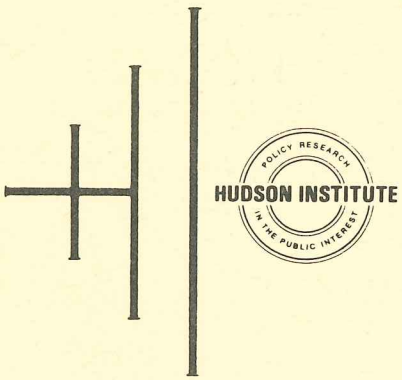
HI-1661/2-RR
SEPTEMBER 29, 1973

THE WORLD CONTEXT

VOLUME II: The Future of the Nixon Doctrine in Pacific Asia

Herman Kahn
William Overholt



HUDSON INSTITUTE CROTON-ON-HUDSON, NEW YORK

THE WORLD CONTEXT

VOLUME II: The Future of the Nixon Doctrine in Pacific Asia

Herman Kahn
William H. Overholt

HI-1661/2-RR 29 September 1973

Sponsored by:

Advanced Research Projects Agency
ARPA Order No. 1778

This research was supported by the
Advanced Research Projects Agency of
the Department of Defense under
Contract No. DAHC 15 71 C 0239

HUDSON INSTITUTE, INC.
Quaker Ridge Road
Croton-on-Hudson
New York 10520

TABLE OF CONTENTS

THE WORLD CONTEXT

I. THE BASIC ECONOMIC CONTEXT OF THE MIDDLE AND LATE SEVENTIES

The Basic Projection for the World Economy

The mid- and late 70's--and perhaps early 80's--can reasonably be anticipated to be "la troisieme belle epoque" in that, like the two previous periods called "les belles epoques" (from 1901 to 1913 and from 1953 to 1964 respectively) the period may be characterized--more or less world wide--by relative peace, rapid economic growth, vast expansion of trade and foreign investment, relatively free movement of labor, goods and capital; world travel, international communication, cultural and intellectual interaction and many other peaceful international interactions. Thus the world economy--or at least large parts of it--will be relatively unified, internationalized, and increasingly developed economically. As far as many "average men" are concerned, a remarkably large number of these are likely to recognize "la troisieme belle epoque" and be consciously aware of it as being a relatively good period and one with good future prospects as well.

World population will probably go from about 3.6 billion in 1970 to 4.4 billion or so in 1980. Gross World Product (GWP) should grow from about 3.2 trillion dollars in 1970, to about 5.2 trillion dollars in 1980.* This implies a corresponding increase in the annual average**

---

*While all dollar figures are in 1970 dollars, there has been a correction made in the 1970 and later estimates to reflect currency exchange rates as of the Smithsonian agreement of December 1971.

**This is, of course, a mathematical average and can be misleading since most people will receive much more or much less and the average is therefore rather atypical.

TABLE I

WORLD ECONOMY-SUMMARY

POPULATION (MILLIONS)

1970	1982	1991
3675	4675	5600

GROSS WORLD PRODUCT - ($ BILLION)

1970 Adj.	1982	1991
3225	5950	9550

GROSS WORLD PRODUCT PER CAPITA ($)

1970 Adj.	1982	1991
880	1275	1705

NOTE: Figures in this and the following tables are rounded to avoid the impression of spurious accuracy; therefore Gross World Product Per Capita figures may not exactly equal the quotient of Gross World Product and Population.

income from about $890 per capita in 1970 to about $1,200. Thus we expect a continued growth in real GWP (Gross World Product) of about 5 percent per year or more. World trade should grow about 50 percent faster, or at about 7 to 9 percent per year. The gross volume of transnational business done by transnational corporations (including Japanese) should continue to increase at about twice the growth rate of GWP.

1. Energy and Resources

From 1945 until the mid/late sixties almost all kinds of energy in the United States followed a trend of decreasing real cost to the consumer. This justified a basic lack of interest in the supply of energy and allowed a number of dubious--or even clearly counterproductive--governmental policies to go almost unchallenged. Furthermore the environment seemed to be capable of accepting almost infinite abuse. It is now abundantly clear that the past lack of emphasis on Energy-Resources-Environment (ERE) issues clearly will not characterize the 1970's. First and most important there has just begun to be a heightened--if somewhat belated--consciousness of environmental issues. Partly for this reason, but more because of certain short and medium term issues, there will be rising costs, shortages, and even crises in the supply of energy in various parts of the world. As a result, there may be some "mislearning" and an excessive increase in tension and concern for the long-term as well as short and medium term ERE issues. Some increase in concern about long term issues is clearly justified, but most of this concern may take the extreme--and often misplaced--form currently emphasized by the Neo-Malthusians.* Thus one of

*See World Dynamics by J. Forrester, and Limits of Growth by D. Meadows, et al.--both supported by the prestigious Club of Rome.

the most important political and ideological issues of the next two decades may find its formulation and expression in such remarks as the following (currently often addressed to Americans in Europe and Asia today): "The United States has five percent of the world's population and is using 35 percent of the world's current consumption of irreplaceable energy and about the same percent of other irreplaceable resources; how long can this moral outrage continue?" The Japanese will doubtless soon come under a similar hostile questioning--as will also many other advocates or practitioners of economic growth.

Actually it now seems likely that many of the most pressing ERE issues will largely be resolved or be on their way to resolution by the late 1970's and early 1980's, and this partial "success"--if recognized and publicized--will eventually tend to weaken or diminish the extreme Neo-Malthusian arguments (hopefully without weakening the interest in and pressures for more relevant and reasonable ERE issues). However, in the absence of serious debate the Neo-Malthusian views will continue to be publicized so intensely and so pervasively as to give them a virtual monopoly of the "high culture" discussion and create pressures* at least in many upper middle class, intellectual, and academic milieus, as to almost foreclose revisionist discussion.

The status of the Neo-Malthusian controversy through the 70's can be very important (quite apart from the objective validity--or lack of validity --of the argument itself). For example, if there is a general expectation of long-term shortages of energy or of other resources during this period, the competition for control of these could become quite severe and possibly cause great disruption of international trade. Such views can also give

*See Herman Kahn, "Educated Incapacity," HI-1631-D, September 26, 1972.

suppliers of raw materials unrealistic concepts of their bargaining power. In any case long-term Malthusian expectations could have a very great ideological and political effect--particularly on the morale, expectations, and unity of conservative, responsible, or "optimistic" groups.*

2. Environment

Environmental issues will certainly become critical in the period--particularly if business-as-usual obtains. In our surprise-free projection, however, in many areas, particularly in what we call the Northwest European tier area, and in some other parts of Europe, North America and Japan, we expect that most "perceived" and "felt" local, regional, and national environmental issues will be well on their way to a solution. Current and likely programs, and the current quite large--and increasing--efforts and attention being paid to these matters, indicate that at least those issues at the center of today's serious discussions and controversies will--by 1980 or so-- have been subject to successful programs or be the object of adequate ongoing programs--assuming that current constructive pressures do not let up. This will almost certainly be much less true for most of the rest of the world. Even such countries as Italy and Belgium show slight serious interest today in these issues, and yet many problems of pollution may be very important for them by the end of the 1970's. Another important open issue is the attitude of the Communist states. While there has been a good deal of internal debate in the U.S.S.R. and Eastern Europe, there has been very little action. But it seems plausible to imagine that they will follow--perhaps slowly--the North European pressures and example--as well as internal pressures. This will be important for example before

*See Prospects for Mankind, HI-1648/4-D.

the problems of the Baltic and the Rhine can be solved or alleviated, there must be a reasonable degree of cooperation from almost all of the concerned countries if great success is to be achieved.

A relatively serious problem may begin to exist in the 1970's from DDT and PCB in the oceans. There is some evidence now that we are beginning to reach ecological limits in many parts of the ocean, as measured, for example, by the vulnerability of birds. Currently DDT is almost essential in many areas for malaria control and is also the most effective pesticide for several crops. As a result the success of the Green Revolution depends very heavily on extensive use of pesticides. Very likely, this could be a major issue of the mid- and late 70's or at least begin to emerge as such an issue. One can easily imagine pressure by the developed world on the underdeveloped world and the latter in turn making demands on the developed world to develop better pesticides, or to subsidize the use of acceptable pesticides if, as seems likely, these substitutes are less efficient or more expensive. And indeed one can easily imagine the OECD as a group doing something very much like this with regard to the third world. Whether it would be quite as willing to subsidize China is another issue, and whether or not the Soviet bloc would contribute--or even cooperate--is still another. Research and development may contribute greatly to the solution of this problem, particularly if such research is accelerated and if the results are aided by judicious subsidies from the OECD countries.

3. Structural Trends in the World Economy: Some Analytic Perspectives

The world economy's structure can be considered from several perspectives. First, one may want to examine patterns of ownership and

control. Second, the world economy can be viewed in terms of levels of development. Here one could employ the simplistic dichotomy between developed and developing, but more useful are more complex typologies. One can distinguish pre-industrial, industrial, mass consumption, and emerging post-industrial economies. One can also discuss the varying emphasis these economies place on different sectors: primary (extraction of raw materials), secondary (manufacture), tertiary (services), and quaternary (services to services). Third, the world economy can be examined in terms of the interaction between economic trends and various cultural characteristics. Fourth, one can examine patterns of trade and investment. Fifth, one can examine the size and capabilities of the economies of individual countries in order to ascertain relative economic bases for national power.

a. Patterns of Ownership--Public/Private Accountability

The distinction between capitalist and socialist economies has continuing salience in much of the world but that salience is likely to decline dramatically by the 1980's. The formalities of ownership are increasingly regarded in intellectual and elite groups as irrelevant to the most important social issues, and these attitudes will gradually diffuse throughout educated populations. State ownership has not proved able to make the kind of difference in social structure and resource allocation that was once believed, although centralized control of the economy can have important political implications. Many of the characteristics classically attributed to socialism, such as planning, centralized direction of the economy, and high government spending, have proved to depend more on levels of development than on type of ownership. The

"capitalist" government of the United States plans more effectively, and taxes to a greater extent, than the "socialist" government of India. The decline of the economic argument between socialism and capitalism may serve to heighten and sharpen the very salient political controversy between democratic and communist (and perhaps by the 1980's, other authoritarian) forms of political systems.

A successor to the classic debate on public vs. private ownership is the rising debate over the proper role of the multinational corporation. The multinational corporation eludes many of the conventional categories of public/private relations. Indeed though the term "Multinational Corporation" has been widely used for years, no established definition exists today and it is not easy to make a satisfactory one. The important point about the multinational corporation is not its precise definition, but the general role which this kind of organization will play in developing an interdependent world economy. What matters is the degree to which the factors of production become internationalized, and the world economies become interdependent and to some degree unified and integrated despite pronounced tendencies towards regional and national multipolarity and competition.

It appears that the great international corporations which have grown up in the past two decades could be the major instrument in the creation of a truly international or global economy in the next decade or two. They may or may not account in this period for the majority of international business transacted, but they should set the tone for this expansion and, further, act as a carrier of capitalist values. In this role, the most important characteristics of these organizations are their extreme competence at performing the following functions:

raising and investing capital

creating and managing organizations

innovating, perfecting and transferring technology

distribution, maintenance, marketing and sales (including financing all of these)

furnishing local elites with suitable--perhaps ideal--career choices

educating and upgrading both blue collar and white collar labor (and elites)

finally, in the not-to-distant future, being a major source of savings and taxes

Because of these capabilities they are very efficient in supplying the missing factors of production for any particular area or economy.

Another very important characteristic of these organizations--and almost certainly of their technostructure elites (if not of everybody else associated with them)--is likely to be their contribution to the intangible factor of capitalist or free enterprise morale. Generally, any organization that is growing rapidly and is a center of interest for a nation or community will have high morale. This is expected to be particularly true for companies that operate in the dynamic areas of Asia and Latin America, and will contrast with the low morale atmosphere projected by much domestic business activity in the United States and part of Western Europe now and probably through the 1980's. As an agent of expansion in the dynamic areas, multinational organizations, entirely or almost entirely staffed by nationals, are likely to afford attractive career opportunities to ambitious elites in the developing world.

We expect that in the 1980's the MNC will still be largely apolitical, or at least politically passive in most cases. That is, basically, the multinational concern will try to adapt itself to the political context

in which it finds itself. Its major reaction to local and national politics in the host country, and to international politics, is likely to be to adjust to them and survive them. Obviously even then its actions may have political consequences and will also have economic effects. A country which discriminates against multinational corporations is likely to fall behind in development or trade.

In summary, it seems likely that in the last third of the twentieth century the multinational corporation will emerge as a major driving force in the world economy, and to some degree a major factor in related cultural and social matters. This phenomenon may prove, in historical perspective, more important than many political and ideological trends and issues currently more publicized. To put this issue in perspective, note that most national economies grow at about the rate of 5 percent a year; but the 200 or so top multinational corporations seem to grow at around 10 percent. It seems likely that these rates will persist. The multinational corporation may enjoy a 2.5 percent edge over world trade and a 5 percent margin over GWP well into the 1980's, at least until the MNC component of GWP reaches 25 to 30 percent.

b. Levels of Development

As most of the world experiences steady, but unevenly distributed, growth this ordinarily implies a steady movement from pre-industrial societies to industrial, then to mass consumption, and to emerging post-industrial societies, with all the associated cultural and political changes. It also implies a consistent movement of economic activity into more advanced sectors of the economies. As predominantly primary economies become increasingly secondary, and so on to the tertiary and

quaternary stages, the economic activities previously emphasized must be phased out. The transition necessarily involves some dislocation and unemployment. Cultural tolerance for this dislocation varies, and generally seems to be high in East Asia, moderate in North America, and very low in Europe; accordingly, one expects higher growth rates in Asia and lower in Europe, but also greater social unrest in Asia and less in Europe.

Perhaps the most interesting new feature of national economies is the emergence of post-industrial societies during the next few decades in Japan, the United States, Sweden, Denmark, Norway, West and East Germany, Canada and France. These economies have comparative advantages in services, investment, management, knowledge industries, highly advanced technology, advanced agriculture, specialized consumer goods--and entertainment--among others. Increasingly they will trade services for goods rather than trading goods for goods, and this transition will generate economic friction unless it is thoroughly comprehended since most countries define balanced trade as a balance in the trade of goods.

c. Culture and Economy

The influence of culture on economic conduct and economic productivity has been analyzed in such classic studies as Max Weber's The Protestant Ethic and the Spirit of Capitalism and Gunnar Myrdal's Asian Drama, yet systematic theory is lacking in this field. Despite the absence of theory, the connections are central to any comprehension of long-run growth patterns. We will make our analysis in terms of European cultural divisions, and find it useful to divide Europe into nine sub-cultures as indicated in the numbered zones on the map. The overall unity of West European

THE MAJOR CULTURAL AREAS OF EUROPE

1. THE NORTH-WEST TIER (GREAT BRITAIN, NETHERLANDS, DENMARK, NORWAY, SWEDEN, FINLAND, ATLANTIC COASTAL GERMANY).

1A THE CELTIC FRINGE (IRELAND).

2. THE CENTRAL ZONE (NORTH-CENTRAL FRANCE, RHINELAND GERMANY, BELGIUM, LUXEMBOURG).

3. THE MEDITERRANEAN COASTAL ZONE (SOUTHERN FRANCE, NORTHERN AND CENTRAL ITALY, CATALONIAN SPAIN, DALMATIA).

3A "MAGNA GRAECIA" (SOUTHERN ITALY, SICILY, SARDINIA).

