The Reagan Administration and the Expansion of the Military-Industrial Complex
(レーガン体制と軍産複合体制の拡大)

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SUMMARY IN JAPANESE: レーガン政権時代にアメリカの軍備拡大がおこなわれたが，それは産軍複合勢力が意図的におしすすめた政策であった。政策を実行に移したのは，レーガン大統領のもとで高級官僚の地位にあった国防産業のにない手たちであった。

実際に軍備拡大にあたっての調整をおこなったのは Committee on the Present Danger であったが，その努力の結果として合衆国に経済的利益があり安全保障上有利になるとされた。しかしながら，軍備拡大の結果経済的利益があがったのは，国防関連産業の集中する特定の限られた州においてである。長期的には，国内経済全体としてはむしろ害が多く，たとえば，財政赤字の拡大にみられるような経済運営の失敗，経済活動の無駄，技術開発の軍事化やゆがみ，さらには安全保障面での形勢の弱体化などが生じた。

さらに，アメリカの軍拡は全世界の武器購入国のあいだに紛争を誘発させたり，紛争そのものを長びかせることにつながった。日本自体もアメリカの軍備増強の影響下におかれている。最近の FSX をめぐる論議やココム論争は，その典型的な例であろう。

Introduction

It is estimated that the number of U. S. workers engaged in the production of arms currently reaches 5-6 million. Moreover, 40% of

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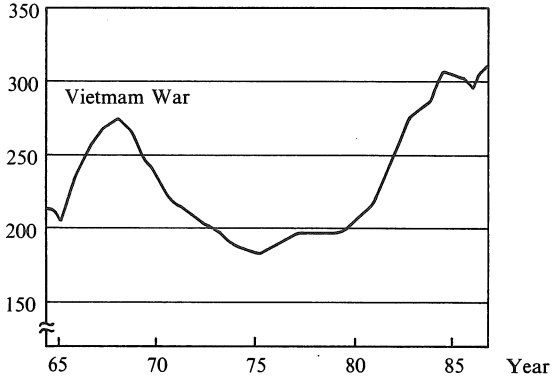
American scientists and technologists are working on the development of military technology. This group includes high-ranking bureaucrats in the Pentagon, employees and managers of the arms-related industries, congressmen and senators representing the defense industries, staff of universities and research institutes, and labor union members with vested interests in defense industries. Together they comprise "the military-industrial complex," an entity which has become firmly established in modern U. S. society.

American military expenditures began to decline in 1968 during the Vietnam War and reductions continued after the ending of the war. In the last fiscal year (1980-1981) of the Carter administration, however, defense expenditures began to turn upward, showing an 8% increase over the previous year. This upward trend was further accentuated when President Reagan came into the White House. Campaigning for a strong America, Reagan announced that he would modify the Carter budget, raising defense expenditures for fiscal year 1980-1981 by 14.6% with a subsequent real increase of 7%. This huge increase in military expenditures in the 1980s resulted in a marked expansion of the military-

Chart 1. Trends in U.S. Defense Outlays
(billions of FY 1987 dollars)



Source : DOD, *Annual Report to the Congress* FY 1987, p. 93.

industrial complex in the United States (See Chart 1).

Reagan's efforts to rapidly increase U. S. military expenditures led to a widespread debate. While some argued in support of the administration's policy, others seriously questioned its wisdom. Mary Kaldor warned, for example, that the continued survival of defense industries "represents a kind of tumor, eating away at the cells of the American economy."[1]

Given the important implications of the debate, then, this paper will attempt to answer some of the crucial questions arising from the expansion of the military-industrial complex during the Reagan administration. What are the origins of this military build-up? What is the political, military and economic background of this phenomenon? What are the consequences of the huge military expenditures allocated by the Reagan administration?

I. What are the driving forces behind the expansion of the military-industrial complex in the 1980s?

(1) The deepening conservative mood and the emergence of a desire for a "strong America" in U. S. public opinion.

The rapid military expansion pursued by the Reagan administration cannot be fully explained without taking into consideration the general conservative trend in U. S. public opinion over the last decade. This conservative mood reflected the public's frustration with years of poor economic performance combined with the relative decline of U. S. prestige and influence in world politics. Against this background emerged a growing grass-roots desire for a "strong America." This

Table I: Responses to a query on defense spending levels.
(Results expressed as a percentage of total replies.)

	1969	1976	1980
Too much	52	36	14
About right	31	32	24
Too little	8	22	49

SIPRI Yearbook, 1982, p.105.

change in public attitude is shown in Gallup Polls (Table I).

This public mood was responsible for carrying Ronald Reagan into the White House and defined the nature of the Reagan administration. Originally the military strategy of the new administration basically followed the line set in the last year of the Carter administration. However, reflecting the change in U. S. public attitudes toward foreign policy and towards defense, the Reagan administration soon embarked upon a massive rearmament program that would assure the U. S. military superiority vis-à-vis the Soviet Union in all areas from conventional weapons to strategic nuclear capabilities. Secretary of Defense Caspar Weinberger told the Senate Armed Services Committee : "The principal shortcoming of the defense budget we inherited is not so much that it omitted critical programs entirely in order to fully fund others ; but rather that it failed to provide full funding for many programs it conceded were necessary but felt unable to afford."[2] What this statement meant was that the military strategy of the Reagan administration required a much higher level of military spending than that of the previous administration.

It is also worth noting that the Reagan administration was staffed largely by a number of anti-Soviet hard-liners who strenuously advocated more ambitious military expansion programs. Most influential and well-known among these groups of hard liners is the Committee on the Present Danger (CPD). The members had campaigned vigorously since the mid-1970s against détente and the SALT II agreement and for U. S. military superiority over the Soviet Union. Not only was President Reagan himself a member of CPD, but the membership also included CIA Director William Casey, Secretary of the Navy John Lehman, Assistant Secretary of Defense Richard Perle, Secretary of State George Shultz, Director of the Arms Control and Disarmament Agency Eugene Rostow, and Paul H. Nitze the chief negotiator for theater nuclear forces. In all, 51 of CPD members held positions in the Reagan administration.[3]

