

**THE SOVIET CONNECTION I**

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# RAIDING THE FREE WORLD'S TECHNOLOGY

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## THE SOVIET

Union is undertaking a large-scale effort to improve the technological quality of its huge war-fighting apparatus. The assessment of the Department of Defense and of the Reagan Administration is that this highly coordinated Soviet effort is being carried out at the expense of the Free World by a raid on our technology base.

Soviet leaders have learned that they have access to Western technology both through legal and illegal channels. Under the guise of purchases for benign, civilian objectives, the Soviets have obtained a

The USSR has taken advantage of our loose export controls and—legally or otherwise—acquired vital goods and equipment.

got off with modest fines.

The result? The Soviet raid on our technology base not only continued—it increased in scope.

Let me describe for you how all this occurred, how the Soviets profited as a result, and what we are doing about it.

We would do well to recall that

*directly* to Soviet military modernization.

Today, we can see the result of the laissez-faire attitude of the last decade in the size and in the technological capability of the Soviet armed forces. The Soviets have introduced new generations of smart weapons, dramatically improved their airlift capability, made their nuclear weapons more accurate and deadly, and enhanced their command and control with better computers and communications.

The Soviet Union fields some 50,000 effective main battle tanks and over 20,000 artillery pieces, all of which are protected by a sophisticated anti-aircraft net which can move with the Soviet land army. There are more than 5,000 helicopters supporting the armed forces including helicopter gunships, some of which are in service in Afghanistan. In Eastern Europe alone, there are 3,500 advanced tactical bombers, interceptors, and fighter aircraft. In the last eight years, Soviet military industry has turned out over 1,000 fighter aircraft each year. The operational supersonic backfire bomber can support Soviet land and naval forces in critical areas such as the Middle East and Persian Gulf.

In addition, the Soviets are expanding their nuclear arsenal.

By Richard N. Perle  
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wide range of equipment critical to their military program. Where they have failed to get what they want openly, they have resorted to a well-coordinated, illegal acquisition program. Using agents, co-opting citizens, taking advantage of unsuspecting business men and women, moving goods through neutral and third world countries, exploiting the weaknesses in our control system, they are gaining access to Western technology on an unprecedented scale.

Until now, the West has failed to respond to this challenge. Our export requirements were too loose. Our enforcement program was lax. Too many loopholes in our international control system persisted. Clear-cut violations of international export laws were forgiven and forgotten. Violators, when they were caught, were either not punished or

*From congressional testimony, November 12, 1981*

only a decade ago it was fashionable to believe the Soviet Union would shift its emphasis from military pursuits to improving the material well-being of its citizens. Many felt the Soviets, with the right encouragement, would manufacture fewer guns and, instead, produce consumer goods greatly desired by their people. Accordingly, national and international controls were restructured to give the Soviet Union more access to Western technology and products.

Sophisticated goods and equipment were sold with winks and nods from Free World countries. Indeed, it is a sad fact the United States actually requested and received more exceptions to the international control list than any other participating Western nation. It is even more grim to note, in retrospect, many of the exceptions granted to the United States under the international control program contributed

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Western Europe, Japan, and China are under the shadow of a new family of Soviet SS-20 intermediate range ballistic missiles. Each missile is equipped with three independently targeted nuclear warheads.

Despite the evidence showing that the Soviet Union continued its military build-up and modernization program, the liberalized system of international export controls was allowed to persist unchanged. As a result, the Soviets continued to use Western technology to support their burgeoning military-industrial system.

Today, there are over 135 military industrial plants operating in the Soviet Union, spanning over 40 million square meters of factory floor space and turning out more than 150 major weapons systems. In addition, there are hundreds of factories producing both civilian and military goods, with the first priority always for the military. And, there is a stand-by system of dedicated factory space to pick up military production in wartime.

Since 1970, despite "detente," the USSR has increased its military manufacturing base by 40 percent. In the comparable period, our military industry shrank as our defense investment declined. While we struggled over what weapon systems to produce, and cancelled many important programs, the Soviets pushed ahead dramatically.

Nor did their effort stop with adding manufacturing capacity. The USSR has been enlarging its research and development structure to support its growing military industry. In aerospace alone, in this past decade, they have expanded

their research and development capacity by over 30 percent.