4. THE EAST-CENTRAL ZONE (LOW-LAND AUSTRIA, CENTRAL AND EASTERN GERMANY, BOHEMIA-MORAVIA, WESTERN HUNGARY).

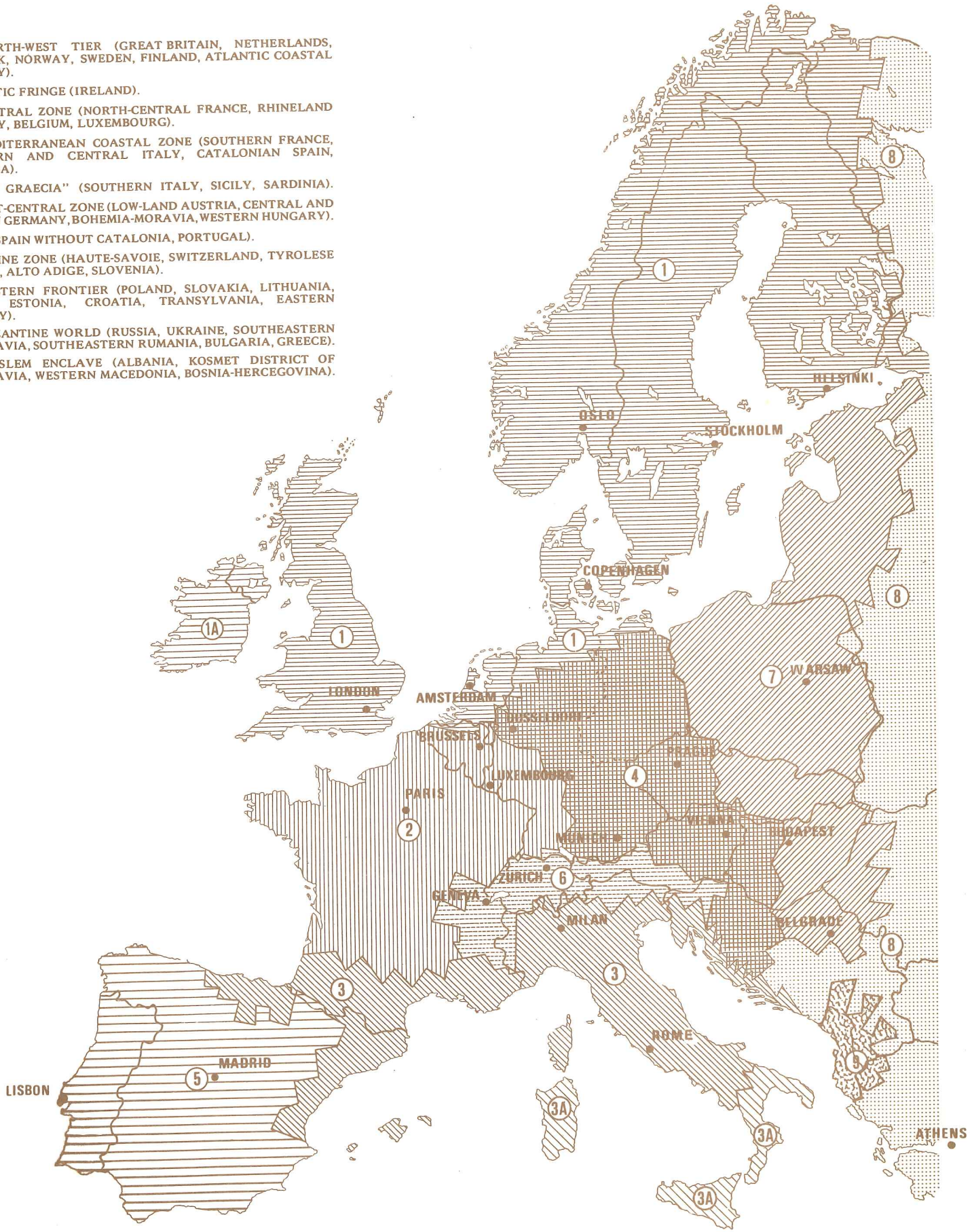
5. IBERIA (SPAIN WITHOUT CATALONIA, PORTUGAL).

6. THE ALPINE ZONE (HAUTE-SAVOIE, SWITZERLAND, TYROLESE AUSTRIA, ALTO ADIGE, SLOVENIA).

7. THE EASTERN FRONTIER (POLAND, SLOVAKIA, LITHUANIA, LATVIA, ESTONIA, CROATIA, TRANSYLVANIA, EASTERN HUNGARY).

8. THE BYZANTINE WORLD (RUSSIA, UKRAINE, SOUTHEASTERN YUGOSLAVIA, SOUTHEASTERN RUMANIA, BULGARIA, GREECE).

9. THE MOSLEM ENCLAVE (ALBANIA, KOSMET DISTRICT OF YUGOSLAVIA, WESTERN MACEDONIA, BOSNIA-HERCEGOVINA).



culture is undeniable, as is the significance of national cultures. Yet in many respects national sub-divisions of European civilizations are less interesting than the cultural areas we are describing. For example, every Frenchman knows that France includes both a Mediterranean culture and a distinct culture of Northern France. A similar division exists in Italy, between the culture of an area like Calabria and that of Lombardy. North Italy is closer to the Southern France-Mediterranean culture than that Southern French culture is to the North French. The North French culture in turn spills over into the Rhineland and into Belgium, while the Flemish part of Belgium is closer to what we will call the Northwest European culture--that of Holland, Atlantic Germany, Scandinavia, England, and--by extension and derivation--the United States, Canada, Australia and New Zealand.

In the past Zone 1 and Zone 6 were the most stable and democratic parts of the world. It should be noted that eighty to ninety percent of the international and multinational business firms are from Zone 1 (including North America) and Zone 6, the Alpine Zone. It is also interesting to note that Zone 1 is the main area in the world where the institution of the family is undergoing a crisis and which has a drug culture and a well-developed counter-culture. There may be a connection between the weakness of the family in Zone 1 and that Zone's prominent role in multinational business. In most of the world's cultures individuals feel under considerable pressure to cling closely to something like an extended family. In most of the world, for example, a man would have a powerful obligation to give a job to an incompetent but needy relative rather than to a competent stranger. Indeed, the less competent the relative the greater the obligation. An interesting use of language arises here,

which shows the difference in cultures. In Zone 1, if an individual hires a competent stranger, an action which tends to benefit his career and the success of his organization, we call that unselfish behavior. If he hires an incompetent relative, we tend to call that selfish behavior. Most of the world reverses the language--and the judgment. The connection here with business success is obvious. The corporation, to succeed, emphasizes meritocratic and bureaucratic criteria.

Another difference between culture zones has to do with faith in central government and respect for legal rules. In Zones 2, 3 and 5 there is a certain lack of respect for rules and legalisms. These three zones tend to have negotiated income taxes; this implies a different system of taxation and ultimately a different relation between government and society. People cannot be relied on to fill out their own forms. Culture also affects attitudes toward such instruments of government as money. The special drawing right (SDR) in the international fiscal system has been supported by Zone 1, and suspected in the other zones of Europe. Zone 1, for historical and political reasons, is willing to trust a currency made up of arbitrary accounting units. The French population, however, has over four billion dollars of gold hoarded in metallic form because the French don't trust even the franc. They think of the SDR as an instrument of a club called the International Monetary Fund (IMF), and if anything causes IMF to break up or creates a serious internal difficulty in that club, then the SDR might become valueless.

Another crucial cultural difference between at least the North American portion of Zone 1 and the rest of European culture is a different attitude towards which Schumpeter has called "Creative Destruction." Schumpeter noticed that the growth of economies comes more through the

replacement of obsolete industries by new industries and the transfer of men and resources between these. This means that rapid growth is often accompanied by high levels of dislocation and unemployment. For various reasons this dislocation has not occurred in Europe in the last decade or so, but it seems likely to occur in the future. Almost uniformly, Europeans, when asked, prefer a situation in which there is one percent unemployment and 3 or 4 percent growth, to one with 2 or 3 percent unemployment and 5 or 6 percent growth. It seems likely that this choice will have to be made by the European Governments in the late 1970's or the 1980's. They will likely prefer what they call quality of life, with slower growth, to an emphasis on GNP and on rapid growth at the cost of social dislocations and unemployment. It seems virtually certain that Canadians and Americans would make the other choice, preferring rapid growth even when it involves much dislocation. We will note some of the effects of these attitudes when we discuss the division of the world economic community into trading/investment areas.

Similar observations apply to much of the rest of the world. The pace and character of much of Latin American development have frequently been similar to the pace and character of Spanish economic development and therefore, although they prove nothing conclusively, trends in one of these regions suggest possibly analogous trends in the other region. Chinese culture as exhibited in China, the two Koreas, Japan, Hong Kong, Macao, Taiwan, Singapore and the two Vietnams has generally inculcated a special flair for organization, for diligence, for mechanical skills, and often for savings that give these regions an extraordinary capacity for economic development wherever such development is not held down by warfare or by

oppressive bureaucracy. The cultures of the rest of Southeast Asia have generally displayed dramatically less organizational skill, diligence and capacity for savings and they therefore tend to lag behind the Siniculture regions in economic development. Likewise, the South Asian cultures typically not only lack these special skills so useful to industrialization but also are for religious reasons so self-assured and unwilling to innovate that rapid adaptation to the requirements for industrialization has generally been inhibited.

d. Regional Trade and Investment Areas

The most important world economic phenomenon of the 1970's and 1980's may be a fragmentation of the world economy into several trading and investment blocs. We define these groups of nations as those which conduct more than 50 percent of their trade with one another. These areas may simply remain as trade blocs--a phenomenon of great importance in itself--but they may also develop various levels of regional consciousness and organization. Unofficial trade and investment coordination could occur, or official trade and investment coordination councils might be created. At a higher level of coordination, rules of the game might be established within one or more blocs for economic arbitration, membership, and trade structure. Finally, one or more blocs might create a formal trade and investment community, such as a free trade zone, customs union, or a common market.

We believe that the Pacific Ocean Basin could have the same relationship to world commerce, world trade, and economic growth, in the period 1982-1991, that the Atlantic held for the past three hundred years, and the Mediterranean held during classical times. Today world trade and

world communications are mainly conducted among the nations surrounding the North Atlantic. This reality of trade and investment, as well as a certain degree of cultural unity, underlies, for example, the vitality of the North Atlantic Treaty Organization. Trends of the last few years suggest that the next decade may see the emergence of a new trading and investment area, the business and economic reality of which may in turn underlie important political and eventually even military developments.

We should first make the underlying economic estimates explicit. We believe that it is likely that by 1982 each of the major nations of the Pacific Basin will be conducting more than 50 percent of both their export and import trade, and (with the possible exception of the United States) be making (or receiving) more than 50 percent of their investments with other countries within the Pacific Basin trading and investment community. These states are Japan, the states of the Sinic culture areas on the border of Asia (South Korea, Taiwan, Hong Kong, Singapore, Thailand, South Vietnam), Indonesia, the Philippines, Malaysia, Australia, New Zealand, Brazil, Colombia, Venezuela, Mexico, the United States, Canada, and perhaps Argentina, Chile, and Peru.

TABLE II

MAJOR MEMBERS OF PACIFIC BASIN TRADING AND INVESTMENT AREA

WESTERN CULTURAL SECTOR	EASTERN CULTURAL SECTOR
Argentina	China (Taiwan)*
Australia	Hong Kong*
Brazil	Indonesia
Canada	Japan
Chile	South Korea*
Colombia	Malaysia**
Mexico	Philippines**
New Zealand	Singapore*
Peru	Thailand*
United States	South Vietnam*,a
Venezuela	

*Siniculture Area. Japan is considered part of the Siniculture Area but, due to her size, is treated separately. Thailand is also included in the Siniculture Area since 10% of the Thais are descended from Chinese who had come to Thailand during the 19th century. Over time 80% of the emigrant Chinese have been absorbed into the Thai culture through intermarriage.

**Other Asia

[a]We assume that South Vietnam retains its independence and viability, and we expect that a real economic "takeoff" will occur.

TABLE III

IMPORTS FROM PACIFIC BASIN TRADING AND INVESTMENT AREA
AS A PERCENTAGE OF TOTAL IMPORTS
PRINCIPAL PACIFIC BASIN COUNTRIES/REGIONS - EASTERN CULTURAL SECTOR

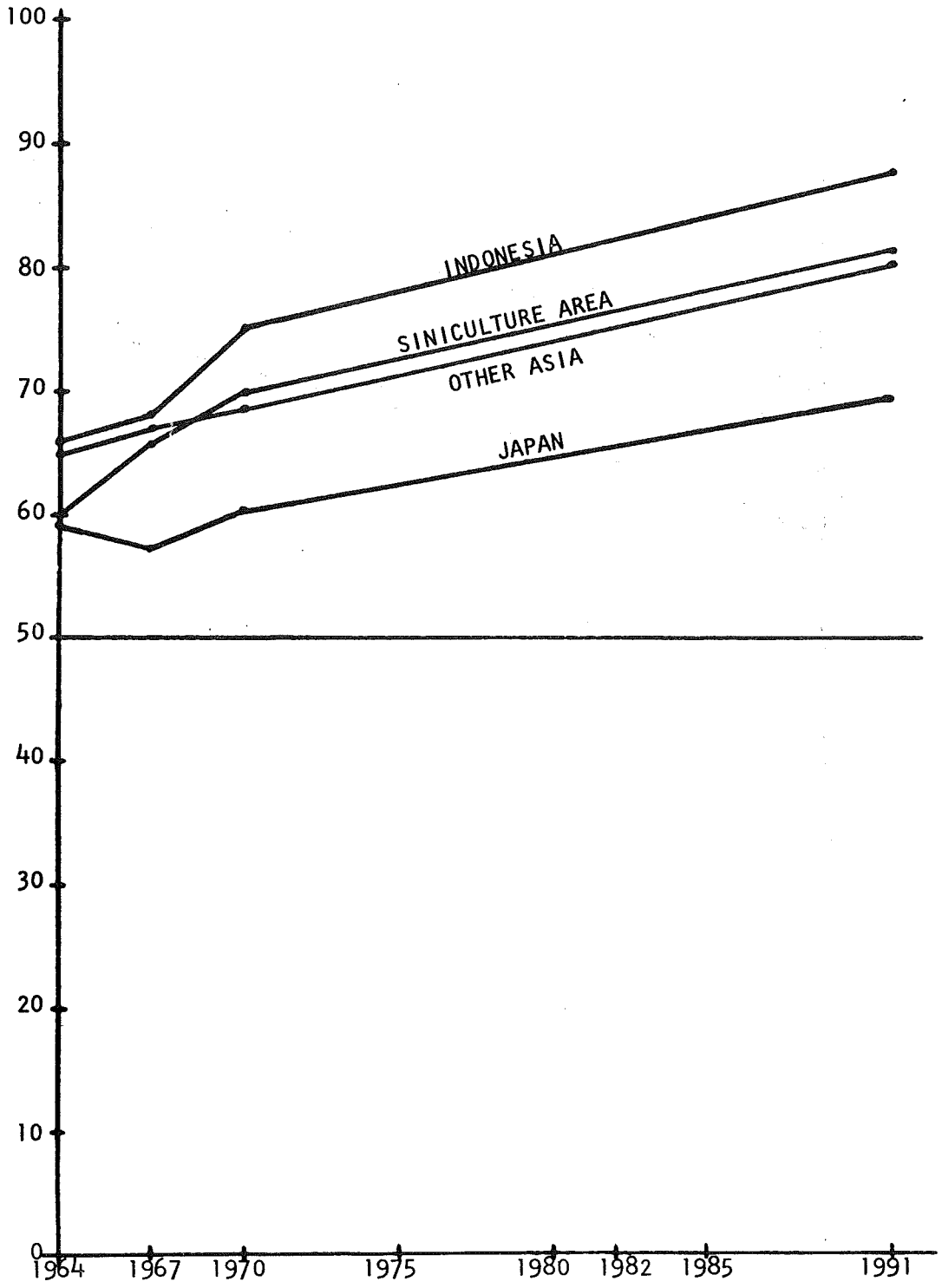


TABLE IV

EXPORTS TO PACIFIC BASIN TRADING AND INVESTMENT AREA
AS A PERCENTAGE OF TOTAL EXPORTS
PRINCIPAL PACIFIC BASIN COUNTRIES/REGIONS - EASTERN CULTURAL SECTOR

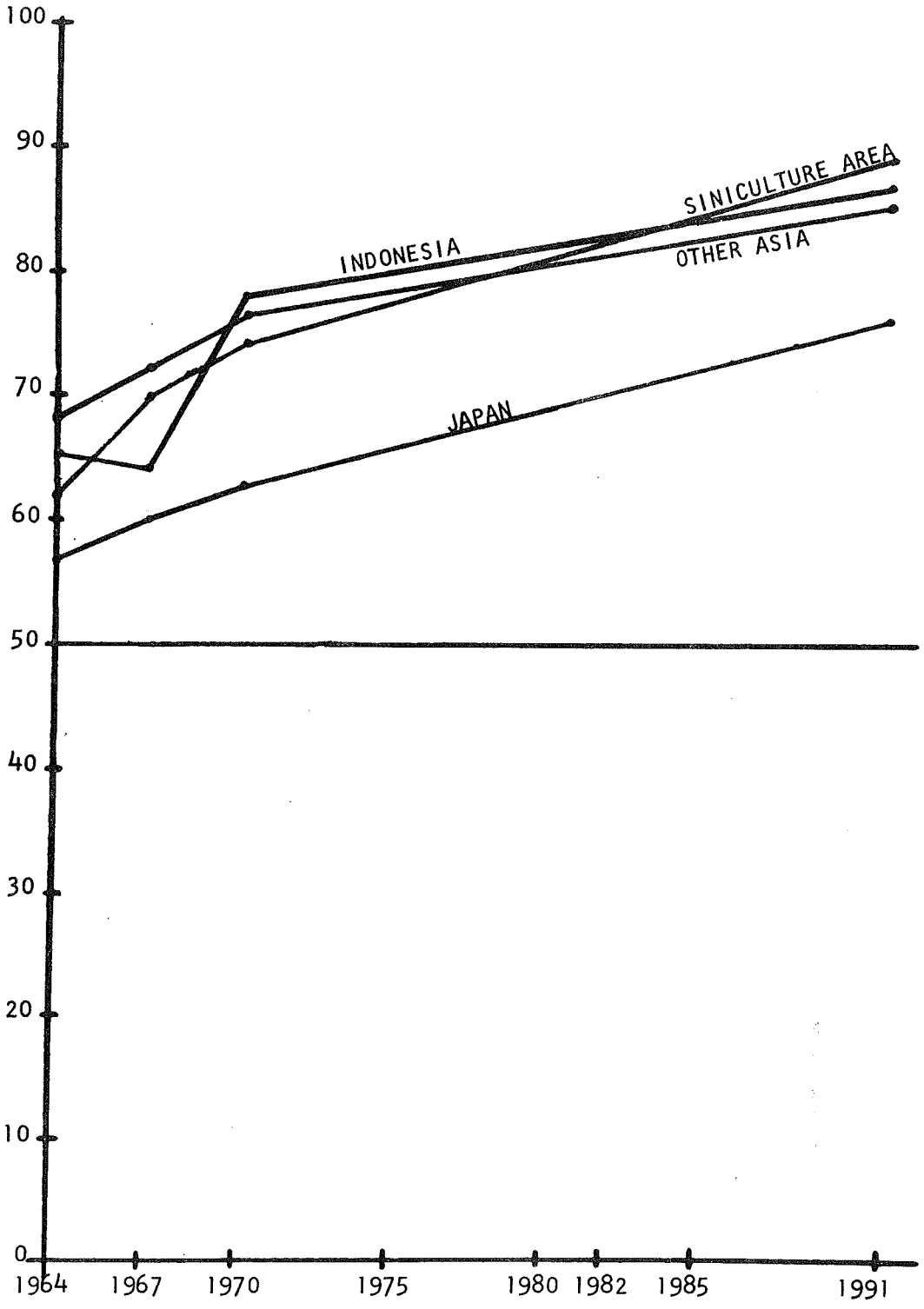


TABLE V

EXPORTS TO PACIFIC BASIN TRADING AND INVESTMENT AREA
AS A PERCENTAGE OF TOTAL IMPORTS
PRINCIPAL PACIFIC BASIN COUNTRIES - WESTERN CULTURAL SECTOR
(EEC AND OLA SHOWN FOR COMPARISON)