Also characteristic of the Reagan administration was the number of persons closely related to defense industries that assumed important positions. Both Shultz and Weinberger were from Bechtel Corporation, a large federal contractor in the field of nuclear engineering. In Bechtel

they had served as president and vice president respectively. Schutlz's predecessor, Alexander Haig, was president of United Technologies Inc., a $9-billion conglomerate and the nation's third largest defense contractor. Before he was nominated as secretary of the navy, Lehman was president of Abington Corporation. Perle, before coming to Washington, spent two years with Westinghouse Electric Corporation's defense and space center as a senior political analyst and worked as a consultant to Abington while receiving consulting fees from Northrop and TRW. Richard Delauer was president of TRW, one of the largest contractors for SDI. In the Reagan administration he held the post of undersecretary for research and engineering and directed the Pentagon's acquisition of weapons systems. He was also the Pentagon's chief contracting officer, officially signing for all weapons systems purchased by the Defense Department. Thomas K. Jones was appointed deputy undersecretary of defense for research and engineering, strategic and theater nuclear forces. Before the appointment he worked as manager of program and product evaluation at Boeing Company.[4]

A heavy concentration of Defense Department prime contract awards to certain states was a reflection of the military orientation of the Reagan administration. California, President Reagan's electoral state, received the largest share of DOD prime contract awards in fiscal year 1981, followed by Texas, the home of Vice President George Bush and White House Chief of Staff James Baker. With respect to SDI contracts, California received 45% of the total, two times more than New Mexico, the second largest contracting state.[5]

(2) Cycles in Procurements of Military Hardware.

The advance of Soviet troops into Afghanistan was actively exploited by anti-Soviet hard-liners to unrealistically overplay the Soviet threat. To disprove the claim of the Committee on the Present Danger that the strategic balance between the United States and the Soviet Union had been tipped in favor of the latter, note the following quote from Cyrus Vance, President Carter's secretary of state. According to Vance, who directed the SALT II treaty negotiations, the CPD claim "is ideological rather than based on fact or hard thought."[6]

Table II : Procurement and readiness in US defense spending, FYs 1981-86

Percentages based on current dollar estimates(TOA).

Item	1981	1982	1983	1984	1985	1986
Operations and maintenance (readiness)	31.3	29.4	27.5	27.0	25.5	25.4
Procurement	27.1	30.5	33.4	34.3	37.1	38.2

Sources: Department of Defense Authorization for Appropriations for Fiscal Year 1983, Part 1, p. 414; *Defense Daily,* 2 February 1983, in *SIPRI Yearbook*, 1983, p. 141.

Aside from the 'Soviet threat,' it appears that there were other reasons for rapid military expansion. We should note the fact that the start of the Reagan administration coincided with the production and deployment of third-generation post war weapons systems (Phantom 14, 15, 16 jet fighters, AWACS, XM tanks, Trident submarines, etc.). Research and development on these systems had been initiated in the early 1970s. The DOD procurement of such new weapons systems required huge expenditures. Take, for example, the MX missile, which was intended to replace the Minuteman ICBM. Research on this missile system had started in the early 1970s and in 1979 the Carter administration made the decision to go ahead with its development and production. Deployment was approved in October 1980 by the Reagan administration. The pojected costs at that time for the MX missiles alone were $24.6 billion.[7] It is clear from Table II that the share of procurement in military expenditures began to increase at the expense of readiness i. e., maintenance and operations.

It is important to bear in mind that the research and development of major weapons systems now requires about 10 to 15 years. Consequently, military contractors must embark upon the follow-on system soon upon completion of a weapons system. The most recent case was the decision on the FSX, the fighter plane that the Japanese Self-Defense Forces plan to deploy beginning in 1997. The existing F-1 fighters were first deployed in 1977 and, with production already stopped, would end their service after 1997. Given the 10-year lead time required for developing the FSX, a decision had to be made in time for the 1988

budget. The Japanese government, of course, ultimately did make the decision to develop the FSX in cooperation with American aircraft companies. This decision meant the commitment of huge military expenditures for procurement of the FSX 10 years from now. It is to be noted that, without such military procurements by the government, R& D on modern, highly sophisticated weapons systems would be seriously disrupted. This cycle in weapons system procurement is largely responsible for the rapid military build-up of various systems pursued by the Reagan administration.

The short-term effects on the U. S. economy and employment brought about by such military spending can not be disregarded. U. S. military expenditures occupy roughly 7% of GNP, affecting more or less 5-6 million people working in military-related industries. The United States was suffering from a serious economic depression in the late 1970s and early 1980s. Moreover, the lesson of the 1930s, that the military spending necessitated by the outbreak of World War II had helped the American economy to move out of the Depression, was still vivid. For Reagan, then in the midst of an election campaign, the positive side effects on the U. S. econnomy were politically attractive. The share of the Pentagon's procurement of durable goods, which had been as low as 5% in the 1970s, came close to its peak (13.5%) in the 1980s. Especially in the aircraft and electronics industries, the growth in demand for durable goods reached 50% and 20%, respectively. It is estimated that military spending was responsible for 20% of GNP growth from 1979 to 1983.[8]

It seems reasonable to conclude that the 'Soviet threat' played up by such conservative elements as CPD at this time was more ideological than real and that domestic political considerations were much more responsible for the sudden military expansion in the 1980s.

II. The Present Activities and Characteristics of the Military-Industrial Complex

(1) Procurements and SDI.

What attracts attention most in this period is the production and deployment of the MX missile. At least 100 of these missiles were to be

deployed, and they were to be available by 1986. The bomber program, the largest element in total strategic program costs, included the upgrading of the B-52Gs and B-52Hs and the construction of 100 B-1B bombers. The first B-1B bombers were to be operational in 1986, numbering 90 aircraft by 1988 or 1989. The B-1 bomber program had been canceled by President Carter in 1977 after four of them had been built. It was believed under the Carter administration that the B-52s could be relied upon throughout the 1980s, until the development of the Stealth bomber in the 1990s.

The Reagan administration revived the B-1 bomber program. Their rationale was that they would not accept risks associated with an aging and vulnerable B-52 force as well as the risks associated with the uncertain production schedule of the Stealth aircraft. The administration also intended to accelerate production of the ALCM to be de-

Table III : The US strategic weapon programs for fiscal years 1982-87
Figures are estimates as of October 1981, and are in billions of US dollars, at FY 1982 prices.

