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The Sutton Testimony

AS DELIVERED BY ANTONY C. SUTTON TO THE UNITED STATES OF AMERICA HOUSE INTERNATIONAL TRADE SUB-COMMITTEE OF THE BANKING AND CURRENCY COMMITTEE APRIL 24, 1974, AND REPRINTED FROM THE JOHN BIRCH SOCIETY'S WEEKLY PUBLICATION, *THE REVIEW OF THE NEWS*, MAY 15, 1974.

In the late 1950s I began a study of the transfer of Western technology to the Soviet Union and the impact of this technological flow on the Soviet economy and the related military-industrial complex. The first book resulting from this investigation was completed in 1966 and published in November 1968 by the Hoover Institution at Stanford University under the title *Western Technology And Soviet Economic Development 1917 To 1930*.

The second volume of the series was completed in late 1968 and published by the Hoover Institution in 1971 as *Western Technology And Soviet Economic Development 1930 To 1945*. Both books have been reviewed in academic journals throughout the world.

The third volume was completed in mid-1970, and published in November 1973, under the title *Western Technology And Soviet Economic Development 1945 To 1965*.

About 1968 I became concerned with our policy of technical assistance to the Soviet military-industrial complex, a policy denied by the State Department, and some Members of Congress. This technically subsidized Soviet economy was providing about 80 percent of the supplies to North Vietnam and U.S. troops were being killed in Vietnam. Consequently, I made numerous attempts to bring the problem to public attention. . .

In any event none of these efforts on my part had any recognizable impact. Therefore, in late 1972 I put together the information immediately at hand into a book: *National Suicide: Military Aid To The Soviet Union*, published by Arlington House in New York. Advance copies of the book became available last July and the book was published in October, 1973.

National Suicide came to the attention of Hoover Institution about July 1973. I immediately—and I mean immediately—came under considerable criticism and hostility for publishing the book. My name was removed from the Hoover personnel directory and in August I was arbitrarily removed from my position as Research Fellow at the Hoover Institution. My hasty conversion into a non-person was so complete that the third volume of my Hoover series, which was then in press, had its dust jacket changed to read "was a Research Fellow at the Hoover Institution from 1968 to 1973."

In my estimate, reduction to the status of a non-person and associated harassment was retaliation for publishing a book embarrassing to this Administration and some of its

friends in the business world. I wish to place on public record that this action—which is common for anyone who protests our military aid to the Soviet Union—parallels the police state tactics of Hitler's Germany and is a pitiful state of affairs to encounter at one of this country's great universities.

At the moment, I have an office at the Hoover Institution and I am receiving my monthly research grant. However, I am not officially connected with the Institution, and past events will suggest to the Subcommittee that the Hoover Institution emphatically disassociates itself from my testimony.

SUMMARY OF RESEARCH

The problem I have been examining over the past fifteen years is the origin of Soviet technology: *i.e.*, the design and construction of Soviet plants, the origin of Soviet innovations, Soviet technical progress, and related problems. My methodology is empirical and technical. In other words, I take each Russian process, technology, or type of equipment in turn and trace it back to its origins, whatever they may be. My initial assumption—and this is most important—is that any particular process is Soviet until I can prove it is not. I make this point because Mr. William C. Norris of Control Data Corporation has claimed that researchers (such as myself) are making "assumptions." It will be obvious as I develop my discussion that Mr. Norris is apparently unaware of the massive amount of research work that has been conducted on Soviet technology, and of his personal contribution to Soviet militarization.

The information for this research came from a wide variety of sources including:

(A) Declassified government files, particularly those of the State Department. Classification prohibits my using government data from about 1945 onwards.

(B) Soviet technological manuals and handbooks, particularly for the period 1945 to date. It is a paradox that the more recent work is far more dependent on Soviet publications than on U.S. government data. I would refer the interested reader to the citations in the bibliography in *Western Technology And Soviet Economic Development, 1945 To 1965*.