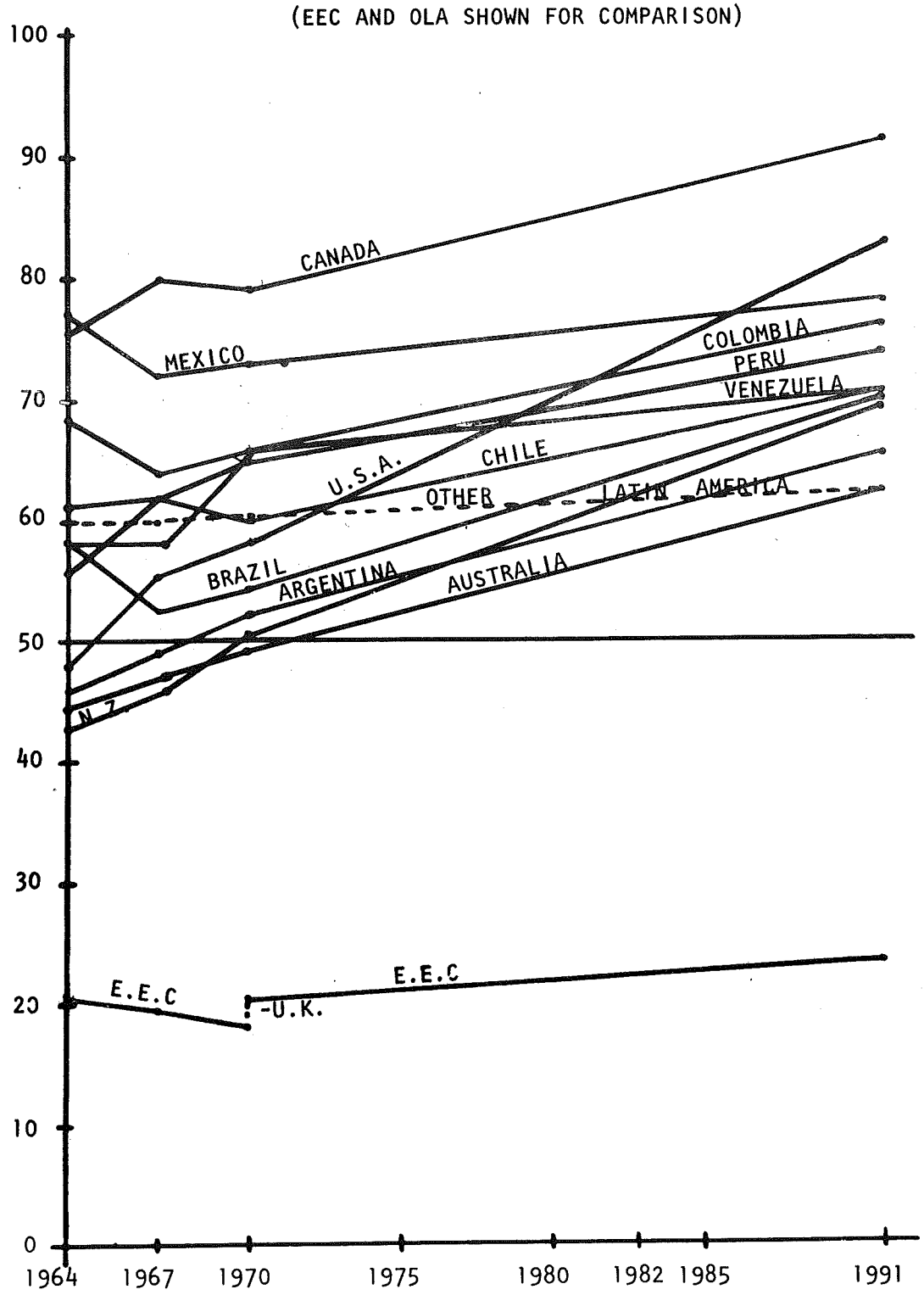


TABLE VI

IMPORTS FROM PACIFIC BASIN TRADING AND INVESTMENT AREA
AS A PERCENTAGE OF TOTAL IMPORTS
PRINCIPAL PACIFIC BASIN COUNTRIES - WESTERN CULTURAL SECTOR
(EEC AND OLA SHOWN FOR COMPARISON)

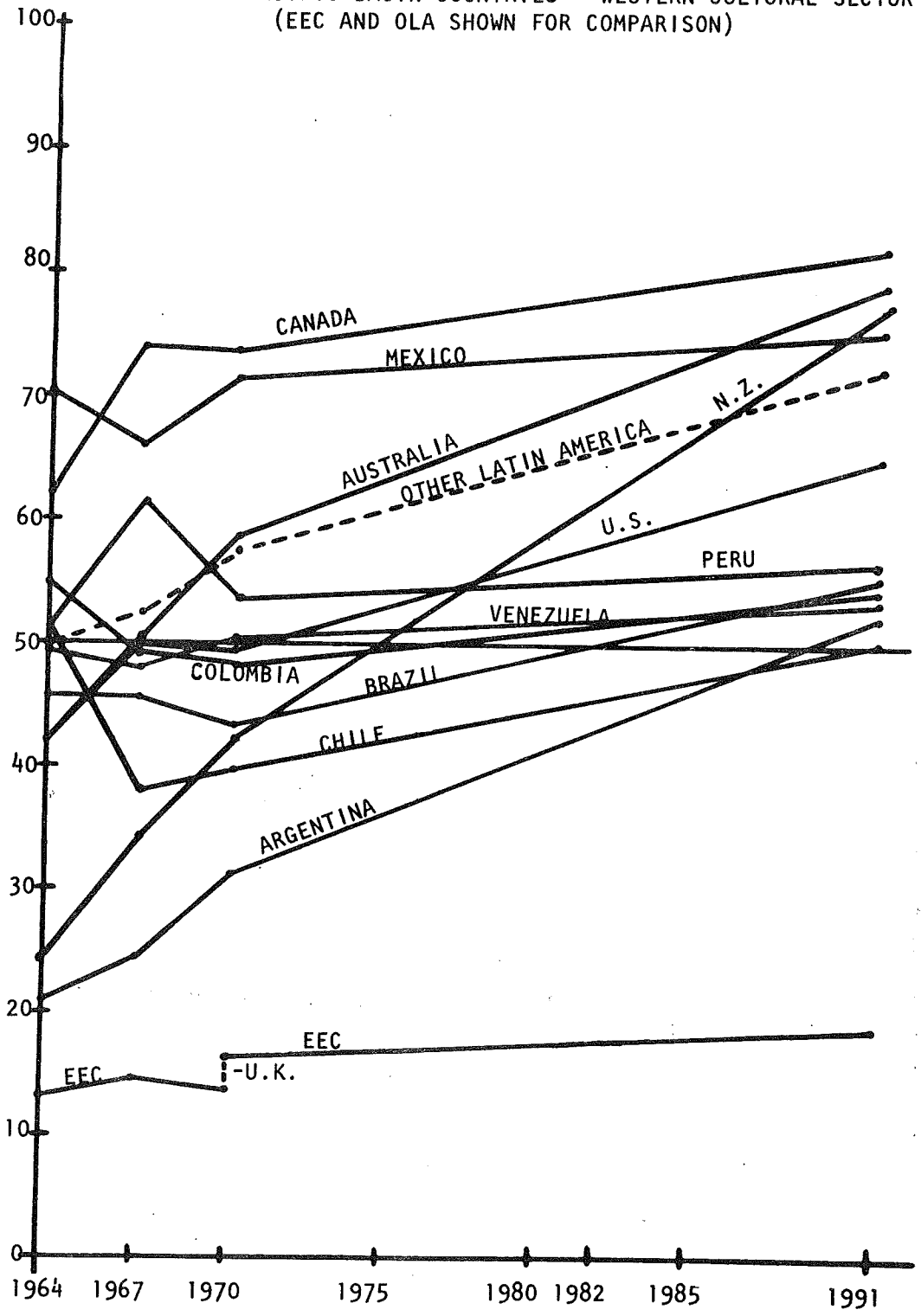


Table VII

PACIFIC TRADE AND INVESTMENT AREA (PBTIA)
DIRECTION OF TRADE - IMPORTS
(IN CURRENT U.S. $ MILLIONS)

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH %
WORLD	41,617	100.0	58,815	100.0	109,225	100.0	-10.1
PACIFIC TRADE & INVESTMENT AREA AFFILIATED COUNTRIES	1,385	3.3	2,022	3.4	2,799	2.6	- 7.3
WESTERN EUROPE TRADE & INVESTMENT AREA	11,252	27.0	14,563	24.8	24,773	22.7	- 8.2
AFFILIATED COUNTRIES	854	2.1	1,194	2.0	1,449	1.3	- 5.4
ARAB/MIDDLE EAST AREA	1,280	3.1	2,217	3.8	3,734	3.4	-11.3
TOTAL	13,386	32.2	17,974	30.6	29,956	27.4	- 8.4
SOVIET BLOC	872	2.1	801[a]	1.4	1,395[a]	1.3	- 4.8
CHINA BLOC	415	1.0	837[a]	1.4	1,004[a]	0.9	-12.0
INDIC AREA	863	2.1	1,087	1.8	1,291	1.2	- 4.1
OTHER AFRICA NON-AFFILIATED	89	0.2	242	0.4	347	0.3	-14.6
INTRA AREA TRADE	24,607	59.1	35,852	61.0	72,433	66.3	-11.4

a = Estimate

NOTE: Data for these charts were compiled by David Harmon from the International Monetary Fund's Direction of Trade Annuals for 1960-1970. In most cases reported exports from one area to a second do not equal reported imports from the second to the first, because:

(a) Some countries' reporting is inaccurate or incomplete.
(b) Most countries report exports f.o.b. but imports c.i.f.
(c) A few countries report imports f.o.b., forcing estimation of c.i.f.
(d) Soviet and China bloc data are generally unavailable and thus must be reconstructed from other countries' data.
(e) Frequently the importing and exporting country update their data reported to IMF at different rates.

Table VIII

PACIFIC TRADING AND INVESTMENT AREA (PBTIA)
DIRECTION OF TRADE - EXPORTS
(CURRENT U.S. $ MILLIONS)

TRADE WITH	1960	%	1965	%	1970	%	1960 TO 1970 % RATE OF GROWTH
WORLD	44,906	100.0	63,119	100.0	107,897	100.0	- 9.2
PACIFIC TRADE & INVESTMENT AREA AFFILIATED COUNTRIES	1,914	4.3	2,589	4.1	3,843	3.6	- 7.2
WESTERN EUROPE TRADE & INVESTMENT AREA	13,165	29.3	17,979	28.4	28,056	26.0	- 7.9
AFFILIATED COUNTRIES	954	2.1	1,749	2.8	2,236	2.1	- 8.9
ARAB/MIDDLE EAST AREA	1,120	2.5	1,802	2.9	2,840	2.6	- 9.7
TOTAL	15,239	33.9	21,530	34.1	33,132	30.7	- 8.1
SOVIET BLOC	1,073	2.4	1,517[a]	2.4	2,055[a]	1.9	- 6.7
CHINA BLOC	153	0.3	656[a]	1.0	931[a]	0.9	-19.8
INDIC AREA	1,334	3.0	1,992	3.2	1,585	1.5	- 1.7
OTHER AFRICA NON-AFFILIATED	64	0.1	142	0.2	226	0.2	-13.4
INTRA AREA TRADE	25,129	56.0	34,693	55.0	66,125	61.2	-10.2

a = Estimate

TABLE IX

PACIFIC BASIN TRADING AND INVESTMENT AREA - MAJOR MEMBERS

SUMMARY

POPULATION (MILLIONS)

1970*	1982	1991
850	1100	1350

GROSS AREA PRODUCT ($ BILLIONS)

1970 ADJ.*	1982	1991
1425	2675	4300

GROSS AREA PRODUCT PER CAPITA ($)

1970 ADJ.*	1982	1991
1675	2425	3175

*Estimated

TABLE X

SMALL MEMBERS OF THE PACIFIC BASIN TRADING AND INVESTMENT AREA - DEFINITION

Bolivia	Haiti
British Honduras	Honduras
Cambodia	Jamaica
Canal Zone	Laos
Costa Rica	Nicaragua
Dominican Republic	Panama
Ecuador	Paraguay
El Salvador	Surinam
Guatemala	Trinidad and Tobago
Guyana	Uruguay

TABLE XI

SMALL MEMBERS OF PACIFIC BASIN TRADING AND INVESTMENT AREA - SUMMARY

POPULATION (MILLIONS)

1970	1982	1991
60*	80	100

GROSS AREA PRODUCT ($ BILLIONS)

1970 ADJ.	1982	1991
15*	30	45

GROSS AREA PRODUCT PER CAPITA ($)

1970 ADJ.	1982	1991
250*	375	450

*Estimated

The principal economic forces operating today, which we expect will continue to operate through the seventies,to create this trading and investment complex, are the following:

First, the continued economic growth of Japan at much greater than average world rates and the growth of Japanese international trade as fast as the rate of world trade in general and probably much faster.

Second, the continued rapid growth of the Sinic culture areas and their increased share of world trade.

Third, the expanding need of the developed countries, particularly the United States and Japan, to export manufacturing operations to low labor cost areas such as the Sinic culture areas of Asia, to Mexico and Brazil, and increasingly by the end of the decade to such areas as Malaysia, the Philippines, and Indonesia as well.

The second trading and investment area is the European-Middle East-African area. Although this is a single area, division into three sub-sections is appropriate. The European section includes:

TABLE XII

WESTERN EUROPE TRADING AND INVESTMENT AREA - DEFINITION

Austria	Italy
Belgium-Luxembourg	Malta
Cyprus	Netherlands
Denmark	Norway
Finland	Portugal
France	Spain
West Germany & West Berlin	Sweden
Greece	Switzerland
Iceland	Turkey
Ireland	United Kingdom

TABLE XIII

WESTERN EUROPE TRADING AND INVESTMENT AREA - SUMMARY

POPULATION (MILLIONS)

1970	1982	1991
375	425	450

GROSS AREA PRODUCT ($ BILLIONS)

1970 ADJ.	1982	1991
775	1375	2125

GROSS AREA PRODUCT PER CAPITA ($)

1970 ADJ.	1982	1991
2065	3235	4720

The African section includes:

TABLE XIV

MAJOR COUNTRIES AFFILIATED WITH WESTERN EUROPE TRADING AND INVESTMENT AREA - DEFINITION

Angola	Mauritania
Cameroon	Mozambique
Central African Republic	Niger
Chad	Nigeria
Congo (Brazzaville)	Portugese Guinea
Dahomey	Rhodesia
Equatorial Guinea	Senegal
French Guiana	Sierra Leone
Gabon	Somali Republic
The Gambia	South Africa* (Including Botswana, Lesotho, Swaziland and Southwest Africa (Namibia)
Ghana	
Guinea	
Ivory Coast	Togo
Liberia	Upper Volta
Malagasy Republic	Zaire
Malawi	Zambia
Mali	

*Within the next 10-15 years South Africa is likely to shift to the Pacific Basin trading and investment area--on the basis of its growing trade with this area.