Program	Program cost	Percent of total
Bomber program	63	35
B-52 upgrading, 100 B-1 bombers, cruise missiles, development of Stealth bomber		
Sea-based programs	42	23
Trident submarines, Trident II missiles, cruise missiles		
Land-based programs	34	19
MX missiles, hardening of silos, new basing system		
Strategic defense	23	13
6 AWACS aircraft, 5 squadrons of F-15s, R & D on anti-ballistic missiles		
Command and control systems	18	10
Satellites, communications to strategic weapon systems, hardning		
Total	180	100

Source: *SIPRI Yearbook*, 1982. p.272.

ployed on B-52 strategic bombers and on B-1B bombers. The first ALCM was produced in November 1981, and 20 ALCMs would be deployed on each of 151 B-52Gs and B-52Hs. The production rate was expected to be seven per month by January 1982, rising to 14 per month at the end of the year. In addition, Tomahawk cruise missiles were to be deployed on submarines. The Navy planned to procure 1,720 Tomahawks between FY 1983 and FY 1987.

As for submarines, the Ohio, the first of the new Trident ballistic missile submarines, was commissioned in November 1981. The Ohio, twice as large as a Poseidon-Polaris missile submarine, carries 24 Trident missiles with a range of 7,500 km. Each missile is armed with eight MIRVs with a yield of 100 kilotons per warhead. Poseidon submarines, on the other hand, carry only 16 missiles with a range of 4,500 km and 10 40-kt MIRVs. It is also to be noted that the new strategic plan called for the development and deployment of the Trident II missile with a range of 11,000 km and capable of carrying up to 14 warheads each with a yield of 150 kt. These Trident II missiles would be much more accurate than those they replace, as accurate as land-based ICBMs. This accuracy allows them to be classed by the other side as first-strike weapons, capable of destroying enemy ICBMs in their hardened silos.[9] (Also see Table III.)

The Reagan administration, in parallel with the modernization of strategic nuclear weapons systems, pressed ahead with a plan for the reinforcement of theater-nuclear weapons. In 1983, deployment of Pershing II missiles and GLCMs began. By December 1985, 108 of the Pershing IIs were deployed in West Germany and 128 GLCMs were deployed in England, Italy and Belgium. It was not until December 8, 1987, when the INF treaty was signed between the United States and the Soviet Union, that a brake was applied to this reinforcement plan.

The most striking of the Reagan administration's military expansion programs is clearly the SDI systems which President Reagan announced on March 23, 1983. One of the rationales for this system was that it would provide the bargaining chip to put pressure upon the Soviet Union to change its negotiating position on the START then under way in Geneva. The Soviet Union did come back to the negotiating table, though with little immediate results. The administration's rationale was

that SDI would render nuclear weapons "impotent and obsolete." This goal now seems to have been practically abandoned and the current emphasis appears to be upon maintaining traditional nuclear deterrence by improving the U. S. nuclear capability vis-à-vis the Soviet Union. The immediate impact of the announcement of the SDI program was felt in anti-nuclear movements spreading in both the American public and Congress. In 1982, the administration was faced with growing congressional opposition to, and general public distaste for, nuclear buildups. This mood led to growing congressional opposition to President Reagan's request for an increased military budget for the 1984 fiscal year. The administration's explanation that the SDI system would create a "peace shield" for the defense of people as well as military installations had popular appeal. It served to lessen fears of nuclear war that had been raised by President Reagan's vigorous campaign against the Soviet Union. In 1983, the nuclear freeze movement in the United States receded and the adiministration managed to get Congress to approve a large increase in the 1984 defense budget, up 8.8% from that of the previous year.[10]

SDI has another aspect that is not officially admitted by the administration, but often noted by other observers. That is, SDI will contribute to strengthening the technological and industrial competitiveness of certain American industries. Even many foes of SDI expect spinoffs from this research. Ashton Carter, a former Pentagon weapons expert who wrote a highly skeptical analysis of Star Wars for Congress's Office of Technology Assessment, points out that the crux of the matter is, "Which technologies are going to bloom anyway ? What are we going to use whether SDI collapses or not ?" Harold Brown, himself a physicist and secretary of defense in the Carter administration, agrees with Ashton Carter and foresees "substantial military spinoffs."

Nobel prize-winning nuclear physicist Hans Bethe has now joined the Union of Concerned Scientists in fiercely opposing the SDI program. Nevertheless, he, too, regards research into laser defenses as potentially important.[11]

Mark Miller, president of Boeing's Aerospace Division, considers the company's SDI contracts to be "very important dollars" (estimated at $349 million). As his comment indicates, the amount of money that

flows into defense and defense-related industries is astounding. According to the three-stage development plan announced in May 1987 by the Pentagon, the funds required to reach the first stage of SDI development are estimated at $40–60 billion. The 1987 report prepared by the Federation of American Scientists shows that total SDI contracts amounted to $10.9 billion, 70% of which went to the major aircraft and electronics-aerospace companies. The largest share ($1 billion) went to the Lockheed Aircraft Company, followed by Huges Aircraft, TRW, McDonnell Douglas, and Boeing.[12]

(2) National Security-Oriented R&D

Because of the heavy emphasis on U. S. national security, the development of science and technology has been heavily military-oriented. Universities and colleges as well as federally funded research and development centers (FFRDCs) received 70% of their R&D funds from the U. S. government in fiscal year 1980, with 40% of this coming from the Department of Defense, the Department of Energy and NASA. Private companies received a higher percentage of federal R&D obligations, amounting to 54% in fiscal 1984, of which 81% came from the above three agencies. These figures indicate that U. S. R&D is substantially militarized.[13]

Melvin Laird, former secretary of defense, once said that an evaluation of future U. S. defense needs must include a plan to secure its technological superiority. His remark suggested the linkage between national security and leadership in science and technology. President Reagan, in his 1983 State of the Union Message, stated that his administration was "committed to keeping America the technological leader of the world now and into the 21st century." Hence his confirmation that America's fundamental science policy would remain unchanged. This linkage would accentuate the heavy concentration of federal R&D obligations in defense-related high-technology industries. The federal R&D allocations to private companies in fiscal 1982 show that 53% went to aircraft and missile-manufacturing industries. In addition, electronics and communications industries received 24%.[14]

All this, in a sense, means that the U. S. government is financing

technological innovation in high-tech industries in the United States. This is so despite the public denial by government officials. The criticism often directed against Japan's 'industrial policy' by U. S. government officials reflects the prevailing ideology within the American political economy that government should not meddle in the private sector of the economy. This ideological imperative dictates that direct investement of state capital into the private sector be most conveniently justified in terms of national security reasons. It should be noted, therefore, that federal R&D expenditures for national security involve not only U. S. defense spending, but also assistance to technological innovations and developments pursued by private companies.