In general, I find that almost all Soviet technology has originated in the West: This conclusion holds good from 1917 to 1974. There has been some Soviet innovation in recent years, but it is concentrated in a very few fields, for

example, welding techniques, core molds, and medical sutures. The examples prominently displayed in Western newspapers are "one-off" items. The bulk of Soviet technology, particularly sophisticated production equipment, originates somewhere in the West, although it may be modified or duplicated and copies are made inside the U.S.S.R.

Let me emphasize that we are talking about innovation—which is application of invention to the industrial process. The Soviets produce many *inventions* but these are not used in the industrial process. They also have done excellent work in pure science and I would cite the work on Vitamin B-15. In brief, my work concerns industrial and military innovations, *not* invention, and *not* pure science.

The reason for Soviet technical dependence appears to be that a centrally planned system cannot generate indigenous innovation. At least such a planned system cannot generate innovation that will compete with Western innovation from enterprise systems. The Russians are intelligent and capable people. It is the planned economic system that is their problem. My conclusions would probably apply to any planned system—including the United States if we continue to centralize economic decision making.

My published research is heavily factual. I have not yet, in the six years since publication of the first volume, received any indication of error in a material fact . . .

The best way I can quickly summarize these findings, as well as the methodology, is to present data on a few representative sectors. The examples I have chosen also have military significance: (a) merchant ships; (b) computers; (c) ball bearings; and (d) military trucks.

MERCHANT SHIPS

The Soviet merchant marine has about 6,000 ships. The only really complete source of data for these ships is the Soviet Register of Shipping. The following are some of the major findings based on an exhaustive analysis of this Register: 68 percent of Soviet merchant ships were built in the West; 80 percent of diesel engines were built in the West; 20 percent of engines were built in the U.S.S.R. but under Western licensing.

There is therefore no such thing as a Soviet-designed marine diesel engine. Consequently, Soviet capability to supply North Vietnam, to supply Arab countries with armaments by sea, or to move into the Indian Ocean, comes from the Western world—primarily from N.A.T.O. allies of the United States.

A good example is Soviet supply of the North Vietnamese where the Soviet used over 200 merchant ships. The Western origin of these vessels is listed in detail in *National Suicide*. The Export Control Act of 1949 was supposed to restrict export of vessels with higher speed and tonnage . . . Actually the faster and bigger Soviet ships on the Haiphong supply run were built in the West while the smaller and slower vessels were built in Russian yards. This could have been stopped, but State Department ruled that merchant ships were peaceful vessels and could not be used for war purposes. There is no question that if State Department had exercised its veto power . . . according to the intent of Congress—the Soviets would not have been able to supply the Vietnamese War.

COMPUTERS

Computers are essential to a modern society and modern weapons systems. Most importantly, a computer cannot distinguish between military and civilian problems. Any computer can handle either type of problem within its capability. Any talk about safeguards on computers to prevent unwanted military use is nonsense. There is no way to check, inspect, or safeguard the use of a computer, unless you have your own people do everything from installation to day-to-day operations, and that kind of inspection is patently absurd.

My research indicates that there is no Soviet indigenous computer technology. I should say that I cannot find any Soviet computer technology at all—but I have to leave a margin for error on my part. Up to about 1970 all Soviet computer technology that I can identify came from I.B.M., R.C.A., or the British firm I.C.T. Ltd. Control Data Corporation is also a prominent supplier at this time.

These conclusions on Soviet computers are fully confirmed by other researchers: Professor Judy at University of Toronto has concluded: "Computer technology in the Soviet Union is virtually entirely imported from the West." Judy does not identify any Soviet technology and presumably inserts the word "virtually" to leave a margin for possible error. Last July, Professor Allen Reiter of the Israel Institution for Technology stated: "The Russians know nothing about modern computer technology."