TABLE XV

MAJOR COUNTRIES AFFILIATED WITH WESTERN EUROPE TRADING AND INVESTMENT AREA - SUMMARY

POPULATION (MILLIONS)

1970	1982	1991
200*	280	350

GROSS AREA PRODUCT ($ BILLIONS)

1970 ADJ.	1982	1991
50*	75	125

GROSS AREA PRODUCT PER CAPITA ($)

1970 ADJ.	1982	1991
250*	270	355

*Estimated

TABLE XVI

CURRENT U.S. $(MILLIONS) WESTERN EUROPE - TRADING & INVESTMENT AREA
DIRECTION OF TRADE - IMPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH %
WORLD	56551	100.0	89112	100.0	149538	100.0	-10.2
PACIFIC BASIN AREA	14682	26.0	19978	22.4	30319	20.3	- 7.5
AFFILIATED COUNTRIES	844	1.5	1118	1.3	1252	.8	- 4.0
TOTAL	15526	27.5	21096	23.7	31571	21.1	- 7.3
WESTERN EUROPE-AFFILIATED COUNTRIES	3214	5.7	4450	5.0	6513	4.4	- 7.3
ARAB/MIDDLE EAST AREA	4406	7.8	6467	7.3	10628	7.1	- 9.2
TOTAL	7620	13.5	10917	12.3	17141	11.5	- 8.4
SOVIET BLOC	2559	4.5	4032	4.5	6414	4.3	- 9.6
CHINA BLOC	258	.5	340	.4	444	.3	- 5.6
INDIC AREA	969	1.7	973	1.1	917	.6	(- 0.5)
OTHER AFRICA (NON-AFFILIATED)	196	.3	306	.3	381	.3	- 6.9
INTRA AREA TRADE	29423	52.0	51448	57.7	92670	61.9	-12.1

TABLE XVII

CURRENT U.S. $(MILLIONS)

WESTERN EUROPE - TRADING & INVESTMENT AREA
DIRECTION OF TRADE - EXPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	51092	100.0	78524	100.0	136880	100.0	-10.4
PaTIA	10231	20.0	13293	16.9	22588	16.5	- 8.2
AFFILIATED COUNTRIES	729	1.4	906	1.2	1340	1.0	- 6.3
TOTAL	10960	21.4	14199	18.1	23928	17.5	- 8.1
WESTERN EUROPE AFFILIATED COUNTRIES	2827	5.5	4016	5.1	5839	4.3	- 7.5
ARAB/MIDDLE EAST AREA	3569	7.0	3704	4.7	5818	4.3	- 5.0
TOTAL	6396	12.5	7720	9.8	11657	8.6	- 6.2
SOVIET BLOC	2498	4.9	3507	4.5	7414	5.4	-11.5
CHINA BLOC	378	.7	372	.5	554	.4	- 3.9
INDIC AREA	1308	2.6	1375	1.8	1026	.7	(- 2.4)
OTHER AFRICA (NON-AFFILIATED)	218	.4	345	.4	484	.4	- 8.3
INTRA AREA TRADE	29334	57.5	51006	64.9	91817	67.0	-12.1

TABLE XVIII

CURRENT U.S. $(MILLIONS)

WESTERN EUROPE TRADING AND INVESTMENT AREA
AFFILIATED COUNTRIES - EXPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	4224	100.0	5674	100.0	8609	100.0	~7.4
PaTIA	562	13.3	895	15.8	1769	20.5	~12.1
AFFILIATED COUNTRIES	4	0.1	4	0.1	85	1.0	~35.5
TOTAL	566	13.4	899	15.9	1854	21.5	~12.6
WESTERN EUROPE	2802	66.3	3764	66.3	5669	65.8	~7.3
ARAB/MIDDLE EAST AREA	50	1.2	67	1.2	77	0.9	~4.4
TOTAL	2852	67.5	3831	67.5	5746	66.7	~7.2
SOVIET BLOC	69	1.6	121	2.1	136	1.6	~7.0
CHINA BLOC	11	0.3	8	0.1	29	0.3	~10.2
INDIC AREA	42	1.0	26	0.5	67	0.8	~4.8
OTHER AFRICA (NON-AFFILIATED)	19	0.4	5	0.1	7	0.1	(~10.5)
INTRA AREA TRADE	665	15.8	784	13.8	770	9.0	~1.5

TABLE XIX

CURRENT U.S. $(MILLIONS)

WESTERN EUROPE TRADING AND INVESTMENT AREA
AFFILIATED COUNTRIES - IMPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	4737	100.0	7023	100.0	9504	100.0	7.2
PaTIA	933	19.7	1589	22.6	2245	23.6	9.2
AFFILIATED COUNTRIES	67	1.4	63	0.9	29	0.3	(8.7)
TOTAL	1000	21.1	1652	23.5	2274	23.9	8.6
WESTERN EUROPE	2900	61.2	4166	59.3	5950	62.6	7.4
ARAB/MIDDLE EAST AREA	145	3.1	117	1.7	156	1.6	0.7
TOTAL	3045	64.3	4283	61.0	6106	64.2	7.2
SOVIET BLOC	56	1.2	163	2.3	94	1.0	5.3
CHINA BLOC	9	0.2	52	0.7	41	0.4	16.4
INDIC AREA	68	1.4	67	1.0	55	0.6	(2.1)
OTHER AFRICA (NON-AFFILIATED)	27	0.6	8	0.1	50	0.5	6.4
INTRA AREA TRADE	532	11.2	798	11.4	884	9.4	5.2

The Middle East section includes:

TABLE XX

ARAB/MIDDLE EAST AREA - DEFINITION

Afghanistan	Morocco
Algeria	Muscat and Oman
Bahrein	Qatar
Egypt	Saudi Arabia
Iran	Southern Yemen
Iraq	Sudan
Israel	Syria
Jordon	Trucial States
Kuwait	Tunisia
Lebanon	Yemen
Libya	

TABLE XXI

ARAB/MIDDLE EAST AREA - SUMMARY

POPULATION (MILLIONS)

1970	1982	1991
175*	250	325

GROSS AREA PRODUCT ($ BILLIONS)

1970 ADJ.	1982	1991
50*	100	200

GROSS AREA PRODUCT PER CAPITA ($)

1970 ADJ.	1982	1991
285*	400	615

*Estimated

TABLE XXII

CURRENT U.S. $(MILLIONS)

ARAB/MIDDLE EAST AREA - IMPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	5914	100.0	7192	100.0	11614	100.0	~7.0
PACIFIC BASIN AREA	1057	17.9	1596	22.2	2741	23.6	~10.0
AFFILIATED COUNTRIES	6	.1	3	0.0	13	.1	~8.0
TOTAL	1063	18.0	1599	22.2	2754	23.7	~10.0
WESTERN EUROPE	3454	58.4	3626	50.4	6243	53.8	~6.1
AFFILIATED COUNTRIES	102	1.7	82	1.1	97	.8	(~0.5)
TOTAL	3556	60.1	3708	51.5	6340	54.6	~5.9
SOVIET BLOC	415	7.0	704	9.8	858	7.4	~7.5
CHINA BLOC	45	.8	107	1.5	138	1.2	~11.8
INDIC AREA	200	3.4	235	3.3	436	3.8	~8.1
OTHER AFRICA (NON-AFFILIATED)	24	.4	29	.4	43	.4	~6.0
INTRA-AREA TRADE	611	10.3	810	11.3	1045	8.9	~5.5

TABLE XXIII

CURRENT U.S. $(MILLIONS)

ARAB/MIDDLE EAST AREA - DIRECTION OF TRADE - EXPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	6112	100.0	8889	100.0	15739	100.0	~9.9
PACIFIC BASIN AREA	1129	18.5	1744	19.6	3564	22.6	~12.2
AFFILIATED COUNTRIES	5	.1	80	.9	63	.4	~28.7
TOTAL	1134	18.6	1824	20.5	3627	23.0	~12.3
WESTERN EUROPE	3547	58.0	5265	59.2	9647	61.3	~10.5
AFFILIATED COUNTRIES	71	1.2	193	2.2	260	1.7	~13.9
TOTAL	3618	59.2	5458	61.4	9907	63.0	~10.6
SOVIET BLOC	365	6.0	536	6.0	850	5.4	~8.8
CHINA BLOC	61	1.0	101	1.2	58	.4	(~0.5)
INDIC AREA	254	4.2	198	2.2	307	2.0	~1.9
OTHER AFRICA (NON-AFFILIATED)	42	.7	40	.5	80	.5	~6.6
INTRA-AREA TRADE	638	10.3	732	8.2	910	5.7	~3.6

In addition to the Pacific Basin and the European-Middle East-African trading and investment areas, there is, and will continue to be, a Soviet trading and investment area which includes the following countries:

TABLE XXIV

SOVIET BLOC TRADING AND INVESTMENT AREA - DEFINITION

Albania
Bulgaria
Cuba
Czechoslovakia
East Germany and East Berlin
Hungary
Mongolia
Poland
Rumania
Soviet Union
Yugoslavia

TABLE XXV

SOVIET BLOC TRADING AND INVESTMENT AREA - SUMMARY

POPULATION (MILLIONS)

1970	1982	1991
375*	425	475

GROSS AREA PRODUCT ($ BILLIONS)

1970 ADJ.	1982	1991
700*	1300	2105

GROSS AREA PRODUCT PER CAPITA ($)

1970 ADJ.	1982	1991
1865*	3060	4430

*Estimated

TABLE XXVI

CURRENT U.S. $(MILLIONS)

SOVIET BLOC - DIRECTION OF TRADE - IMPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	16093	100.0	23624	100.0	35812	100.0	~8.3
PACIFIC BASIN AREA	1163	7.3	961	4.1	1926	5.4	~5.2
AFFILIATED COUNTRIES	6	-	19	0.1	57	0.1	~25.2
TOTAL	1169	7.3	980	4.2	1983	5.5	~ 5.4
WESTERN EUROPE AREA	3085	19.2	4034	17.1	7994	22.3	~10.0
AFFILIATED COUNTRIES	96	0.6	208	0.9	131	0.4	~3.2
ARAB/MIDDLE EAST AREA	291	1.8	701	2.9	924	2.6	~12.2
TOTAL	3472	21.6	4943	20.9	9049	25.3	~10.0
CHINA BLOC	1291	8.0	325[a]	1.4	200[a]	0.6	(~20.5)
INDIC AREA	170	1.1	373	1.5	635	1.8	~14.1
OTHER AFRICA (NON-AFFILIATED)	8	-	-	-	36	0.1	~16.2
INTRA-AREA TRADE	9983	62.0	17003	72.0	23909	66.7	~9.1

a = ESTIMATE

TABLE XXVII

CURRENT U.S. $(MILLIONS)

SOVIET BLOC - DIRECTION OF TRADE - EXPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	14405	100.0	21717	100.0	32572	100.0	~8.5
PACIFIC BASIN AREA	766	5.3	1222	5.6	1224	3.8	~4.8
AFFILIATED COUNTRIES	6	-	23	0.1	16	-	~10.3
TOTAL	772	5.3	1245	5.7	1240	3.8	~4.8
WESTERN EUROPE AREA	2602	18.1	3444	15.8	5915	18.1	~8.6
AFFILIATED COUNTRIES	28	0.2	81	0.4	80	0.3	~11.1
ARAB/MIDDLE EAST AREA	365	2.5	545	2.5	753	2.3	~7.5
TOTAL	2995	20.8	4070	18.7	6748	20.7	~8.5
CHINA BLOC	1192	8.3	350[a]	1.6	300[a]	0.9	(~14.8)
INDIC AREA	111	0.8	448	2.1	458	1.4	~15.2
OTHER AFRICA (NON-AFFILIATED)	3	-	34	0.2	49	0.2	~32.0
INTRA-AREA TRADE	9332	64.8	15570	71.7	23777	73.0	~9.8

[a] = ESTIMATE

Fourth, there is a Communist Asia, or Chinese, trading and investment area which includes the People's Republic of China, North Korea and North Vietnam.

TABLE XXVIII

CHINA BLOC TRADING AND INVESTMENT AREA - DEFINITION

People's Republic of China
North Korea
North Vietnam

TABLE XXIX

CHINA BLOC TRADING AND INVESTMENT AREA - SUMMARY

POPULATION (MILLIONS)

1970	1982	1991
850*	1050	1225

GROSS AREA PRODUCT ($ BILLIONS)

1970 ADJ.	1982	1991
125*	260	430

GROSS AREA PRODUCT PER CAPITA ($)

1970 ADJ.	1982	1991
145*	250	355

*Estimated

TABLE XXX

U.S. CURRENT $ (MILLIONS)

CHINA BLOC - DIRECTION OF TRADE - IMPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH %
WORLD	1909	100.0	1700	100.0	2097	100.0	-0.9
PACIFIC TRADE & INVESTMENT	125	6.5	645	37.9	932	44.4	-22.2
AFFILIATED COUNTRIES	4	.2	2	.1	0	0.0	-
TOTAL	129	6.7	647	38.0	932	44.4	-21.9
WESTERN EUROPE TRADE & INVESTMENT AREA	377	19.7	370	21.8	561	26.8	-4.1
AFFILIATED COUNTRIES	11	.6	9	.5	30	1.4	-10.5
ARAB/MIDDLE EAST AREA	61	3.2	95	5.6	58	2.7	(-0.5)
TOTAL	449	23.5	474	27.9	649	30.9	-3.7
SOVIET BLOC	1191	62.4	350[a]	20.6	300[a]	14.4	(-14.8)
INDIC AREA	59	3.1	97	5.7	84	4.0	-3.6
OTHER AFRICA NON-AFFILIATED	6	.3	32	1.9	12	.6	-7.2
INTRA AREA TRADE	75[a]	4.0	100[a]	5.9	120[a]	5.7	-4.8

[a] = ESTIMATE

TABLE XXXI

U.S. CURRENT $ (MILLION)

CHINA BLOC - DIRECTION OF TRADE - EXPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH %
WORLD	2171	100.0	1765	100.0	2152	100.0	(-0.1)
PACIFIC TRADE & INVESTMENT AREA	384	17.7	710	40.2	1007	46.8	-10.1
AFFILIATED COUNTRIES	0	0.0	1	0.1	0	0.0	0.0
TOTAL	384	17.7	711	40.3	1007	46.8	-10.1
WESTERN EUROPE TRADE & INVESTMENT AREA	257	11.8	338	19.2	443	20.6	-5.6
AFFILIATED COUNTRIES	10	.5	52	2.9	42	2.0	-15.4
ARAB/ MIDDLE EAST AREA	43	2.0	106	6.0	139	6.4	-12.4
TOTAL	310	14.3	496	28.1	624	29.0	-7.2
SOVIET BLOC	1288	59.3	325[a]	18.4	200[a]	9.3	(-20.5)
INDIC AREA	64	2.9	70	4.0	76	3.5	-1.7
OTHER AFRICA NON-AFFILIATED	0	0.0	13	0.7	45	2.1	-
INTRA-AREA TRADE	125[a]	5.8	150[a]	8.5	200[a]	9.3	-4.8

[a] = ESTIMATE

In addition to these trading and investment areas, one can define an Indic area which is closely tied by politics and geography, but does not meet our criteria for a trading and investment area. This Indic area includes:

TABLE XXXII

INDIC AREA - DEFINITION

Bangladesh	India
Bhutan	Nepal
Burma	Pakistan
Ceylon	Sikkim

TABLE XXXIII

INDIC AREA - SUMMARY

POPULATION (MILLIONS)

1970	1982	1991
725*	975	1210

GROSS AREA PRODUCT ($ BILLIONS)

1970 ADJ.	1982	1991
80*	125	200

GROSS AREA PRODUCT PER CAPITA ($)

1970 ADJ.	1982	1991
110*	130	165

*Estimated

TABLE XXXIV

CURRENT U.S.$(MILLIONS)

INDIC AREA - DIRECTION OF TRADE - IMPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	3437	100.0	4457	100.0	3873	100.0	1.2
PACIFIC BASIN AREA	1270	37.0	2014	45.2	1686	43.5	2.9
AFFILIATED COUNTRIES	0	0.0	6	0.1	5	0.1	500.0
TOTAL	1270	37.0	2020	45.3	1691	43.6	2.9
WESTERN EUROPE AREA	1284	37.3	1420	31.9	937	24.2	(3.2)
AFFILIATED COUNTRIES	67	1.9	37	0.8	97	2.5	3.8
ARAB/MIDDLE EAST AREA	284	8.2	197	4.4	348	9.0	2.1
TOTAL	1635	47.4	1654	37.1	1382	35.7	(1.7)
SOVIET BLOC	113	3.3	413	9.3	480	12.4	15.6
CHINA BLOC	64	1.9	70	1.6	77	2.0	1.9
OTHER AFRICA (NON-AFFILIATED)	47	1.4	33	0.7	43	1.1	(0.9)
INTRA AREA TRADE	308	9.0	267	6.0	200	5.2	(24.4)

TABLE XXXV

CURRENT U.S.$(MILLIONS)