This contrasts strikingly with the cases of Japan and West Germany. The share of military R&D of these countries amounts, respectively, to only 4% and less than 1% of the total military R&D expenditures of the United States.[15] It is evident that R&D in Japan is civilian-oriented. In the United States, on the other hand, the Pentagon and the defense-related industries play a significant role in technological development. Hence the militarization of R&D in the United States.

III. Some of the Current Problems Associated with the Military-Industrial Complex

(1) 'Baroque' Technology and the Question of Spinoffs.

The military-industrial complex is the greatest beneficiary of the development of military technology conducted with the aid of huge amounts of state capital. Accordingly, representatives of those interests have made a point of noting technological spinoffs from military R&D. "It is our founding assumption," said Robert Kuhn, "that civilian industry can gain substantial advantage from the technological breakthroughs of military R&D programs. …"[16] It is true that we can enumerate such cases from the past. But recently such an argument has become increasingly questioned.

First, as the report of the President's Commission on Industrial Competitiveness of January 1985 points out, it is civilian industries that are taking the lead in technological advances, with the government serving as an important user of such achievements. One such example

is the case of Japan. In the fall of 1983, a mission led by M. Currie, vice president of Hughes Aircraft, visited Japan to explore the possibility of exchanging technological information between Japan and the United States. The mission reported that Japanese industries had been successful in developing 'dual' technologies mainly intended for civilian use but also useful for production of military hardware. The report also noted the increasing importance of Japan's own military-related technologies and clearly indicated the rising importance of possible transfers of civilian technologies to military purposes.[17]

Secondly, the overdevelopment of military technology is a serious and growing concern. Military industries, faced with fierce competition, vie for technological improvements in order to meet certain performance characteristics required by the Pentagon. As a result, military technology tends to be more and more sophisticated and complicated, eventually ending up in overdevelopment. Mary Kaldor calls this aspect of military technological development "baroque technology." She points out that the weapons systems have now overreached themselves, becoming big, costly, elaborate and less and less effective. The gap between the requirements for civilian technology and those of military technology has widened. The rising costs of military R&D has further added to the difficulty of technology transfer from civilian to military use.

Another related problem is that R&D efforts by arms manufacturers place an emphasis on applied research and development rather than basic research. This causes a problem in the long run because basic research is the foundation for applied research, which is in turn necessary for development. In spite of the fact that basic research is a source of technological innovation, a large share of U. S. govenment R&D funds is spent on development. DOD, which allocates a substantial portion of federal R&D expenditures, has spent only 3% of its R&D funds for basic research during the past two decades (See Table IV). While the Pentagon spent almost half of all federal R&D dollars in 1980, three other federal agencies (the Department of Health and Human Services, the National Science Foundation and the National Aeronautics and Space Administration) spent more funds on basic research.[19]

All these factors indicate that we can no longer expect technological

Table IV : Shares of basic research, applied research and development in total R & D in the USA : all R & D, federally and non-federally funded R & D and DOD obligations for R & D

	Total R & D	Basic research	Applied research	Develop-ment
	($ billion)	(Percentage of total R & D)		
Total R & D expenditure (all sources of funds) :				
1960	13.5	9	22	69
1970	26.1	14	22	65
estimate 1982	77.3	12	21	67
Total non-federal R & D expenditure :				
1960	4.8	10	28	62
1970	11.2	9	24	67
estimate 1982	41.2	8	23	70
Total federal R & D expenditure :				
1960	8.7	8	19	72
1970	14.9	17	21	63
estimate 1982	36.1	17	20	63
DOD obligations for R & D :				
1960	5.7	3	12	85
1970	8.4	4	13	83
estimate 1982	21.5	3	11	85

Source : *SIPRI,* 1982, p. 226

spinoffs from military R&D to be as prevalent as in the past.

The question remains why the U. S. government continues to allocate a relatively large proportion of its resources for military R&D. The choice is clearly political. It is demonstrated by the regional distribution of military expenditures, which are heavily concentrated in certain states with ties to arms manufacturers. Of the top ten states receiving DOD prime contract awards (FY 1981), California received the largest share, far exceeding Texas which ranks second. Together, top ten states received 65% of the total (See Table V). Ten industries provided about 70% of the Pentagon's procurements, and the top five of them (aircraft, radio & communications equipment, missiles, ordnance, and ship building) occupied 55% of the total. The breakdown of military contract awards by companies shows that the top seven U. S. arms

Table V : Top ten states receiving Department of Defense prime contract awards
Fiscal Year 1981

STATE	PRIME CONTRACT AWARDS (Thousands of Dollars)	PERCENT OF TOTAL
California	$ 16,698,825	19.0 %
Texas	7,503,964	8.6
New York	6,520,511	7.4
Massachusetts	4,604,946	5.2
Connecticut	4,494,258	5.1
Missouri	4,411,471	5.0
Virginia	3,611,821	4.1
Florida	3,169,443	3.6
Louisiana	3,045,133	3.5
Washington	2,792,891	3.2
TOTAL	56,853,263	64.7
U.S. TOTAL	$ 87,761,215	100.0 %

Source : DeGrass, *Military Expansion, Economic Decline,* p.25.

Table VI : Government Contracting, 1970-79
($millions)

	DoD		DoD R & D		NASA	
Company	Contracts	% of Total DoD Contracts	Contracts	% of Total DoD R & D	Contracts	% of Total NASA
Boeing	$ 12,039.1	2.9%	$ 4,757.9	7.1 %	864.9	2.7%
General Dynamics	17,900.8	4.3%	2,947.5	4.4%	666.9	2.1%
Grumman	10,772.6	2.6%	1,813.4	2.7%	492.6	1.5%
Lockheed	17,473.4	4.2%	4,298.0	6.4%	684.8	2.1%
McDonnell Douglas	18,461.1	4.4%	4,618.8	5.9%	1,952.6	6.1%
Northrop	6,175.4	1.5%	644.6	1.0%	177.1	0.6%
Rockwell	8,322.0	2.0%	3,867.9	5.8%	6,244.2	19.6%
United Technologies	13,734.2	3.3%	1,910.1	2.8%	347.7	1.1%
Total	$104,878.6	25.3%	$24,858.2	37.1%	11,430.8	35.9%

Source : Adams, *The politics of Defense contracting*, p.36.

manufacturers in the years 1970-79 received 25.3% of DOD contracts and 37% of the Pentagon's R&D (See Table VI).