In contrast, Mr. Norris of Control Data Corporation disputes these conclusions but so far has not provided data on "Soviet" technology. To compare computer technology with Soviet theoretical expertise (as has Mr. Norris) is much like comparing apples with oranges.

It appears that the latest Soviet RJAD system is the I.B.M. system 360. In any case Mr. Watson of I.B.M., and Mr. Norris or Mr. Henig of Control Data, can provide the latest details. There is a major problem in this case. The latest data is always denied to private researchers. I have to wait until the Soviets publish it. I can't get it in the United States. The Department of Commerce data is classified, and American firms are unwilling to publish *exactly* what they are shipping. Their statements are limited to bland denials of military impact.

BALL BEARINGS

Ball bearings are an integral part of most weapons systems; there is no substitute. The entire ball-bearing capacity of the Soviet Union is of Western origin, using equipment from the United States, Sweden, Germany, and Italy or copies of previously imported equipment. I have given the full story of this transfer elsewhere; the following is a summary.

Before the Bolshevik Revolution the only ball-bearing plant in Russia was that of A/B Svenska Kullagerfabriken (S.K.F.) established in Moscow in 1915. This plant was nationalized in 1918 but continued in operation under its Swedish engineers. In 1921 *de facto* operation by S.K.F. was formalized under a concession agreement. The original plant was then expanded and re-equipped with Swedish equipment, and the Soviets guaranteed a 15 percent profit. Another ball-bearing plant was built by S.K.F. in the 1920s and operated under a joint Soviet-Swedish arrangement. Both these S.K.F. plants were expropriated in 1930 and

became Moscow Ball-Bearing Plant No. 2, with an annual production of about eight million ball and roller bearings.

Under the First Five Year Plan the Kaganovitch Plant (Moscow, Plant No. 1) was built, with equipment from the United States and Germany and a technical assistance contract with the Italian firm R.I.V. (Officine Villar-Perosa of Turin). R.I.V. was a subsidiary of Fiat and partly American owned. The buildings for Ball-Bearing Plant No. 1 were designed by Albert Kahn, Inc., of Detroit.

The Kaganovitch Plant had a production of eighteen million ball and roller bearings in 120 different sizes made to foreign specifications. For example, helical roller bearings were based on Ford, and bearings for tractors on International Harvester, specifications. The equipment for the Kaganovitch came from United States, Italy, United Kingdom, and Germany, combined with some copies of Western machines made in Soviet plants.

Later, another ball-bearing plant was erected at Saratov (Ball-Bearing Plant No. 3) using imported U.S. equipment.

A few Western companies have been associated with this historical development of Soviet ball-bearing capacity. Apart from S.K.F. and R.I.V., the Bryant Chucking Grinder Company of Springfield, Vermont (now part of Ex Cello Corporation) is prominent. In 1931 Bryant shipped 32 percent of its output to the Soviet Union, and in 1932 over half its output. Then in 1938 Bryant shipped one quarter of its output to the U.S.S.R., followed by heavy shipments under Lend Lease.

In 1959 Congress intervened to prevent shipment of forty-five Bryant Centalign-B machines to the U.S.S.R. This episode is worth describing, because it typifies the problem of the military character of so-called "peaceful trade."

In 1959 the Soviets required a capability for mass production, rather than laboratory or batch production, of miniature precision ball bearings for weapons systems. The only company in the world that could supply the required machine (the Centalign-B) for a key operation in processing the races for precision bearings was the Bryant Chucking Grinder Company. The Soviet Union has no relevant mass-production capability. Its miniature ball bearings in 1959 were either imported or made in small lots on Italian and other imported equipment. In 1960 there were sixty-six Centalign-B machines in the United States. Twenty-five of these machines were operated by the Miniature Precision Bearing Company, Inc., the largest manufacturer of precision ball bearings, and 85 percent of Miniature Precision's output went to military applications, predominantly missiles.