INDIC AREA - DIRECTION OF TRADE - EXPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	2319	100.0	2873	100.0	3225	100.0	3.4
PACIFIC BASIN AREA	741	32.0	898	31.3	1084	33.6	3.9
AFFILIATED COUNTRIES	8	0.3	9	0.3	12	0.4	4.1
TOTAL	749	32.3	907	31.6	1096	34.0	3.9
WESTERN EUROPE AREA	838	36.1	828	28.8	759	23.5	(1.0)
AFFILIATED COUNTRIES	53	2.3	81	2.8	78	2.4	3.9
ARAB/MIDDLE EAST AREA	148	6.4	208	7.2	366	11.3	9.5
TOTAL	1039	44.8	1117	38.8	1203	37.2	1.5
SOVIET BLOC	159	6.9	408	14.2	594	18.4	14.1
CHINA BLOC	59	2.5	97	3.4	84	2.6	3.6
OTHER AFRICA (NON-AFFILIATED)	21	0.9	31	1.1	32	1.0	4.3
INTRA AREA TRADE	292	12.6	313	10.9	216	6.8	(3.1)

TABLE XXXVI

OTHER AFRICAN COUNTRIES (NON-AFFILIATED) - DEFINITION

Burundi	Ruanda
Ethiopia	Tanzania
Kenya	Uganda

TABLE XXXVII

OTHER AFRICAN COUNTRIES (NON-AFFILIATED) - SUMMARY

POPULATION (MILLIONS)

1970	1982	1991
65*	90	115

GROSS AREA PRODUCT ($ - BILLIONS)

1970 ADJ.	1982	1991
5	10	20

GROSS AREA PRODUCT PER CAPITA ($)

1970 ADJ.	1982	1991
75	10	175

*Estimated

TABLE XXXVIII

CURRENT U.S. $(MILLIONS)

OTHER AFRICA (NON-AFFILIATED) - DIRECTION OF TRADE - IMPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	473	100.0	693	100.0	1006	100.0	~7.8
PACIFIC BASIN AREA	95	20.1	157	22.7	242	24.0	~9.8
AFFILIATED COUNTRIES	0	0.0	0	0.0	0	0.0	-
TOTAL	95	20.1	157	22.7	242	24.0	~9.8
WESTERN EUROPE	251	53.1	380	54.8	531	52.8	~7.8
AFFILIATED COUNTRIES	19	4.0	6	.9	9	.9	(~7.7)
ARAB/MIDDLE EAST AREA	44	9.3	44	6.3	82	8.1	~6.4
TOTAL	314	66.4	430	62.0	622	61.8	~7.1
SOVIET BLOC	6	1.3	16	2.3	26	2.6	~15.8
CHINA BLOC	1	.2	14	2.0	45	4.5	~46.2
INDIC AREA	27	5.7	32	4.6	33	3.3	~2.0
INTRA-AREA TRADE	30	6.3	44	6.4	38	3.8	~2.4

TABLE XXXIX

CURRENT U.S. $(MILLIONS)

OTHER AFRICA (NON-AFFILIATED) - DIRECTION OF TRADE - EXPORTS

TRADE WITH:	1960	%	1965	%	1970	%	1960 TO 1970 RATE OF GROWTH (%)
WORLD	481	100.0	662	100.0	870	100.0	~6.1
PACIFIC BASIN AREA	124	25.8	210	31.7	305	35.1	~9.4
AFFILIATED COUNTRIES	1	.2	0	0.0	0	0.0	-
TOTAL	125	26.0	210	31.7	305	35.1	~9.3
WESTERN EUROPE	223	46.4	279	42.1	333	38.3	~4.1
AFFILIATED COUNTRIES	21	4.4	15	2.3	57	6.6	~10.5
ARAB/MIDDLE EAST AREA	23	4.8	41	6.2	39	4.5	~5.4
TOTAL	267	55.6	335	50.6	429	49.4	~4.9
SOVIET BLOC	2	.4	15	2.3	33	3.8	~32.2
CHINA BLOC	6	1.2	33	5.0	12	1.4	~7.2
INDIC AREA	48	10.0	32	4.8	40	4.6	(-1.8)
INTRA-AREA TRADE	33	6.8	37	5.6	51	5.7	~4.4

TABLE XL

AREA TOTALS - SUMMARY

POPULATION (MILLIONS)

	1970	1982	1991
Pacific Basin Trading and Investment Area - Major Members	850	1100	1350
Pacific Basin Trading and Investment Area - Small Members	60	80	100
Total	910	1180	1450
Western Europe Trading and Investment Area	375	425	450
Western Europe Trading and Investment Area - Affiliated Countries	200	280	350
Arab/Middle East Area	175	250	325
Total	750	955	1125
Soviet Bloc Trading and Investment Area	375	425	475
China Bloc Trading and Investment Area	850	1050	1225
Indic Area	725	975	1210
Other Africa	65	90	115
World Total	3675	4675	5600

GROSS AREA PRODUCT ($ BILLIONS)

	1970	1982	1991
Pacific Basin Trading and Investment Area - Major Members	1425	2675	4300
Pacific Basin Trading and Investment Area - Small Members	15	30	45
Total	1440	2705	4345
Western Europe Trading and Investment Area	775	1375	2125
Western Europe Trading and Investment Area - Affiliated Countries	50	75	125
Arab/Middle East Area	50	100	200
Total	875	1550	2450
Soviet Bloc Trading and Investment Area	700	1300	2105
China Bloc Trading and Investment Area	125	260	430
Indic Area	80	125	200
Other Africa	5	10	20
World Total	3225	5950	9550

GROSS AREA PRODUCT PER CAPITA ($)

	1970	1982	1991
Pacific Basin Trading and Investment Area - Major Members	1675	2425	3175
Pacific Basin Trading and Investment Area - Small Members	250	375	450
Total	1580	2290	3000
Western Europe Trading and Investment Area	2065	3235	4720
Western Europe Trading and Investment Area - Affiliated Countries	250	270	355
Arab/Middle East Area	285	400	615
Total	1165	1625	2180
Soviet Bloc Trading and Investment Area	1865	3060	4430
China Bloc Trading and Investment Area	145	250	350
Indic Area	110	130	165
Other Africa	75	110	175
World Total	880	1275	1705

Finally, there are countries that simply do not belong in any one of these five areas. Some will be satellites of a trading area, as some small countries of the Western Hemisphere are part of the European trading/investment area. One important addition to the Pacific Basin trading/investment area is likely to be the Union of South Africa, which is rapidly increasing its trade with this area.

e. Important Individual Countries

A final and fundamental perspective for viewing the world is in terms of nation-states. There are today about 120 nation-states, and we would argue that most of them will survive the 1980's. There are four divided nations, Germany, Korea, Vietnam, and China. All of the separate entities assert the basic unity of their country. The outside world is used to treating these divided countries as in fact separate countries--and for our purposes we will treat them as such.

As always, economics provides a context for political and military issues and we will briefly discuss the economic context. What follows are the best estimates we could arrive at (as "surprise-free" projections) of population, Gross National Product, and GNP per capita, for the beginning and the end of the period. We list twenty nations (Table XLI). Some of the characteristics of this table deserve comment; some of the later discussion in the report on politics and military issues will depend upon assumptions made here. We assume that the recent decline in U.S. birthrates persists for the next twenty years, and that

TABLE XLI

20 RELATIVELY IMPORTANT NATIONS FROM THE PERSPECTIVES OF POPULATION AND GROSS NATIONAL PRODUCT

	POPULATION (MILLIONS)			GROSS NATIONAL PRODUCT ($-BILLIONS)			GROSS NATIONAL PRODUCT PER CAPITA ($)		
	1970	1982	1991	1970	1982	1991	1970	1982	1991
United States	205	235	260	930	1500	2225	4535	6355	8490
Soviet Union	243	275	300	500	950	1600	2060	3455	5350
Japan	103	117	125	220	650	1200	2135	5555	9450
China	800	1000	1155	120	230	450	150	230	390
France	51	57	61	150	305	520	2940	5350	8525
West Germany	59	65	67	195	335	475	3305	5155	7090
East Germany	16	17	18	35	60	95	2190	3705	5445
United Kingdom	56	59	62	120	180	260	2145	3050	4195
Italy	54	58	62	95	160	250	1760	2760	4030
Canada	21	26	30	80	145	225	3810	5575	7500
India	550	740	920	50	95	145	90	130	160
Brazil	95	140	185	30	60	120	315	430	650
Mexico	51	75	100	32	75	145	625	985	1420
Argentina	23	27	30	12	20	29	520	740	965
South Africa	23	31	39	16	32	54	695	1030	1385
Indonesia	121	170	215	7	13	20	58	77	94
Australia	13	16	19	34	62	96	2615	3875	5050
Taiwan	14	19	24	5	13	26	360	685	1085
South Korea	32	42	52	6	17	37	190	405	710
Singapore	2	2.6	3.1	2	5.6	12	1000	2155	3870

U.S. economic growth, while respectable, is not spectacular. In effect, we assume about two and one half to three percent increase in productivity per person, some increase in leisure time, and an annual increase in the work force of 1.7 percent.

As far as the Soviet Union is concerned, we expect a relatively unimpressive economic performance. On the other hand, the Soviets have been doing extremely well in terms of raw material discoveries. We have projected figures of medium optimism (from the viewpoint of the Soviets) as to their growth. As a result, they gain somewhat on the United States. Actually, we believe these figures may be misleading because the Soviet economy is so out of balance. A high total GNP in the U.S.S.R. is simply not as useful and flexible as high U.S. GNP. Today, for example, the Soviet Union has a $2,000 per capita income, but the Russian people simply don't live as well as others do with this income, and this is true even when full allowance is made for the continued Soviet emphasis on military production and heavy industrial growth.

We have taken a moderate position, neither pessimistic nor optimistic, regarding the growth of Japan. We assume the Japanese do somewhat better than nine percent in the period from 1970 to 1982, which is about three quarters of their record for the sixties, and then drop to a little under seven percent during the 1980's. Many people, including the Japanese, seem to think this is a likely pattern for their growth. If the Japanese do as well from 1982 to 1991 as we judge they well might, they would pass the Soviet Union in total Gross National Product by the end of the period. We do argue that by 1991 Japan will have the highest GNP per capita of any nation in the world (with the possible exception of anomalies such as

Kuwait). This in itself should give the Japanese a feeling of real prestige and confidence. We would emphasize that there is a reasonable chance they will do even better.

The Chinese will probably do reasonably well, but will not sacrifice many current values for economic growth. Their economic performance will be considerably below what they easily could do if they emphasized economic growth over certain political and cultural values, and in particular if they allowed outside investment and foreign exploitation of their very talented labor force and their raw material supplies. We assume that while the Chinese will sell to the world, they will accept only very limited foreign investment.

We nave put China above France in political/economic impact for the 1980's, but many think that France may regain a position of worldwide importance within the next two decades. This is perfectly possible, and we would certainly place France ahead of both West Germany and the United Kingdom in terms of world impact. If the expanded EEC gains political content and authority, it seems likely that the French will play a role of first among equals in Europe. In part this comes from France's historical prestige in Europe, in part from the possibility (not indicated in our table) that during the pre-1982 to 1991 period the French will pass the Germans in total Gross National Product. They will not pass them by enough to make any real difference in economic indicators, but if France possesses the largest GNP of any country in Western Europe, this will automatically enhance and reinforce its normal status.

The United Kingdom will continue to lag behind, and by the end of the century will have half the Gross National Product of France or

West Germany. In the immediate post-war period the United Kingdom probably had twice their GNP, and this of course represents an enormous change in status for the U.K. At the end of the 1980's the United Kingdom's growth rates will probably be enhanced by membership in the Common Market. Thus the figure given is probably a pessimistic one, and does not take full account of the impact of close association with Europe, but this is a very difficult matter to estimate.

We assume that India does reasonably well--about 5 percent a year--and keeps its population growth to something like 2.5 percent or below. This means an important and steady but not spectacular increase in GNP per capita of approximately 2.5 percent per year. The Canadians will probably do quite well, because they are a member of the Pacific Basin Trading/Investment area and because they are willing to accept capital investment from abroad and probably also some immigration (which causes slightly more rapid population growth at the end of the period than most would estimate). We project Canada to catch up appreciably in GNP per capita in comparison to the United States, the total Gross National Product reaching 10 percent of the U.S. Italy will probably also do well, but not as well as in the decade of the sixties, because the problems of disunity, industrial alienation, and internal strife will slow growth a little. Brazil also does well, although not as well as it has in the past five years. It could easily do better under even modestly good management, and by encouraging the kinds of investment it could receive from Japan, the United States, and others. East Germany will probably do slightly better than recently, though, again, not extremely well. It nonetheless becomes a rather important industrial country. Indonesia is likely to do

reasonably well, a great improvement over its recent performance. This could easily change; the country could suffer from real problems of internal disunity and mismanagement. But the 1965 political change has brought major and auspicious economic changes to Indonesia, so some optimism seems warranted. In earlier studies we assigned to Brazil the largest range of uncertainty of any country. Indonesia has a similar range of possibilities now, and everything depends on economic management. We assume something close to 5 percent annual GNP growth. Australia will probably prove successful in continuing immigration during the period 1982 to 1991, although at rates lower than could easily be achieved. Because of this, and because of the extensive raw materials in the country, we project reasonably high growth rates. We argue that Taiwan doesn't do quite as well as recently, but that it doesn't experience any serious decline, going to around 8 percent rather than the 10, 11, or 12 which it might expect in other political circumstances. But it is still a very important country, partly because it is doing so well, and partly because its GNP per capita is so high compared to Mainland China. We assume that Singapore does spectacularly well, and towards the end of the period attracts a fair amount of immigration. Singapore is likely to become the financial and administrative headquarters of the Pacific Basin. It is becoming an area of rather high technology.

II. TECHNOLOGICAL CONTEXT

A. The "1985 Technological Crisis"

Nearly twenty years ago, John von Neumann suggested 1980 as the year in which individuals and nations would have to face critical consequences of the finite size of the earth. This is taken to mean a decade or more of crises, with the 1980's the culminating years. Table I lists most of the important technological issues, and includes other ones than those simply involving the finite size of the earth. Any of these issues, in the next decade or two, could produce enormous human and social problems, if not tragedies. It is hard to believe that the world will cope successfully with all of them. Some, of course, may in the event prove to be non-problems; yet nothing has happened since 1955 to challenge von Neumann's basic assertion that the world is running out of geographical and political lebensraum--that maneuvering room and safety mechanisms are becoming scarce.

The world is faced with the possibility of many different technologies breaking down or developing out of control almost simultaneously. Many of the imminent technological dangers are simply matters of scale: since both pollution and technology tend to grow exponentially, it is easy to be unaware of problems until they are already critical and little time remains to deal with them. It seems highly likely that some of the technologically threatening issues listed in Table I, if not corrected soon, will dominate aspects of our lives and endeavors during the next two decades.

Skeptical or negative popular attitudes toward advanced technology and economic growth may continue to be a major issue in the 1980's.

These attitudes, basically a response to early premonitions of the forces contributing to the so-called "1985 technological crisis," may become steadily more influential as various technological dangers develop into clearly perceived threats. Analytical methodologies developed in the next decade for performing technology assessments may result in the conscious control and limitation of technological change and innovation. Whether or not asymmetric technology assessment policies and attitudes among different nations could significantly influence the distribution of economic and military power, thereby altering strategic relationships or imbalancing the international system in important ways, remains an open question. Dangerous technological consequences, however, will surely affect different countries in different ways, and each country will perceive and respond to the technological crisis from its own perspective.

Unfortunately, the growing literature of technology assessment is characterized more by arguments advocating assessment and limit than by demonstrations of feasibility. A country in which technology assessment becomes a central issue for science and technology may experience a period of "technology arrestment" reducing its relative economic competitiveness in high-technology world markets and perhaps even eroding the technological base of its national security for at least the medium term future. Countries which emphasize assessment in their science policies, evaluating technology with regard to its social consequences as well as its economic, technical, and military aspects, may fall behind less socially responsible countries in the more conventional indicators.