With regard to R&D contracts for SDI, 73% of the total ($10.9 billion) went to the major manufacturers of electronics and aero-space equipment, and California alone received 45% of the total.[20] These uneven concentrations of resources by region, industry, and company testify to the extent to which the military-industrial complex forces are organized, exerting a disproportionate degree of political influence.

In sum, this uneven distribution of resources is the result of political choices that are greatly influenced by the military-industrial complex in American society. Moreover, it is also the result of initiatives taken by the U. S. government to maintain U. S. military superiority over the Soviet Union in order to retain U. S. hegemony in world politics.

(2) Military Expenditure and the Stagnation of the American Economy.

In the postwar period through the 1960s the majority of the American people had been led to believe that their economic system was functioning well and that the development of advanced military technology in the United States had an important role in sustaining the competitiveness of America's high-technology industries in the world market. In this connection, the relationship between high military expenditures and American economic growth had been viewed favorably in American society. But when the American economy began to falter in the early 1970s, people started to question this relationship. In the ensuing debates, growing attention was given to the damaging effects of high military expenditures on the economy.

David Stockman, director of the Office of Management and Budget in the Reagan administration, thought there was about $10-30 billion worth of waste in defense expenditures that could be "ferreted out if you really push hard." Professor William Kaufman, who had served as a consultant for several secretaries of defense in past administrations, estimated that one could usually find 3-5% waste in defense programs.[21]

What causes the institutionalization of waste in defense programs? One could point to three factors. The first has to do with the way defense contracts are concluded with arms manufacturers. Most defense

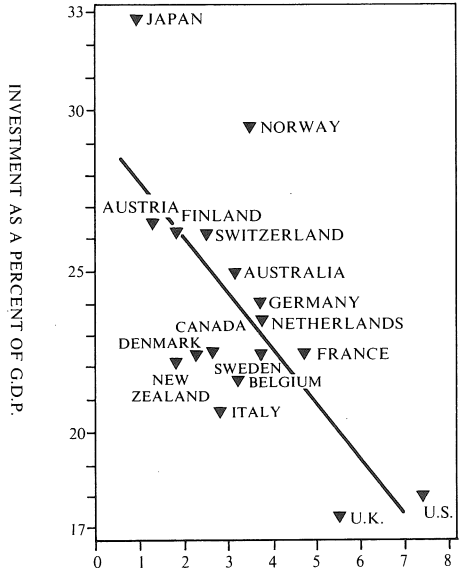
contracts are based on the costs-reimbursement formula (cost-plus). In contracts in which costs incurred by contractors are reimbursed, there is very little incentive on the contractor's part to reduce costs.

Secondly, defense contractors tend to act on the principle of maximizing government subsidies or costs because they depend on state capital for R&D funds. This means that spending more federal funds rather than saving them is tantamount to more sales or profits for the companies.[22]

Thirdly, development of modern weapons systems requires many years of R&D and this lead time is becoming longer. The longer the lead time, the more chances for design changes as well as changes in the needs of the military. In the meantime, programs are abandoned, inflation pushes up costs, or weapons that have been developed may not be actually deployed. This results in waste that cannot be easily written off.[23]

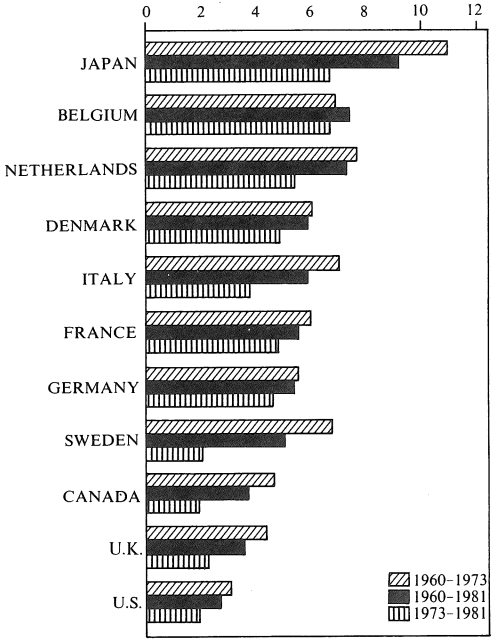
In addition to the institutionalization of waste, we should also note the studies made by Seymour Melman and Robert DeGrasse that refer to the relationship between military expenditures and the decline of productivity. Of course, there are various factors involved in the decline of productivity, such as differences in managerial style and practices, labor-management relations, quality of labor forces and the varying degrees of impact of the oil shocks in the 1970s. However, we should not neglect the impact of huge military expenditures on the economic performance of the United States. As already noted, at the heart of the militarization of the American economy is miltiary-oriented R&D which renders U. S. technological improvements baroque and distorted, making their transfer to civilian use difficult. Secondly, about 40% of scientists and technologists and a large portion of federal R&D money are absorbed into defense and aerospace industries, tending to strain the needs of the civilian sector of the economy. Thirdly, such a strain also reflects in the investment environment as a whole. There is a zero-sum relation between military expenditures and civilian investments, the former eating away at the latter. Melman estimates that the proportion of civilian fixed capital formation to military expenditure is 100 to 30. That means a third of civilian investment funds are eaten away in arms production.[24]

Chart III. Investment Vs. Military Spending
Selected Nations
1960-1980



Source : DeGrass, *Military Expansion, Economic Decline*, p. 70.

Chart II. Productivity Growth In Manufacturing Industries
Selected Nations 1960-1973, 1960-1981, 1973-1981



Source : DeGrass, *Military Expantion, Economic Decline*, p. 62.

These three factors seem sufficient to explain the lowered productivity of American industries. (See Charts II and III). Military expenditures give rise to institutionalized waste in defense industries, leading to the decline of productivity and eventually working against the vitality of the economy.

(3) The Fiscal Policies of the Reagan Administration and Their Consequences.