The manpower pool of scientists and engineers for research and development is also expanding. In 1980, this base of professionals consisted of 900,000 engineers and scientists—the world's largest. It is sobering that for 1980, the Soviet Union graduates an additional 300,000 engineers to buttress this undertaking.

Even with her massive domestic effort and the help she gets from the Warsaw Pact countries such as East Germany and Czechoslovakia, the Soviets cannot, nor are they trying, to go it alone. They rely heavily on Western technology for industrial modernization and new products.

From the Soviet point of view, there are immense benefits from exploiting the West's advanced technology base. These benefits to the Soviets include:

- Saving billions of dollars by acquiring proven Western technology,
- Saving years of research time,
- Avoiding mistakes and errors that are costly and time-consuming,
- Knowing in advance that new systems will work properly and, alternatively, knowing where to look should a particular project get in trouble.

The list of technology for military use acquired from the West is a long one. It includes high-speed computers used for designing weapon systems, signal processing, command and control and intelligence gathering; semi-conductor manufacturing know-how used to make Soviet weapons more reliable and precise; guidance technology for aircraft, ships, submarines, and missiles; and equipment to improve the Soviet military industrial base—ranging from precision machine tools to process know-how

technology.

Much of this has happened because our international control system has broken down. That control system is centered around a voluntary organization called the "coordinating committee," or COCOM. Under COCOM controls, critical goods were legally exported to the Soviet Union. Some examples include:

- Western shipbuilding know-how and equipment including dry docks, expanding their naval construction, and repair capabilities.
- Heavy vehicle construction plants and plant support facilities giving the Soviets a quantum jump in load durability and reliability and far better mobilization potential. For example, Kama River trucks are used by the Soviet army in Afghanistan.
- Western semiconductor and micro-electronics know-how, giving the Warsaw Pact an electronics manufacturing system that is operating in support of the military. In addition, modern printed circuit facilities were exported to the Soviet Union.

These legal acquisitions are supported by even more far-reaching illegal acquisitions. For example, only this past summer, millions of dollars worth of high grade electronic polysilicon were diverted to the Soviet Union to fill military needs.

Illegal acquisitions are taking place across a wide front. To give just one example, the Soviet Union illegally acquired IBM 360 and 370 main frame computers from the West. Their objective was to use the IBM computer as the base design of their own *Ryad* computer series. The copy was nearly exact, and for a very good reason. They wanted their computers to work with future generations of Western equipment. It is interesting to note the Soviet *Ryad* computer series uses the same repair manuals as the IBM.

There are many ways the Soviets acquire embargoed equipment. One is to have the goods sent to a neutral or non-aligned nation and then divert it to the Soviet Union. Neutral countries generally do not maintain embargo laws. Some very sophisticated electronic gear and manufacturing equipment have been transferred this way.

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The Soviets support the illegal acquisition drive through controlled "front" corporations, by co-opting business men and women and factory workers, through bribery and shady deals.

They also maintain an intelligence system keyed strongly on emerging technologies of high military value. They keep a close watch on the latest developments in the computer industry, in advanced large-scale integrated circuit design and manufacturing know-how, on magnetic bubble memory technology, on developments in genetic engineering, fracture mechanics, and superplasticity.

One part of this collection system is devoted to exploiting Western technical literature, including technical information published by our own government.

The Soviets also are participating in commercial and scientific data exchange programs. Through such means they have access to a very wide range of information about Western business, industry, and science.

In sum, the Soviets are managing an exploitation network essential to improving the quality of their military weapons and to the military-industrial base that builds the weapons.

They are taking advantage of the gaps in our export control system and the vulnerability of the West to easy exploitation. They are using our free institutions and our open system against us.

And, because our own national defense system has not modernized fast enough, the Soviets are exploiting many civilian technological breakthroughs yet to be used fully to upgrade our own military hardware.

It is here we face the greatest danger. While we have committed ourselves to rebuilding our national defenses, it is going to take us time to do so. It is essential, while we improve our own defenses, we close down Soviet access to the technology they want for their military build-up.

At stake is our ability to maintain the balance of power and protect the peace. **32**

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