TABLE I

BY 1985 THE FOLLOWING AREAS ARE LIKELY TO GIVE RISE TO SPECIAL TECHNOLOGICAL DANGERS

1. Intrinsically Dangerous Technology
   - A. Modern Means of Mass Destruction
   - B. Fission Nuclear Reactors, Especially Fast Breeders
   - C. Satellite Launch Vehicles, Commercial Aircraft
   - D. Molecular Biology and Genetics
   - E. High Energy Lasers

2. Gradual and/or National Contamination or Degradation of the Environment
   - A. Increased CO_2 and Dust in the Atmosphere
   - B. Waste Heat
   - C. Agricultural Chemicals, Food Additives
   - D. Excessive Urbanization, Overcrowding, and Tourism
   - E. Radioactive Waste

3. Spectacular and/or Multinational Contamination or Degradation of the Environment
   - A. Nuclear or RCB War
   - B. Supersonic Transportation
   - C. Limited Weather Modification
   - D. Million-Ton Tankers and Million-Pound Aircraft

4. Dangerous Internal Political Issues
   - A. Computerized Records and Surveillance
   - B. Excessively Degradable Centralized Capabilities
   - C. Improved Knowledge of and Techniques for Agit-Prop
   - D. Nuclear Weapons Affecting Internal Politics

5. Upsetting International Consequences
   - A. Technological Obsolescence of "Unskilled" Labor
   - B. New Synthetics--e.g., Coffee, Oil, etc.
   - C. Inexpensive and Widely Available "Realistic" Communications and Physical Travel
   - D. Inexpensive Food (Synthetic?) or Education
   - E. Control and Exploitation of the Oceans, Space, and Moon

6. Dangerous Personal Choices
   - A. Sex Determination
   - B. Psychedelic and Mood-Affecting Drugs
   - C. Electronic Stimulation of the Brain
   - D. Lengthy Hibernation; Super Cosmetology

7. Bizarre Issues
   - A. Mechanically Dependent Humans, e.g., Artificial Kidneys or Hearts
   - B. New Forms of Humanity, e.g., "Live" Computers
   - C. Enforceable Birth Control for "Impossible" Groups
   - D. Radical Ecological Changes on a Planetary Scale
   - E. Interplanetary Contamination

B. Non-Military Technologies

1. Energy

Developments in world energy consumption, which will nearly triple in the period from 1970 to 1990 (see Table II), primarily reflect changes in the relative costs of different sources of energy. Coal has become an increasingly uneconomic energy source, leading to the rapid transformation of Japan and Western Europe into oil-based energy economies. Growing reliance on imported crude oil from the politically unstable Middle East, together with recent demands by the Organization of Petroleum Exporting Countries (OPEC), has led many advanced countries to seek both geographical and technological diversification of energy sources.

Proved technology to exploit the large deposits of high quality oil-bearing shales in North America is near to commercial feasibility, although gigantic problems of waste disposal and water supply remain. The technology for movement to large-scale production of synthetic oil (coal hydrogenation) is less advanced than with oil shale. Tar sands hold a technical and commercial lead over the other unconventional sources of liquid fuels, but various policy problems related to exploitation of Canadian deposits remain. Although nuclear power will account for only a small part of total world energy consumption, there will be ten-fold increase in total nuclear-powered electrical generating capacity from 1970 to 1990. Even though nuclear energy will provide 16% of Japan's requirements in 1990, 74% of Japan's energy will be due to imported oil. The total of nearly 2000 tons of plutonium produced as by-products in power fission reactors by 1990 will not be suitable for use in nuclear weapons in the initial phases of a weapons program unless a satisfactory

way is found to use plutonium 240 contaminant as well as the fissionable isotope.*

Development of commercial fast-breeder reactors in the 1980's will result in the production of considerable quantities of weapon-grade plutonium. Until fast-breeder reactors become self-sustaining (well after the year 2000), there will be a continuing need for supplies of natural uranium and for uranium enrichment processes. Gas centrifuge technology is likely to be competitive with the gaseous diffusion process by the early 1980's. Possession of a nuclear fuel cycle greatly reduces the time required to develop nuclear weapons--by 1990 Japan, India, South Africa, Canada, and jointly West Germany, the Netherlands, Belgium, and Italy could have enriched uranium fuel cycles, although guaranteed access to supplies of natural uranium would imply satisfaction of nuclear safeguards. Considerable commercial competition in nuclear fuels may be reinforced by their military significance.

Recent developments indicate that commercial fusion reactors may become available by the late 1980's or early 1990's. If first generation reactors use magnetic containment and the deuterium--tritium (D-T) fuel cycle, tritium must be bred in lithium blankets, resulting in the possibility of breeding plutonium in natural uranium blankets to utilize a fission-fusion hybrid energy economy in which fission breeders are unnecessary. (It is <u>not</u> true that fusion reactors of this type would be unable to contribute to production of nuclear weapon fuels.) On the other hand, reactors using laser-induced thermonuclear micro-explosions could be scaled up to D-D fuel cycles more easily, eliminating the

*Plutonium 240 content can be reduced by frequent recycling of the fuel rods which, however, makes power production much less economical.

requirement for tritium breeding and also increasing the feasibility of direct conversion of fusion kinetic energy into electricity. Impressive progress in the development of high-energy lasers indicates that laser fusion technology has a much higher probability of maturing into commercial feasibility in the near future than does the much older technology of magnetic confinement. (The implications of closely related research on laser triggers for fusion weapons, especially relating to the spread of nuclear weapons, may be quite important.)

Although large-scale exploitation of either geothermal or solar energy might be technically feasible in the 1980's, this is unlikely unless R&D expenditures in these areas are greatly increased. The development of powerful lasers which could convert heat directly to radiation (and vice versa) would greatly increase the possibility of the large-scale use of solar energy collected by satellite systems and beamed to earth.

The present broad Soviet lead in energy R&D, especially in fast breeder reactors, MHD and thermionic conversion, and some types of fusion devices, could have great economic and political significance in the 1980's. Increasing liberalization of East-West trade could lead to Soviet penetration of European and Japanese energy generation markets with innovative nuclear energy technology, especially if Western cooperation in the area of anti-pollution technology insures that Soviet powerplants can meet Western standards of environmental quality.* Soviet influence in nuclear energy markets, in addition to growing Soviet geopolitical influence in the major oil-resource and transportation areas, may have serious military implications in the 1980's.

*Soviet penetration of Western markets is highly contingent on improved political relations.

TABLE II

World Energy Consumption
(Totals are in million tons standard coal equivalent; sources are in percentages of total)

	1960	1970	1980	1990
Total	4,400	6,800	11,000	17,000
Source				
Coal	52	31	21	16
Oil	31	46	52	55
Gas	15	17	18	18
Hydro/nuclear	2	6	9	11

2. Communication/Information

A high-quality integrated global telecommunications network will be developed by the early 1980's based on satellites, submarine cable, terrestrial microwave and line systems, utilizing advanced switching exchanges. It will allow connected subscribers in any part of the world to dial directly to any other part and communicate, not only by telephone (and probably also by Picturephone), but by digital and graphical data, facsimile, and other devices. International and domestic communication satellites are likely to have capacities of over 20,000 voice circuits; self-adjusting echo cancellors will produce high-quality voice transmission channels using international comsats, and development of improved Klystrons may make possible direct broadcasting to small home antennas from domestic comsats.

The progressive introduction of cable TV may accelerate due to its high quality, freedom from interference, and potential for expanded applications once populated areas have been wired together. Development of easily laid microwave waveguides or laser light pipes using optical fibers may provide extensive wideband capabilities by the late 1980's or early 1990's, possibly with two-way applications (wideband in, narrowband out). The development of inexpensive automated ultra-microfiche readers and facsimile transmission may provide serious competition for some of the potential applications of wideband networks.

Computers and information processing systems will be much more ubiquitous in the developed world of the 1980's. Trends toward cheaper, more compact and powerful, and more reliable, computers will make possible the pervasive use of flexible access terminals which can interface with various communication networks using on-line time sharing.

Subnanosecond circuitry, large memories utilizing holographic storage or post-LSI three-dimensional integration, and hierarchical processing combining parallel and pipeline modes will lead to greatly increased performance/cost for large general purpose machines.

Improved terminals which are actually small computers (with buffer memories) will display alphanumerical and graphical information on devices which may have color and/or 3-D capabilities. Modular software and more flexible input/output formats, possibly compatible with typewritten material or voice communication, will lead to the increasingly pervasive use of computers by many people for a wide spectrum of applications. (People's ability to devise impractical applications will develop as fast as the computers' growing powers render last year's impractical idea practical.)

3. Transportation

New systems involving entirely new principles in high-velocity, wheel-less ground transportation and propulsion may make the wheel-on-steel railroad obsolete for passenger traffic by the end of the 1980's. Tracked air-cushion vehicles using linear induction motors might be in widespread use by the late 1980's, achieving speeds up to 250-300 mph. (Magnetic levitation may be developed as a competitive suspension system.) These energy intensive high-speed ground transportation modes might look worse, however, if the so-called energy crisis persists.

Although speed is a key to viable transportation systems, for both passengers and freight, the great value placed on convenient door-to-door service may lead to automated urban systems. Patterns of growth of new cities and older megalopolises will interact with the evolution of these new mass transportation networks. One of the great uncertainties is the extent to which improved communications will be substituted for transportation, so that travel for business purposes may decline as that for pleasure increases.

High-speed urban mass transportation will be competing with the privacy and flexibility of non-polluting and safer automobiles in the 1980's. Development of high-energy density batteries or combustion systems which can burn liquid hydrogen may satisfy the requirement for low emissions, while improved semi-automated highway safety systems and electronic sensors on better-built automobiles will decrease the per capita incidence and severity of accidents.

Subsonic wide-body jet aircraft capable of carrying 300-400 passengers will be widespread, creating requirements for containerized luggage and fast train shuttles to expedite boarding and egress. Only limited use of V/STOL aircraft will exist by the late 1980's, although the technology for 100-150 passenger VTOL aircraft will be at hand. A small SST fleet of less than 100 aircraft will serve the world at somewhat uneconomic levels, and development of hypersonic transports will not be in the cards, although operational experience with the partially reusable space shuttle will provide technological data for post-2000 HST's. Large nuclear aircraft will not be developed in the 1980's, although large nuclear surface-effect ships are possible.

Marine transportation will include advanced hull concepts such as hydrofoils and surface-effect ships on a limited scale, and nuclear propulsion will be widely used (probably on containerships). Roll-on/roll-off and LASH ships will be widely used, and automated ships and cargo-handling will lead to reduced crew size and increased productivity. Satellite ocean surveillance and navigation aids will reduce the incidence of ship collisions (and oil spills).

Japan and West Germany will be the leading countries in the development and production of many transportation systems in the 1980's,

including numerous nuclear containerships and tracked air-cushion (or magnetic levitation) vehicles, as well as non-polluting electric automobiles and trucks. It is conceivable that many of these transportation systems may have potential markets not just in Western Europe and the U.S., but in the U.S.S.R., China, and Eastern Europe. Only a large increase of American R&D in these areas will preserve the international competitiveness of the U.S. transportation industry, although the American aircraft industry will continue to remain competitive due to its continuing large defense-related development programs.

4. Population/Resources/Environment

Demographers do not expect any great reduction in the rate of population growth up to 1990, despite continued family planning in developed nations and an energetic campaign to decrease birthrates in the populous, relatively poor developing countries. The increasingly large number of abortions in the world each year (35-40 million, many of which are often both illegal and dangerous) compares with the 70 million live births each year, and both will increase by 15-20 percent throughout the 1980's, unless other contraceptive modes become widespread. Better and more dispersed medical facilities should make abortions easier to obtain (legally) and safer, in both the developed and developing countries.

Prostaglandins and improved copper IUD's are the two contraceptive technologies with the best chance of providing easy and safe access to birth control, especially for the masses in the developing world. In addition, the development of reversible vasectomies will provide a fast and safe surgical technique for male sterilization, which could become increasingly popular. Development of non-surgical techniques by which

the sex of babies may be chosen with high certainty could lead to long-term decreases in family size as well as to short-term fads for sexes and major changes in sex roles.

The technology of plant breeding will continue to sustain the momentum of the so-called Green Revolution and will help it to spread in Latin America and the tropical countries of Africa. Biological control of agricultural pests will gradually replace chemical pesticides as the dominant type of crop protection, improving the environmental impact of agriculture in general. Some use of garbage slurries to replace chemical fertilizers may occur, although it is not foreseen that the high rate of growth of fertilizer production and use will subside during the 1980's. Possible development of saltwater crops may occur which, combined with partial desalination techniques, may open up much new land for agricultural exploitation.

The technology of mining coal, ores, and bauxite will involve an emphasis on the ease of land restoration after strip-mining has been completed. At the same time new techniques for drilling and tunneling, possibly using nuclear-powered subterrenes or electron beam rock-cutters, may increase the economic competitiveness of deep mining. Exploitation of seabed resources will become feasible as ocean technologies mature, although the 1980's will not see extensive mining of the seabed.

The recently emphasized resources of clean air and pure water will motivate a growing number of anti-pollution technologies which, by the 1980's, will be a natural part of most capital investments. Regional and global environmental monitoring systems will be established, some of which may use compact electronic sensors which can be interrogated by environmental satellites. Other satellites will have their own

multispectral sensors to provide continuous synoptic measurements of the flow of environmental constituents and to serve as early warning platforms for pollution emergencies.

The development of efficient heat pipes will increase the possibility that waste heat from electrical generation plants can be used in various manufacturing processes or in home/apartment heating networks. Technology to convert garbage and sewage into synthetic petroleum through pyrolysis may be able to utilize waste heat, and in any case would help to solve the growing problem of solid waste disposal. Gradual conversion of the energy economies of advanced countries from fossil fuels to nuclear reactors, together with pollution abatement technologies for nitrogen and sulfur oxide removal, will improve the air quality of most metropolitan areas which limit their automobile and truck populations to new-generation, relatively non-polluting vehicles.

C. Some Interesting Military Technologies of the 1980's

Projections of military technology in the 1980's are related to present technological states-of-the-art in three principle ways. Continuous evolutionary improvement of existing weapon systems, as exemplified by the development histories of the Minuteman (MM) ICBM and the B-52 strategic bomber, will occur due to new concepts (e.g., MIRV and SRAM), better materials, and more compact, reliable, and cheap microelectronics (e.g., MM computer). Secondly, immature technologies will be carried through into qualitatively new weapon systems--laser weapons and air-cushion vehicles probably fall into this category of technological possibilities. Lastly, unforeseen breakthrough might materialize in the near future to make significant contributions to military systems

in the 1980's--room-temperature superconductors and advanced pattern recognition devices belong in this class of technological developments.

The fundamental innovations of the last thirty years are exhibited in Figure 1, together with some possibilities for this decade. Items are listed in the decade that saw their increasingly widespread use outside of research laboratories. Since any elaboration of further evolutionary improvement in 1940's-1950's technologies is reasonably straightforward and rather uninteresting, it suffices to say that nuclear weapons will become more compact; computers will be more powerful, smaller, and cheaper; communication, avionics, and fire-control devices will improve due to microelectronic developments; nuclear submarines will dive deeper and cruise faster; jet aircraft and missiles will be lighter and have high performance characteristics; and lastly, but not of least importance, guidance technology will continue its steady and impressive improvement.*

1. Air Cushion Vehicles

Development of the air-cushion vehicle (ACV), often referred to as surface-effect vehicle, has been impressive, as described in Figure 2. Until recently the largest ACV was the 168-ton SR.N4 Hovercraft, which can cruise at 65 knots carrying 254 passengers and 30 cars. The Navy/Maritime Administration's Joint Surface Effect Ship Program Office has contracted for two separately designed 100-ton 80-knot vehicles which were to begin their sea trials in 1971. These vehicles are prototypes of 4,000-5,000 ton ACV's for the mid-1970's. The U.S. Navy has contracted for the construction of two experimental 160-ton 50-knot ACV

*A recent unclassified estimate by the director of the Apollo Guidance and Navigation Program indicates that the accuracy of ICBM's can be improved to 100 feet in 10 years.

Figure 1

FUNDAMENTAL INNOVATIONS FROM THE 1940'S TO THE 1970'S

1940's	jet propulsion
	microwave radar
	rocket propulsion
	electronic computer
	A-bomb (fission)
1950's	solid state electronics
	H-bomb (fusion)
	nuclear submarine
	artificial satellite
	guidance technology
1960's	air-cushion vehicle (ACV)
	quantum electronics (laser)
	composite materials
	superconductivity
	holography
1970's	pattern recognition
	robots and teleoperators
	gas fuel cell
	controlled fusion (CTR)
	picoelectronics

Figure 2

AIR CUSHION VEHICLE MILESTONES

1956	Principle demonstrated
1959	Man-carrying vehicle demonstrated (across English Channel)
1962	Entered commercial service
1966	Entered service in Vietnam
1968	Commercial service across English Channel
1971	Carried more than 1 million passengers

assault landing craft, scheduled for completion in 1974, while the Advanced Research Projects Agency (ARPA) has begun a 5-7 year program in which it will develop a prototype 1,000-ton 150-knot Arctic ACV with a payload of 300 tons and a 60-day endurance.

Whether or not the 1980's will see the concept of a 100-knot Navy become a reality probably depends more on political considerations and funding priorities than on demonstrations of technological feasibility. High-speed naval ACV's will greatly reduce the torpedo and submarine-launched cruise missile (SLCM) threats and will greatly increase surface ship survivability. In addition, according to William Nierenberg (Director, Scripps Institution of Oceanography),

> [t]his kind of vessel is so promising that, by the 1980's, craft for amphibious landings will be using the surface effect....A use of the surface-effect vehicle as a submarine hunter of a very deadly sort may be anticipated....A carrier that can operate at 100-knots will offer a much wider choice of fixed-wing aircraft for operations.