Reaganomics set out to balance the budget by fiscal year 1984. However, not only was the goal not achieved, but the federal deficits went from bad to worse. The deficit stood at $63.8 billion in 1981, rose to $145.9 billion in 1982, hit $176 billion in 1983, and dipped to $170 billion in 1984.[25]

The reasons for the rapidly worsening federal deficits should be seen in terms of both revenues and expenditures.[26]

On the revenue side, the American economy experienced a recession during 1981 and 1982 and, contrary to expectations, revenues declined in 1983. What is more, the Reagan administration knowingly underestimated the deficits. For example, the White House 1983 deficit estimate was off by over $100 billion, by far the largest margin of error in the postwar period. According to OMB Director, Stockman, some members of Reagan's inner circle, including Stockman himself, knew that the administration's fiscal policies would not reduce the deficits. Large tax cuts also aggravated the situation, with the corresponding revenue loss estimated at $434 billion during the years 1981-85.

On the expenditure side, the Reagan administration failed to ease its federal tax burden. The federal tax burden as seen in terms of the share of federal revenues in GNP has increased during the past 20 years, from 18.5% of GNP in 1960 to 20.2% in 1970 and 22.4% in 1980. President Reagan's budget program intended to reduce the burden to 19.3% by FY 1984, but instead it rose to 23.8% for the same year.[27] There were three main reasons for the failure: the upsurge in interest payments; the political obstacles in reducing social security payments; and the administration's determined efforts to increase defense outlays at the expense of balancing the budget. These defense outlays continued to rise during the Reagan administration: $134 billion in 1980, $227.4 billion in 1984

and $282 billion in 1987. Defense and social security outlays accounted for more than 50% of the increases in federal expenditures from 1982-85. The defense portion alone comprised one-third of the increases.[28]

After reviewing the administration's fiscal policies, the fact remains clear that the Reagan administration did not modify its fiscal policies even when large deficits were openly admitted in its own public statements. This gave rise to what might be called a Reagan phenomenon. One of its most important elements was political: Reagan not only refused to raise taxes but continued to support the tax cuts enacted by the Econnomic Recovery Tax Act of 1981 because the tax cuts were politically popular. Between 1961 and 1982, the percentage of those who felt taxes were too high increased from 46% to 69%.[29] On a more theoretical level, supply-side economists provided an intellectual basis for these tax cuts, arguing that the government could increase revenues by cutting taxes. When it became clear by 1982 that the revenue growth predicted by the supply-siders was not to occur in the immediate future, the administration found its answer in monetarists such as University of Chicago economist Milton Friedman, who argues that money supply is the key element in stable economic growth. Less concerned with the short-term negative consequences of deficit-financing, the monetarists gave President Reagan and acquiescent congressmen a free hand to continue deficit-financing.

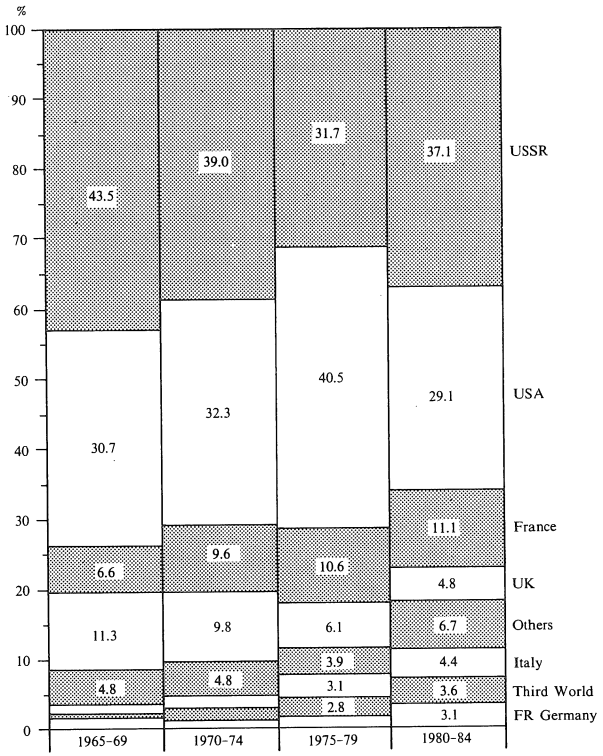
Another component of the Reagan phenomenon relative to the huge federal deficits was the president's determination to make defense spending sacrosanct against pressures for reductions. Facing mounting congressional efforts to reduce the deficit in 1983, President Reagan adamantly refused to raise taxes, instead proposing a reduction in non-defense spending and asking for a 10% real growth rate for defense spending. In 1984, President Reagan's fiscal 1985 budget projected a $180.4 billion deficit, but requested $305 billion in budget authority for military spending that represented a 13% inflation-adjusted increase over fiscal 1984 spending.[30] The administration continued its massive military build-up, requesting in fiscal 1986, $322.2 billion, a real growth of about 6% after inflation, and $320.3 billion in budget authority in fiscal 1987, constituting an 8.2% increase above inflation.[31] The deficit-increasing factors are varied, but the fact that President Reagan's

massive military build-up continued at the sacrifice of non-defense spending certainly aggravated the deficits.

(4) Militarization of the World and America's National Security Dilemma.

The influences of the military-industrial complex in the United States extend beyond its borders and are responsible to a considerable extent for the rapid global militarization. The United States today is the largest supplier of arms ; its export of arms during the five years from 1980–85,

Table VII : Percentage shares of exports of major weapons to the Third World regions by supplier, 1965—84



Source : *SIPRI Yearbook*, 1985, p. 348.

for example, accounted for 40% of the total arms trade. The share of Soviet-supplied arms during the same period declined to about 32%. The recorded recipients of major weapons from the United States during the period were 79 countries, compared with the 40 countries supplied by the Soviet Union. Especially during the 1975-79 period, U. S. exports of arms to the Third World showed a marked increase, accounting for 40.5% (the corresponding percentage for the Soviet Union was 31.9%), thus making the U. S. the foremost promoter of the militarization of the Third World (See Tables VII and VIII).

Table Ⅷ : The leading major-weapon exporting countries: the values and respective shares for 1980-84

Figures are SIPRI trend indicator values, as expressed in US $ million, at constant (1975) prices; shares in percentages. Figures may not add up to totals due to rounding.

