this combat edge, military capability. And military capability taken as a whole is logistics in depth—industrial, technological, scientific logistics in depth, with that shooting edge out front.

Now the post-industrial society has an effect to whack