The Soviet Union is testing a prototype assault landing craft which is similar in size and appearance to the British SR.N4. Tests are continuing with a 200-knot giant wing-in-ground-effect (WIG) machine capable of carrying 800-900 fully armed troops (see Figure 3). Soviet naval experts appear to be enthusiastic about the potential of such ACV's for ASW, minesweeping, missile-armed combat craft, fast supply vessels for submarines, and amphibious assault craft. The 1980's could see the beginning of a new naval arms race in which the United States and U.S.S.R. attempt to cope with the growing number of opposing ballistic missile submarines by building large numbers of medium-size hydrofoils and many larger ASW-ACV's. To fill the gap until ACV's proliferate, hydrofoil warships are being developed by many countries.

2. Lasers

Since the first laboratory demonstration of laser action in 1960, the development of lasers has evolved with remarkable speed to provide the broad spectrum of lasers presently available. An electrically excited CO_2 laser at the Air Force Weapons Laboratory (AFWL) has produced continuous output of 19kw with an efficiency of over 22 percent, and a large CO-fuelled gas dynamic laser (GLD) at Avco-Everett Research Laboratory has produced continuous output of 60kw and nearly diffraction-limited beams at 30kw. One indication of the great promise in lasers for a variety of military applications is the intention of the Japanese Defense Agency to initiate a major laser program which will systematically develop weapon applications by the early 1980's.

Figure 3

MILITARY APPLICATIONS OF LASERS

Target illumination and designation

Target destruction

Communication

Holography

Radar

Computer memories

Fusion trigger

The most important military applications of lasers are exhibited in Figure 3. Accuracy of weapon delivery is no longer a problem due to the high effectiveness of laser designators functioning with other ranging and homing devices; some types of homing missiles and aerodynamic bombs are already fitted with laser homing heads. The Army's MBT-70 tank will have an illuminator-ranger, and the Air Force is developing its laser optical guidance integration concept (LOGIC) which combines an airborne laser illuminator, rangefinder and tracker with a video tracking system. Secure communications at 100,000 times the present information capacities and high resolution radar are two other important military applications of lasers.

High energy pulsed lasers are being used in experiments designed to achieve controlled fusion. If optimistic projections are correct, a laser fusion microexplosion system which would produce net electrical energy could be operational in the mid-1970's. Laser triggers for fusion weapons are also conceivable and, if technologically feasible, might have important implications for the proliferation of nuclear weapons.

The strategic implications of widely deployed defensive laser weapon systems may be profound. (Before the development of large phased-array radars in the mid-1960's, effective ballistic missile defense (BMD) was regarded as an example of wishful thinking.) BAMBI* system concepts were assessed to be the most effective with regard to strategic defense, but annual costs on the order of $100 billion appeared to preclude BAMBI deployment. A laser BAMBI system, however, if it proves feasible, should cost much less than $10 billion per year. Provided with adequate early warning and acquisition sensors, such a weapon system could assume the strategic missions of AICBM, ASLBM, and air defense, as well as its own self-defense.

The probability of a development/deployment race involving defensive laser BAMBI systems during the 1980's is rather high. Since a completed system will be capable of destroying ICBM's and SLBM's in the boost phase, it is equally capable of destroying satellite launch vehicles which are used to deploy an adversary's laser BAMBI system. Perception and acceptance of this "high ground" characteristic will create strong incentives to deploy the first laser BAMBI network as quickly as possible.

The strategic laser weapon arms competition of the 1980's could be highly destabilizing in two respects. If the competition occurs only between the U.S. and U.S.S.R., and laser BAMBI deployment is nearly a dead heat, completion of both systems might signal an end to that version of nuclear deterrence we have known for two decades. An abrupt transition from a strategic balance sustained by the threat of mutual assured destruction to a new equilibrium based on defensive emphasis could mean a period of reduced strategic stability and a higher probability of

*Ballistic Missile Boost Intercept. The original concept involved pellet-warhead homing interceptors based on hundreds of low-orbit satellites.

miscalculation during a crisis--at least until doctrinal lags disappear. On the other hand, if one of the two superpowers achieved a significant lead in its deployment of laser BAMBI, completion of the first system could generate strong pressures for laser attrition of not only satellite launch vehicles, but any "hostile" missiles or aircraft operating above cloud level. Although laser target destruction might be achieved covertly and/or anonymously, possibly creating an impression that satellite launch vehicles were experiencing an abnormally high rate of accidents, such an attrition policy could be extremely provocative.

The issue of strategic superiority may interact more strongly with the psychological aspects of nuclear deterrence in the 1980's. Rapid buildup of Soviet strategic throw-weight and steady growth of defense-related R&D in the late 1960's, if continued in the future, together with projected improvements in ASW (e.g., widespread use of high-power active sonar, hydrofoils, and possibly air-cushion vehicles) and strategic defense technologies, suggest that the familiar calculation of U.S. assured destruction capability might become infeasible in the 1980's.

Japan is not likely to acquire nuclear weapons before the late 1970's or early 1980's, if then, since the establishment of an enriched uranium production base and the maturation of the fission reactor program will not occur until that period. Preliminary statements of Japanese research leaders suggest that Japan may pursue "systematic weapon development" of high-energy laser systems exactly during the critical time frame for decisions concerning the acquisition of nuclear weapons.*

*F.W. Quelle, Jr. and I. Rowe, Quantum Electronics in Japan, Office of Naval Research, ONR-27, June 1971.

Japan's interest in matching its impressive economic power with some form of non-provocative military defensive power (probably non-nuclear, if feasible) and the fast growth of Japanese R&D are creating a decision-making environment which will favor laser BMD development. The interesting possibility that Japan will lead the two superpowers in this area by the late 1980's should not be wholly discounted.

6. Innovations of the 1970's and 1980's

The technology of pattern recognition is in its early stages and appears to hold great promise for applications as diverse as automatic language translation and terminal missile guidance. Progress in the area of artificial intelligence essentially depends on the evolution of pattern recognition research. Development of self-programming robots which are capable of learning/self-improvement also depends on progress in pattern recognition. The military applications of these areas are open to speculation; however, one candidate is the "smart MaRV" (maneuvering reentry vehicle) which responds to a nonlaser ABM threat by out-maneuvering the interceptors and can achieve high terminal accuracies for hard targets.

Successful development of a compact powerful gas fuel cell would lead to many applications in remote environments such as undersea, space, and the Arctic. An efficient fuel cell could be used in compact submarines having long endurance, as well as in tanks and other armored vehicles.

Achievement of the breakeven point in laboratory experiments of controlled fusion is almost a sure bet by 1980, and probably will be achieved first using high-energy pulsed lasers rather than magnetic confinement

techniques. Laser fusion research is more or less directly related to work oriented to the development of non-fission laser triggers for fission weapons. Consequently, success in the laser fusion area will have significant implications for the military application of laser triggers, and could possibly exacerbate the spread of nuclear weapons. Development of commercial fusion, which will not occur until the 1990's, should not have any major military application per se except that widespread fusion power plants would ease the strong dependence of many advanced countries on petroleum and uranium imports.

The electronics revolution, begun in the 1950's with systematic applications utilizing transistors, continues at its impressive rate of change to stimulate developments in most areas of military technology. Integrated circuits and large-scale integration will be followed by pico-electronic developments and three-dimensional integration which translate into ultra-compact military systems in the 1980's. Near real-time satellite surveillance of wide areas, together with greatly improved communication capabilities, will provide increased flexibility on the battlefield.

D. Special Issues

An increasing number of international programs dealing with ecological and pollution issues that cross national boundaries may be expected in the 1970's and 1980's.

An international program or institution created to deal with problems of ecology will be faced with related issues which appear to be part of the larger fabric which comprises the total environment. These include population growth, social justice, resource allocation, resource

distribution and use, species conservation, arms control, and continental shelf rights. There will be increasing discussion on the complex interaction of these factors.

We may expect efforts to establish an international body capable of applying "importance" and "urgency" labels to these and other items bearing on ecological issues, and to determine proper allocations of time and money. All parameters contributing to the ecological whole will require agreed-upon monitoring and measuring systems to compile statistical data. Physical and social effects must be assessed and costs established for allocation among the world's nations.

While negative ecological effects appear mostly to be within man's ability to contain or eliminate, we may in the next two decades expect attention to be given to improbable (but not impossible) scenarios in which levels of global irreversibility may be reached by ever increasing pollution levels. Candidates for such attention would include, among others, carbon dioxide, sub-micron particulates, DDT, toxic trace metals and vapor discharges from high flying aircraft.

The oceans may be looked on as a source of future conflict. This concern arises from the expansion of territorial claims in adjacent waters, the increasing exploitation of gas and oil deposits in the continental shelf, and the possibility of exploiting minerals in the deep ocean bed.

A problem facing decision makers is the nature of the condition under which the exploitation of the deep seabed will be undertaken. A number of nations have expanded their claims for territorial waters (even up to 200 miles).

The maritime nations will attempt to arrive at agreements limiting such waters to 12 miles. But since larger powers will be reluctant to use force--

"the powerlessness of the powerful"--some claims more extensive than 12 miles will be tolerated.

A twelve-mile limit has implications for narrow waters. The Straits of Malacca and Gibraltar, for example could become territorial waters under this condition, thus allowing littoral states to regulate (or even prohibit) transit. But even if littoral states prove intransigent possibly by controlling passage or charging tolls, the difficulties would be administrative rather than strategic.

The potential for conflict exists today in fishing controversies, even between great powers: the Soviet fishing fleet's interference with U.S. lobstermen in the North Atlantic and U.S. arrests of Soviet fishing vessels off Alaska are examples.

Conflict potential is particularly noteworthy in those areas where the continental shelf actually connects two nations. This is the case in East Asia where the continental shelf is shared by China and all her off-shore and adjacent neighbors.

Conflict over the mineral rights in the deep ocean is also a problem of the distant future. However, with present technology, manganese nodules cannot be extracted profitably from the deep ocean and only a few minerals can be exploited from the continental shelf.

In a world of very tight resources, with the survival of nations or people at stake, it is possible that these issues could become critical for U.S. or world security; however, the contingency does not appear likely in this century.

The anticipated 1980 demand for oil imports to the developed world--upwards of 11 billion barrels for the U.S.A., Japan and Western Europe--

will provide the driving force for an era of intense exploration, transportation and research and development into deep drilling techniques, both on and off shore, and increased recovery percentages from known resources.

Some oil promising areas of the world will receive attention in the near future. Japanese interests are extending to the Eastern Cordillera regions of Ecuador, Colombia and Peru. In Europe, increased crude oil production can be predicted in the North Sea area. There is evidence that huge oil and gas pools exist in the Arctic areas of Alaska, Canada and Russia and the transportation problems will test the expertise of industry to bring the resource to the areas of demand. Increased interest in the extraction of oil from shales in the U.S. and the sands in Canada may be expected as the price of crude oil increases. Successful economic extraction of oil from these sources would act as a brake on the demands of O.P.E.C. and other groups of exporting nations, alleviating fears of threats to national security being expounded today in anticipation of increasing reliance upon imports.

In the same manner that petroleum exporting countries band together to protect their common interests, it may be attractive to importing countries to reach agreement for the successful development of <u>all</u> petroleum resources, to present a unified front against unwarranted price demands, to insure that private capital investments are not jeopardized by irrational behavior. Such an alliance, if forthcoming, will be a test of international diplomacy.

III. CULTURAL/IDEOLOGICAL CONTEXT

A. The Multifold Trend

In addressing cultural and ideological issues we will begin by noting what we have called the Multifold Trend. This is a basic, long term, secular trend in Western culture, which we have described in various Hudson documents (notably The Year 2000 and Things to Come).

1) Increasingly sensate (empirical, this-worldly, secular, humanistic, pragmatic, manipulative, explicitly rational, utilitarian, contractual, epicurean, hedonistic, etc.) culture--recently an almost complete decline of the sacred and a relative erosion of "irrational" taboos, totems, charismas, and authority structures

2) Bourgeois, bureaucratic, "meritocratic," and recently intellectual and technocratic elites

3) Accumulation of scientific and technological knowledge

4) Institutionalization of technological change, especially research, development, innovation and diffusion--recently and increasingly a conscious emphasis on finding and creating synergisms and serendipities

5) Recently, increasing military capability for mass destruction

6) Until recently, increasing area of world dominated, or greatly influenced, by Western culture

7) Increasing affluence and (recently) leisure

8) Population growth--now explosive but tapering off

9) Urbanization and recently suburbanization and "urban sprawl"--soon the growth of megalopolises

10) Recently and increasingly macro-environmental issues (e.g., constraints set by finite size of earth and various local and global reservoirs)

11) Decreasing importance of primary and (recently) secondary and (even more recently) tertiary occupations

12) Increasing literacy and education--recently the "knowledge industry" and increasing numbers and roles of intellectuals

13) Emphasis on "progress" and future-oriented thinking, discussion and planning--recently some improvement in methodologies and tools--also some retrogression

14) Innovative and manipulative rationality increasingly applied to social, political, cultural and economic worlds as well as to shaping and exploiting the material world--increasing problem of ritualistic, incomplete or pseudo-rationality

15) Increasing universality of the Multifold Trend

16) Increasing tempo of change in all the above.

The Multifold Trend provides a glimpse of the direction in which world society is headed. This movement of culture and society unmistakably exists and the short-term future of society cannot be understood without an understanding of the Multifold Trend as a long-term base-line. We believe that in some respects there will be a slowing of the trend during the next fifteen years--in comparison with the speed of change over the past two decades.

The element in the Multifold Trend which is most important to this report is continued Westernization, Modernization, and Industrialization. The techniques of industrial production and growth are spreading outside Western Europe. Japan, some parts of China, some parts of India, the Overseas Chinese enclaves of Hong Kong, Singapore and Taiwan, are approaching overall western levels of industrialization. Vietnam, Thailand, and Korea appear candidates for very high levels of industrialization in the next two decades.

Not all will succeed. By the 1980's it is likely to be clear which states are succeeding, and which are not. Africa will still be at the very beginnings of modernization. Some African states may in fact be vulnerable to a failure of confidence among their elites. Moreover,

the cultural and social consequences of industrialization will be severe in nearly all the developing countries, even shocking. The result is certain to produce fairly high levels of political unrest and social tensions within many states. The great powers may attempt to intervene, with little constructive effect.

There will be a shift in economic activity towards the quaternary sector in Northern Europe and North America, where industrialism first emerged. There is likely to be a significant reaction against the pragmatic and materialist values of industrial society of the kind experienced in the 1960's. It is likely also to include a general tendency for people to work less, to care less about possessions, but also to find themselves increasingly unable to cope with leisure and affluence. There may be a rise in socially purposeless or deviant behavior. It is also possible that the next decade-and-a-half may provoke a "counterreformation." This may produce some revival of traditional values and more authoritarian politics.

A crucial factor in the emergence of post-industrial culture is the explosive growth of knowledge. The "knowledge explosion" is a matter of increasingly rapid and voluminous exchange of information and opinion by an enormously-enlarged class of knowledge-workers. Among the consequences of the knowledge-explosion, and the worldwide rise in literacy are the following problems:

1) There will be increasing difficulty in integrating and making proper use of accumulated knowledge

2) Another problem is that of educated incapacity, which we believe extremely serious and certain to grow more serious in the advanced countries over the next decades. Educated incapacity usually involves a blocking out of the ability to observe things directly. Intellectuals tend to rely on indirect sources of knowledge--books and images. Post-industrial culture gives much greater power and influence to intellectuals, academics, and scientific men, whose tendency to rely more on words and images than to direct observation of the real world is likely to have important political and social consequences.

B. Ideologies and Religions

The era of great Soviet ideological impact upon the world lasted from 1917 until the mid-1950's. It then went into decline because of its evident failures. The era of Chinese Communist ideological influence reached a peak in the Third World and among alienated Western elites in the 1960's. We believe it too is now in decline and will continue so through the 1970's and into the 1980's. The chief reasons are a) the peasant-based revolution in China has proved of limited practical relevance elsewhere, b) the Chinese Communists themselves have tended towards a peculiarly nationalist refinement of their ideology and practice, and have demonstrated no great competence or willingness in exporting revolution, c) in restoring political relations with the United States, the Chinese have undermined their position as the most uncompromising of revolutionaries.

Ideology is inevitable and it will be invented when it does not already exist. Discontented classes and alienated elites exist in many societies. The response of these non-political and supra-political elements to ideological politics is of great importance in modern times, because of the decline of religion in modern culture.

For revolutionary motives and impulses to be impelled into action, a mobilizing ideology usually is necessary. To act in politics, people ordinarily require a coherent explanation not only of why things are as they are, but also how certain kinds of action can change things. Thus, if a movement is to have a major impact, it nearly always is necessary to have this national exemplar of how the ideology succeeds--a triumphant Bolshevik Russia or People's China or revolutionary Cuba.

Thus during the next decade and a half the established Communist nations undoubtedly will have an influence on ideological politics, but a declining

influence. Communism will remain a major force in world politics. A collective doctrine of historical opposition to "bourgeois-capitalist-imperialist" society will exist among the various communist groups, but it will be of less practical consequence for the international politics of the period than it has been since the war.