Country	1980	1981	1982	1983	1984	1980-84	Per cent of total exports to Third World, 1980-84
USA	5 577	5 559	6 186	5 655	4 685	27 662	48.2
	36.7	38.5	42.9	40.1	40.4	39.7	
USSR	6 538	4 741	4 184	4 174	2 532	22 170	76.8
	43.1	32.9	29.0	29.6	21.9	31.8	
France	1 144	1 347	1 241	1 360	1 242	6 335	80.6
	7.5	9.3	8.6	9.7	10.7	9.1	
UK	431	532	667	519	822	2 972	73.5
	2.8	3.7	4.6	3.7	7.1	4.3	
FR Germany	316	435	250	613	746	2 359	61.0
	2.1	3.0	1.7	4.4	6.4	3.4	
Italy	366	531	576	374	372	2 219	91.9
	2.4	3.7	4.0	2.7	3.2	3.2	
Third World	192	306	438	467	311	1 714	96.1
	1.3	2.1	3.0	3.3	2.7	2.5	
China	82	148	221	222	430	1 103	99.4
	0.5	1.0	1.5	1.6	3.7	1.6	
Others	533	831	668	707	444	3 182	62.9
	3.5	5.8	4.6	5.0	3.8	4.6	
Total	15 179	14 430	14 431	14 091	11 584	69 715	65.8

Source : *SIPRI Yearbook*, 1985, p.348.

"Regardless of the indigenous nature of the origins of conflicts," writes Stephen D. Goose of the Center for Defense Information, "foreign countries--especially the USA and the USSR--are involved in virtually every conflict." In this sense, the exports of arms from the industrialized countries are closely interwoven with conflicts in the Third World. It has been reported that at the end of 1986 there were 36 armed conflicts around the world. Moreover, about 5.5 million soldiers from 41 countries are directly involved in the fighting, and 3-5 million people have died as a result of these wars. The most bloody and costly of these is the Iraq-Iran war. According to estimates, by the end of 1986 the war had produced 1 million casualties since September 1980: 350,000 dead and 650,000 wounded. There are 53 suppliers of arms to Iraq and Iran. It is not much of a surprise that even the United States, which led an arms embargo against Iran in 1983, has supplied arms to Iran behind the scenes.[32] Arms shipments from the industrialized countries have been one of the major causes for global militarization and the prolonging of conflicts in the Third World.

There is another aspect to be noted with regard to the military-industrial complex, that of the dilemma posed by the role of high technology in national security. The political forces in defense of the military-industrial complex argue that development of military technology and the concomitant reinforcement of military power help to enhance national security and maintain peace. One could argue, however, that in reality U. S. national security has been steadily decreasing since World War II and that the reliability of high-technology weapons has since been following a downward path. This is the dilemma of national security today that the development of military technology has created.

The more sophisticated and complex modern weapons systems are, the less reliable they tend to be. Complex military equipment contains thousands of parts. The more parts there are, the greater the chances that one will fail, and the greater the likelihood that the system as a whole will break down. For instance, F-4 fighters, the predecessors of the F-14 and F-15, required 70,000 spare parts, which means a high frequency of operational failures, many hours of repair and maintenance, and the subsequent aggravated concerns over readiness. In Vietnam, in spite of the largest logistical operation ever mounted, U. S.

military forces suffered from perennial shortages. During the operation to rescue American hostages in Iran, three out of the eight U. S. helicopters (RH-53 D) sent to the site broke down. The failure rate of these helicopters, 37.5%, was surprisingly low in view of the fact that normally 55% of the RH-53 D fleet is not capable of performing its mission at any given time. Moreover, the RH-53 D requires 40 hours of maintenance for every flight. The RH-53 D is not an isolated one. Two-thirds of F-111D bombers are grounded at any one time and the F-14A is not in a position to perform its mission almost half the time. The time between failures is 12 minutes for the F-111D and 18 minutes for the F-14A, while maintenance hours per flight are 98 hours for the F-111D bomber and the F-14A fighter.[33]

More or less the same problem occurs with respect to C^3I (command, control, communications and intelligence). With the rapid development of military technology and communications systems, crucial decisions leading to nuclear war have gradually shifted to lower-level military officers or technical specialists.[34] This relatively recent phenomenon underlines the increasing importance of the operational capability of those in charge to coordinate, gather and exchange information between weapons systems, support (logistical) systems and command headquarters. But the more sophisticated and complex these C^3I systems, the more likely are the chances of human error and technical failure. Moreover, a 1 megaton ground nuclear detonation generates "damaging levels of EMP (electromagnetic pulse) over an area of 15 kilometers radius."[35] In other words, in a nuclear war, command, control and communications equipment will be disturbed and cease to function reliably.

All of this supports the statement made by Herbert York before the Senate Foreign Relations Committee in 1963. "Ever since shortly after World War II," he said, "the military power of the United States has been steadily increasing ; Over the same period the national security of the United States has been rapidly and inexorably diminishing."[36] Development of military technology in the field of electronics has not only increased the destructive power of nuclear weapons, but also dramatically improved their accuracy, which, by lowering the 'threshold,' has made the possibility of preemptive strikes or limited war more

likely than ever. The current U. S. Minuteman III, the world's most sophisticated ICBM, will, through improvements in the missile's computerized guidance system, decrease the circular error probable (CEP) from the current value of about 350 meters to about 200 meters. Minuteman III ICBMs with this improved accuracy will be capable of destroying Soviet ICBMs in silos hardened to about 4,000 pounds per square inch. In such a case, about 78% of Soviet ICBMs will be destroyed by one hit and about 95% by two hits. The MX, an exceedingly accurate ICBM, is said to have a CEP of 100 meters.[37]

A U. S. strategic force of this accuracy would be regarded as considerably threatening to the Soviet Union. The likely Soviet response to this kind of threat would be the installation of a launch-on-warning system in which a computer, without any decisive human intervention, would be used to automatically launch Soviet ICBMs if U. S. missiles were detected in flight. The inexorable logic of the development of military technology suggests that such an eventuality would not be a remote possibility. It is an ironic but a hard reality that the improvements in accuracy of Soviet ICBMs in the 1970s to catch up with the superior U. S. strategic ICBM force led to the 'window of vulnerability' debates and the rise of conservative forces responsible for the playing up of the 'Soviet threat' in the United States.

The logic of action-reaction inherent in the past expansion of armaments shows that there is no way out in the area of military science and technology. "It is my view," asserts York, "that the problem posed to both sides by this dilemma of steadily increasing military power and steadily decreasing national security has no technical solution." He warns that seeking technical solutions to the dilemma will create "a steady and inexorable worsening of the situation." He is not alone in this view. Hans A. Bethe, a Nobel-Prize winning physicist, said in a March 1985 interview that it would be a great comfort to administration officials "if there was a technical solution. But there isn't any." Therefore, he added, "the solution can only be political."[38]

The firsthand knowledge of these specialists concerning the development of nuclear weapons makes their cautions impossible to ignore. York served as the first director (1952-59) of the Lawrence Livermore National Laboratory at Livermore, California, one of the premier

institutions in the development of nuclear weapons technologies and now the center of R&D on SDI. As director of the Livermore Laboratory, he was invited in 1954 to join the Von Neumann Committee charged with reviewing various proposals for the development of large rockets capable of delivering nuclear warheads with high accuracy. He later served on the President's Science Advisory Committee chaired by James R. Killian Jr., President Eisenhower's special assistant for science and technology.