In 1960 the U.S.S.R. entered an order with Bryant Chucking for forty-five similar machines. Bryant consulted the Department of Commerce, the Department indicated its willingness to grant a license, and Bryant accepted the order although the military end use was known to Bryant and the Commerce Department.

In 1961 a Senate Subcommittee investigated this license. Its final report stated in part:

The Senate Subcommittee on Internal Security has undertaken its investigation of this matter not in any desire to find scapegoats, but because we felt that the larger issue involved in the Bryant case was, potentially, of life-or-death importance to America and the

free world. We are now convinced, for reasons that are set forth below, that the decision to grant the license was a grave error.

The Centalign-B machines were not shipped in 1962.

In 1972, just before the Presidential election, Nicholaas Leyds, general manager of the Bryant Chucking Grinder Company, announced a contract with the Soviets for 164 grinding machines. Anatoliy I. Koustousov, Minister of the Machine Tool Industry in the Soviet Union, then stated they had waited twelve years for these machines, which included mostly the banned models, and stated:

We are using more and more instruments of all kinds and our needs for bearings for these instruments is very great. In all, we need to manufacture five times more bearings than 12 years ago.

My understanding is that the Soviets have recently expanded their missile capability—particularly their ability to miniaturize instruments. The relationship between export of the Bryant machines, previously noted as of "life or death importance to America," and this Soviet expansion should be investigated.

MILITARY TRUCKS

The greater part of Soviet military truck production except some specialized vehicles originated in two key production units: the Gorki plant and the ZIL plant, with their subsidiary assembly and production units. These units produce civilian and military vehicles and about 65 percent or so of the parts are interchangeable between the military and civilian units. Of course it should be readily obvious that any civilian truck can also be used for military purposes.

The Gorki plant was built from scratch by Henry Ford in the early 1930s and has had foreign equipment continuously throughout the decades down to the present. Gorki produces the GAZ range of military vehicles including missile carriers, patrol vehicles, jeeps, and tow vehicles. The ZIL plant is the former Tsarist AMO plant considerably rebuilt and expanded over the years. It was first rebuilt in the early 1930s by A. J. Brandt of Detroit with equipment from Hamilton Foundry and Budd Company. The last production equipment I traced from the U.S. to the ZIL plant was in 1970 in the middle of the Vietnamese War. The ZIL plant and its assembly plants in the same group produce military trucks and chassis for rocket launchers, personnel carriers, and so on. The details are in my books.

Under the Nixon Administration, U.S. firms are building the Kama truck plant. This will be the largest producer of ten-ton trucks in the world—100,000 per year: more than all U.S. manufacturers put together. The Administration is aware that the Kama plant has military potential.

CONCLUSIONS

(1) The Soviet military-industrial complex is dependent on technology transferred from the West, mainly the United States. No distinction can be made between civilian and military technology and all transferred technology has some military impact. The term "peaceful trade" in regard to Soviet trade is grossly misleading and should be abandoned. The crux of the question at issue is technical transfers through the medium of trade and the use of such technical transfers for military production.

(2) Our discussion of Soviet trade suffers from several major weaknesses. We receive too many bland platitudes from businessmen in search of Soviet orders or from officials in the executive branch who have not done their homework. There is an intellectual problem: failure to come to grips with the gut issues involved. Unfortunately Congress has been slow to challenge these unsupported statements and assertions about trade, détente, and world peace. The root of the question is technical transfers for military purposes and therefore the discussion should only concern the facts of technical transfers, conducted in technical terms and assessed in terms of the impact on weapons systems. "Trade leads to peace" and similar unsupportable clichés are irrelevant.

A great deal of testimony has been received by various Congressional Committees from businessmen, but businessmen have a short time horizon, they are interested in near-term orders. Further, successful businessmen are not necessarily logicians; in fact businessmen do not use the process of reason in making their arguments, they use an intuitive process; and business success is largely measured in not being publicly found at fault. This is quite different from the logical processes that *should* construct foreign policy.