IV. By way of conclusion---Demilitarization and Japan's Choices

The activities of the military-industrial complex in the United States provide some important lessons for the future courses of action open to Japan. We have seen its consequences: overdevelopment and distortions of military-oriented technological development; inefficient distribution and utilization of national resources; militarization of the economy and deleterious effects on economic growth; export of arms and the consequent militarization of the Third World countries; and the dilemma of national security derived from the superpowers' pursuit of military superiority through weapons development.

In spite of these serious problems, there are marked and increasing signs, especially in the 1980s, that the majority of Japanese are not seriously concerned about these issues. For example, the election of Prime Minister Yasuhiro Nakasone coincided with a conspicuous increase of military spending as well as the further militarization of Japan. Military expenditures in Japan increased from $15 billion in 1979 to $23 billion in 1985 and $26 billion in 1987. The year 1987 was also significant in the sense that the '1 percent ceiling' on military expenditures established by Takeo Miki's Cabinet in 1976 was abolished. In the light of this steady militarization of Japan, two things draw our particular attention.

First, the rapid military build-up during the Nakasone Cabinet was, and still is, linked with the expansion of the military-industrial complex in the United States. A very important political aspect of U. S.-Japan economic friction is the constant pressures from the United States to

increase Japan's military share of the 'common defense.'[39] This pressure from Washington has been employed by the various conservative political forces in Japan (the JSDF, arms manufacturers, right-wing politicians) which have benefited from the increase in military spending. Here, the conservative forces of both countries make strange bedfellows. As a result, Japan is the largest importer of major U. S. weapons. In 1978-82, among importers of major U. S. weapons, Japan and Saudi Arabia ranked first. In the 1980-84 period, Japan held the top spot alone, leaving behind Egypt and Saudi Arabia.[40]

Secondly, Nakasone's policy of a calculated military build-up has further strengthened the viability of the military-industrial complex in Japan. Continuation of this trend would certainly lead to yet another source of tension between the two countries. Recent negotiations over the Japanese Self-Defense Forces' project to build the new generation FSX jet fighter revealed that there would be an increase in friction over the flow of technology between the two countries. The military-industrial complex in Japan wanted to build their own FSX while Washington strongly urged the Japanese government to purchase F-16s from General Dynamics. A compromise was reached in which Japan would build the updated version of the F-16 fighter with General Dynamics being subcontractor to Japan's Mitsubishi Heavy Industries. A battle over the FSX was resumed in the early months of 1989 when congressmen with strong ties to the defense industry began to pressure the Bush administration to revise the original agreement, negotiated in the last year of Reagan's presidency, as they feared it might give away vital U. S. technology that could be used by Japan to reach its goal of developing a competitive aerospace industry in the next decade. It is reported that the revised agreement will place "significant limits" on Japan's access to advanced aerodynamics, engine technology and rader.[41]

The decision made by the Nakasone government to allow Japanese companies to participate in the SDI project is also symbolic of the rise of military-industrial complex in Japan as well as the changing mood of the Japanese public, who are showing less and less sensitivity to the militarization of the country. The U. S. reaction shown in the 'techscam' scandal involving Hitachi Manufacturing Co. and Mitsubishi Electronics Co., the U. S. government's intervention to stop Fujitsu

Corporation's attempt to buy up Fairchild and the vigorous denunciation of Toshiba Machine Tool Co. for having exported its high-tech machine tools to the Soviet Union--all these cases testify to increasing U. S.-Japanese technological friction. Given these cases, the measures taken by former Prime Minister Nakasone to undermine the long-established 'three principles prohibiting the export of military weapons and related materials' portend a coming clash of interests of the military-industrial complexes of the United States and Japan. Following the signing in November 1983 of a Memorandum of Understanding on Defense Technology Transfer, which made it possible for Japan to transfer military technology to the United States, Nakasone announced on September 9, 1986, that Japan would participate in the development of SDI. It is significant to note that the undisclosed arrangements related to implementation of the agreement providing for Japanese participation in the SDI system allow Japanese companies and other entities to incorporate the results of the research in their own products royalty-free, but the patents will belong to the Pentagon. Moreover, the Pentagon reserves the right to determine whether newly developed technologies are to be classified as affecting vital U. S. national security. Given the difficulty in defining when the U. S. national security is at stake, the U. S. government has ample leeway to place significant limits on the right of Japanese firms to use technological spinoffs in their products. What is more politically sensitive is the fact that the detailed arrangements also prohibit technologies developed through SDI research from being exported (transferred) to communist countries.[42] Given such measures, it is highly likely that a clash of interests originating between American and Japanese firms, like the recent incident involving Toshiba Machine Tools, will be repeated. It should not be forgotten as well that such incidents tend to quickly escalate into a clash of fundamental national interests.

We should not lose sight of the present dangerous situation in which the issues between Japan and the United States, whether in the field of trade (U. S. demands for opening Japanese markets) or that of national security (the burden-sharing issue, for example) tend to be narrowly focused upon and treated as bilateral issues. This bilateral focusing of the issues has so far not only left unresolved the accumulated feelings of

frustrated nationalism on both sides of the Pacific, but has also not taken into account the related predicaments that Third World countries face today. As already discussed, the rapid militarization in Third World countries in which the industrialized countries, particularly the United States and the Soviet Union, have been deeply involved and the consequent aggravation of poverty and frequent occurrences of conflict are interwoven with the activities of the military-industrial complexes of the countries concerned. Total global military expenditures have now exceeded ¥1 trillion, while the amount of foreign debts incurred by many Third World countries equals the world's military expenditures. Conditions of starvation exist in about one out of ten developing nations. Nonetheless, 70% of total arms exports go to the Third World. Therefore, it would be legitimate to argue that a search for an alternative to the present militarization of the world should begin with our efforts to find solutions to the perennial problems that peoples of the Third World face today.

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