Another problem in discussion of Soviet trade stems from the concentration on *current* individual sales without considering the longrun cumulative historical effects of *all* sales. It is easy to construct an argument that any single sale has a minimal effect on Soviet technical ability, it is done all the time. But the *sum* of all sales to the Soviet Union over the years 1917 to 1974 is the Soviet technical structure. Many of those who stress single sales have attended college economic courses and have presumably heard of the rule "the sum of the margins is the total," and yet this rule has never been applied to Soviet trade. In brief, the sum of all transfers of technology to the Soviet Union is the present technical structure. Therefore it is the *total structure*, not individual sales, that should concern us.

(3) A question can be raised concerning the difference between industrial and military innovation, *i.e.*, if the Soviets can design weapons systems, then why can they not also design industrial systems? The Soviets do have an ability to design weapons systems, but they do not have an ability to generate industrial innovation. Further, they cannot achieve the ability to generate internal innovation on a significant scale until they adopt a market system and abandon central planning, which by the way would also be an excellent indicator of a change in totalitarian attitudes, and acceptance of détente, as we understand the term.

Entirely different factors are at work. In weapons design the military adopts a specification for a required weapon and sets up a cost framework. The job of the designers is to design a weapon within a given technical and cost framework. The weapon is tested by determining if it fulfills the desired criteria. Industrial innovation is quite a different process. In any industrial advance there are always alternative methods. The marketplace sorts out the most effective way in terms of cost and technical efficiency. In other words, you cannot have effective industrial innovation without a marketplace. There is a market system in the U.S. but not in the Soviet Union. The Soviets have been able to avoid the cost of this deficiency by importing Western technology.

The essential point for our argument is that all weapons systems require inputs from the industrial sector, *i.e.*, steel, non ferrous metals, castings, and so on. The specifications differ but these inputs are produced on the same machines and equipment as "civilian" goods. Therefore almost any industrial technology can be used for either peaceful or military purposes. Its use depends on the intent of the recipient.

(4) I would judge Soviet intent in two ways: by their internal affairs and by demonstrated actions towards the outside world.

First, there can be no lasting peace in this world without genuine intellectual freedom. The Soviets have made it clear by word and deed that they do not intend to allow intellectual freedom within the Soviet Union. There are thousands of Russians in labor camps and mental asylums whose only "crime" is expression of an opinion. We cannot, as Mr. Kissinger suggests, ignore internal repression inside the Soviet Union. There were Americans in the early 1930s who wanted to ignore Hitler's concentration camps and we paid a heavy price. To close one's eyes to persecution does not make persecution go away. The lessons of Soviet prisons are:

(A) They reflect a brutal totalitarian regime and we have no business subsidizing any such regime, fascist or communist; (B) they reflect hostile intent, because if the Soviets ill-treat Russians they can ill-treat Americans; (C) if we ignore repression in the Soviet Union it's not going to be long before repression comes to the United States, and unfortunately there already appears to be a similar pattern developing.

RECOMMENDATIONS

1. That the Congress should investigate the question of our military aid to the Soviet Union and place its conclusions before the public.

2. That the Freedom of Information Act should be amended to provide for declassification of foreign policy documents within five years, as well as publication of monthly data on exports to the Soviet Union including technical specifications, name of manufacturer, and a declaration by the Department of Commerce that the sale is not capable of generating military assistance to the Soviet Union.

3. That an embargo be placed on high technology items (for example, computers, transfer lines, ball-bearing and numerical-control equipment) until such time as the question of military aid to the Soviet Union has been examined by Congress.

4. That sales to the Soviet Union should not be financed with taxpayers funds, or guaranteed by the U.S. Government. If firms wish to make such sales they should take the risk themselves, not shift it onto the American taxpayer.

5. That the Congress should investigate harassment by business firms and other organizations of individuals who exercise their constitutional right to protest, or comment on, Soviet trade.

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