We ordinarily categorize ideologies by reference to past experience in the modern world. There are Left ideologies, all except anarchism linked to Marx and Marxism. There are Rightist ideologies, the most important being fascism. Conservative or reactionary politics ordinarily are fairly undoctrinal movements, and Fascism as an anti-intellectual and nationalist movement, has much less clear an intellectual lineage than Communism, lacking a generally accepted doctrine.

The next decade and a half contains some potentialities for new totalitarian movements. But the prospect of an important new international movement based on the national power of one or more states, seems slight. Twentieth century rightist movements tend to be nationalist. Even fascism was not an international movement, and the fascist states were frankly suspicious or hostile to one another before the war. Thus the only politically effective leftist international in modern times was the Stalinist Comintern, a disciplined organ of the Soviet government. It seems that we have yet to experience a leftist international made up either of non-ruling parties or of national governments.

The only "new" formal ideologies anywhere close to power in today's world are two religious movements.

1) Soka Gakkai is a naive modern syncretist sect of the Nichiren Buddhist tradition in Japan. Its post-war role has chiefly been to provide a new socio-moral identity for many individual

Japanese caught up in the industrial transformation in Japan, like newly-urbanized workers, displaced members of the Japanese middle classes, etc. The political arm of the movement might be described as populist in quality, hostile to "the establishment," nationalist, and in its foreign policy--neutralist and implicitly anti-American. It may be that Soka Gakkai is a transitional phenomenon with inherently limited political potentialities, an unsophisticated movement and a quite parochial one, with clear resemblances to the Black Muslim movement in the United States, or to Protestant fundamentalist evangelical sects, and to Calvinism. If Japan experiences a major economic or political upheaval during the next fifteen years the social conditions conducive to Soka Gakkai recruitment and power will be intensified and its impact within Japan could then be intensely radicalizing, but also nationalist and nativist.

2) Opus Dei, the semi-secret Roman Catholic lay institute which is influential today in Spain, represents an interesting conjunction of modern technocratic values with a modernized version of ultra-montane Catholicism. Its intellectual and moral sources are in a conception of religion's relationship to politics which now is almost entirely discredited outside the Latin world. The movement also seems to possess a certain quality of intolerance which has been a factor in limiting its influence to the Spanish and the Spanish-derived cultures, being quite inconsistent with Italian and French tradition.

Religion and political-military affairs have often been closely related in the Islamic world, from the days of the original expansion of the Arabs to the modern times (e.g., Saudi Arabia, Libya and Pakistan). However, from the time of Muhammad, there has also been a counter-tradition that has placed religion and politics in perennial opposition.

In assessing the future impact of Islam, it is helpful to differentiate three general forms of the faith today.

1) The traditional or reformist--remains most powerful.

2) The modernist movement--represents an attempt by intellectuals to harmonize traditional beliefs with modern Western culture, and often with nationalism.

3) New sects have arisen to revitalize Islam. The most important of these are the Bahai and the Ahmaddiya.

An exception to the generally anti-religious trend has been the recent accession of young puritanical officers of Libya.

As we look to the future, Islam and its sects will continue to be foci of national or sectional loyalties. In the Muslim portions of the U.S.S.R., nationalist communist movements may well use Islam as at least a rallying cry. Elsewhere traditional Islamic regimes will become increasingly secular. However, the evolution of Turkey since World War II suggests that the role of religion in politics may also increase. At the same time, the history of the last century suggests that there will not be a politically important new religious movement in the Islamic world in the near future.

At the present time there is, of course, marked domestic discontent in this country, ordinarily characterized as populist or "middle American." The specific anxieties and the changes implied in this movement of the working and lower-middle classes are directed against those classes, institutions, and groups which have enjoyed inordinate or irresponsible or unearned privilege in recent years. It is hostile to "bureaucrats," "politicians," university professors and liberal intellectuals, the liberal media, students at elite universities, "experts" and technocrats. It is hostile to "welfare." There is an element of racism in the movement, though it often makes distinctions on grounds of class and behavior rather than color itself.

This movement can be seen as something of a "counterrevolution" against many of the politically "progressive" and culturally secularizing changes carried out in American society over the last few decades. At present it is impossible to predict its ultimate effect. This "counterrevolution" will eventually produce a more conservative American government, sharply limiting

the influence of today's liberal elites and liberal business and organizational "establishments." This would imply a more nationalist America.

Before World War II the observable differences among racial and cultural groups were commonly accepted, commented upon, and of course were also commonly the subject of invidious comparisons. Jews and orientals were commonly the villains of popular novels. Negroes were mainly comics or villains in American popular entertainment as late as the 1940's. World War II ended that. Japan and China had to be taken seriously; post-war decolonization made people see Asians in new terms. But far more important in bringing about a change of attitude was the "Final Solution" in Europe. Germany's death camps made it impossible for the European and American peoples to go on treating racial-cultural distinctions with casualness, or with indifference. The American Negro population also was in revolt against a discriminatory system. A slowly awakened sense of guilt or restitution among white American elites was added to the general Western sense of shock and restitution over the fate of the Jews.

Today, of course, there is some reaction against this new sensitivity, coming chiefly from the young and radical elements of Black and Jewish communities themselves insisting upon their special cultural and racial characteristics. Their reaction is a special version of the new communal "nationalisms." In the decade ahead we think it very likely that it will again become "respectable" in the West to discuss Jews, and American Blacks, and on the international scene, Africans and Asians, in terms of their differences. In the next decade and more we can expect, at best, a new realism about social and cultural differences, but we may also, at worst,

see a resurgence of a certain racialism in the internal politics of the Western states and in the relations between the Western states and the Asian and African societies.

Two distinct trends recently became apparent in Western attitudes towards the proper apportionment of political power in modern society. On the one hand, imperatives of rationalization, of administrative and economic efficiency. At the same time, there is a marked trend toward a certain decentralization of political power and an attempt to reform government by discarding bureaucratic agencies and bring power closer to the people. Italy today constitutes the case in which this kind of decentralizing reform experiment is most advanced.

The decentralization of power is also a response to a fairly recent resurgence in communal, regional, and ethnic consciousness. This renewal of Breton, Basque, Scottish, Welsh, Lombard, Tyrolean, Ulster-Catholic and Ulster-Protestant, Black American, Chicano, Quebecois, "nationalism" represents a form of reaction against the social pressures and the anonymity of modern industrial society.

We expect a continued and significant tendency to shift power away from the central governments during the next fifteen years. There will be a shift of power to the European (Common Market) economic and political agencies, and at the same time a notable decentralization of power within nations, especially in Western Europe. These trends will also have an effect upon Eastern Europe, where the system of Soviet dominance is likely to undergo severe strains and new crises in the next decade.

IV. WORLD POLITICAL AND SECURITY CONTEXT

A. Political

1. Multipolarity

"Multipolarity" or "pluralism" in world politics ordinarily describes the situation produced by the rise in power and influence (since the 1950's) of Japan and the European community (and of Europe's individual states), the return of China to active diplomacy, the regional influence and power newly demonstrated by India and North Vietnam (among others), and a certain relative decline in the power of the United States and the U.S.S.R.--caused by nuclear parity and mutual deterrence (and self-deterrence), and the demonstration, in Vietnam, of the inconclusiveness of conventional military power in certain circumstances.

Multipolarity and pluralism also have an ideological meaning. In 1950 the world was divided into Stalinist and anti-Communist camps, waging political warfare against one another. The "non-alignment" of certain Third World states ordinarily was diplomatic and military, not primarily ideological. Today there is Soviet post-Stalinist Communism, Chinese Communism, Cuban Communism, East European "socialism-with-a-human-face," West European revisionist Communism, Western Democratic Socialism, Western radical New Left Socialism, ("infantile" in the view of Soviet doctrine; "fascist" in the opinion of some Western socialists and liberals). There is anarchism, Third World radical socialism, Islamic socialism, liberal capitalism, and various others. All of the mentioned doctrines, except anarchism and New Left radical socialism, are now--or very recently were--in power in one or another country; and the excluded two ideologies made a good try at toppling a government in France in 1968.

As during the past 25 years, military power will certainly remain the ultimate resort of a nation's policy in the 1980's as well. But size, trade, GNP growth, technological innovation, and social accomplishment may also have a great effect on the relative standing and influence of nations. Thus, by 1980-1990, instead of "East" and "West" it may be more useful to think of a Pacific Basin Trade and Investment Area and an Atlantic trade area. A state which combines high technology and high GNP/capita with a heavy and successful social investment--in environmental protection, and social services and amenities--may achieve a very important leadership role.

Nation-states will remain the primary political unit in the 1980's. An important force for change is likely to be conflict involving sub-national groups (e.g., the Bengalis in both India and Bangladesh or the Tamils in both India and Ceylon). There is potential conflict among language or religious groups--notably in Canada, Ireland, Yugoslavia, Pakistan, South Asia and Africa. Some of the factors which contribute to the solidarity and endurance of the nation-state are the following:

1) It has intrinsic stability: Indeed, it is the current source and objective of feelings of identity, loyalty, communality, ethnicity, patriotism, nationalism, pride, etc.

2) Tradition and fashion: The nation-state simply is widely accepted and it has demonstrated both competence and dynamism. The nation-state--if at all successful--is still demonstrably a major, if not the major, source of self-sacrifice, reform, social energy, etc.

3) Vested interest: There are both tangible and intangible benefits to citizens and to powerful groups in the established system. In particular the whole governmental apparatus is likely to be quite effective at dampening or even crushing centrifugal tendencies.

4) Fear of disorder or anarchy: There is a widely felt sense that a process of movement away from nations into their constituent parts could become an endless process. Each group has its sub-groups. Very few communities are truly homogeneous.

5) History: Modern history has been dominated by political centralization; breaking into sub-units can seem a reversion to pre-modern, even feudal, political conceptions.

While the current dominance of the nation-state can be expected to continue through the seventies and eighties despite some significant conflicts--on the one hand between nations and constituent sub-national groups and on the other between nations and larger international groupings--the issues are sufficiently in doubt so that the possibility of new patterns beginning to emerge should be considered. A major reform of the world system of governments or even a reshuffling of various groups as nations split and are rejoined and reorganized, should be considered as new patterns. Despite some significant conflicts between nations and constituent sub-national groups, a major reshuffling of the world system of governments should be considered as another possible pattern that would involve a number of Federal concepts or other forms of internationalism, with localism, or ethnic separatism. Thus, one might find important regional organizations in Africa, perhaps in the Indian sub-continent, Europe, to some extent superseding existing national governments and providing an overall structure within which primary governmental allegiances are held by cultural or linguistic groupings. One or more of the current four divided countries could work out an interesting and new modus operandi--most likely some form of "the two states in one nation" concept. But none of these groupings or embryonic movements are likely to have a serious direct significance in military and security

matters--at least in the seventies--although they could be marginally significant.

Today the movement towards supernational organization is much weaker than the forces of separatism. In the future a stronger supernational organization may encourage sub-national separatism. Thus, world government--or at least regional government--is imaginable as a result, not of a process of steadily enlarged sovereign units, but more of movement toward separatism and decentralization.

All these possibilities may not have moved to completion by the end of the eighties. But they are worth noting because it is the interaction between the underlying tendencies of world events and particular conflicts and disputes that are often crucial.

By the 1980's the gap between the living standards of the developed countries of the world, and those of two-thirds of the world's population which lives in undeveloped countries, will have increased. Some argue that a "gap consciousness" will steadily grow as a factor in world politics; this seems to us not necessarily true. It is possible that the rich countries will have become indifferent. More important is the attitude in the underdeveloped countries. It seems unlikely, however, that feelings about the rich/poor gap will be an important factor in the foreign policy decisions of the poor countries. But throughout the eighties there may be serious disputes over poor nations following some production technique that damages the environment beyond their borders.

2. International Institutions

World political institutions will not evolve significantly in the next ten years. In the future, various specialized--regionally or

functionally--groupings and devices will develop to supplement the United Nations and other basic agencies. The United States will continue to be concerned about the institutional characteristics of international relations. The degree of U.S. commitment to the goals of international institutions will vary over time. Prospects for international organizations in the 1980's depend largely on the politics of the major powers. In the world of the 1980's the military alliances of the present day are likely to have greatly declined in importance. International and regional political organizations are likely to be better able to offer channels of bargaining and become the source of legitimacy, but are unlikely to play any major role in world or regional security matters. On the whole, most of the efforts to preserve international security, and all the efforts to disrupt it, will come from individual states, although the U.N. may on occasion play a useful role, though not more effective than in the late 1960's.

The world of the 1980's is not likely to be notably more secure in strategic terms than the present, and may be appreciably less so. The principal uncertainty is in the number of countries possessing independent nuclear weapon capabilities, and the extent to which nuclear weapons will be considered "acceptable" for use. Traditional balance-of-power politics will probably play an enlarged role in a multipolar or plural world, especially if nuclear weapons do <u>not</u> play an important role. An even partially successful European security conference is likely to undermine NATO and the Warsaw Treaty Organization (WTO), at least as they now exist.

Whether or not the world will be increasingly multipolar, barring a major nuclear war, the United States and the Soviet Union will probably

still appear to be the only superpowers from the perspective of international security. But the number, wealth, and assertiveness of other states with at least the potential for becoming major actors will have increased considerably. Western Europe will have the population and economic capacity appropriate to a superpower, but is unlikely to have the degree of political consensus and cohesiveness that would lead it to act as one. If the underdeveloped world becomes a potential source of instability for the developed world of the 1980-1990 time period, which we regard as rather doubtful, it is more likely to happen through the mechanism of the internal politics of the developed world than as a direct challenge posed by the developing countries, individually or collectively.

C. Arms Control

1. Nuclear Proliferation

In 1973, there appears to be at least a fair chance that no additional countries will acquire their own nuclear weapons by 1990, in which case arms-control efforts will focus on preserving the status quo and on nonnuclear issues. If several additional states acquire nuclear weapons, there will be substantial effort directed to restraints on the further development, deployment, or use of these weapons.

Countries in which serious bureaucratic or political pressures are now known to exist or may soon exist for an indigenous weapon capability include Argentina, Brazil, India, Israel, and Japan. If none of these countries actually explodes a bomb within the next decade, as is at least plausible, then it is unlikely that any additional countries will do so in the same decade.

2. Superpower Agreements

The scope for Soviet-American arms-control agreements will of course depend very much on the political climate prevailing.

Whether the SALT agreement sharply curtailing defenses against ballistic missiles will survive into the later 1980's is unclear. It is currently expected that SALT Phase II will concentrate on strategic nuclear offensive forces. Such constraints on strategic forces may ultimately lead to a major diminution of the strategic threat between the superpowers. It would be rash to take this development for granted, however.

Another focus of current (1973) attention is the possibility of negotiating a comprehensive ban on tests of nuclear weapons. The principal arguments for such a ban are to reduce the arms race and to help retard proliferation. It appears to us that such a ban would be sensible for the superpowers only if all nuclear states participate. Whether France and China will come to regard such a test ban as in their interest within the next decade is more than a little unclear, but the possibility cannot be excluded, and if they do, a comprehensive test ban may well be agreed upon.

Other superpower agreements are possible in relation to European forces and postures and to other types of forces and weapons, such as anti-submarine warfare and incendiary weapons.

3. Secondary and Minor Powers

Smaller countries would be the principal states concerned if substantial constraints are imposed on arms trade. Whether such constraints are either desirable or likely is not wholly clear.

D. Regional Political-Security Issues

1. Western Europe

In the decade of the eighties the most striking change likely to occur in Western Europe is the appearance of great wealth within those nations presently comprising the EEC, and even in Portugal, Spain and Greece. This means great wealth in American terms. Also it would appear that our time frame will see the process of industrialization of Europe substantially completed, including the Mediterranean rim areas. As a consequence of high sustained growth rates in France, Italy, and in the other presently less developed regions of the Mediterranean, the center of political and economic gravity in Europe can be expected slowly to shift towards the south, and Northern Europe increasingly to lose its dominance. According to current OECD projections, the French will surpass West Germany in total GNP by the 1980's. Early in the eighties both France and Germany should have approximately the per capita wealth the United States enjoys at present, and in aggregate terms the two together will have a larger GNP than the United States did in 1960--a mere twelve years ago. France by 1985-90 is likely to have very nearly 80 percent of America's per capita GNP while the U.K. is likely to have less than 40 percent. These distinctions within Europe may by this period become so glaring as to threaten the political stability of certain countries in Northwestern Europe, traditionally leading in high living standards and reliable political institutions.

Given the great mobility of populations in contemporary Europe and the Europe of the future, disparate economic performances among

the European nations are not likely to remain a secret. One may expect a very considerable brain drain from the Northwest European regions to the continent, particularly to France and Germany.

The political and social consequences of the new wealth are likely to be striking and in some conceivable cases dangerous. For one thing, the visibility of wealth can lead to a breakdown of social discipline if competing sectors of the society demand immediate distribution of wealth and benefits rather than the postponement of gains in the interest of further economic progress. Furthermore, certain negative consequences of wealth--already beginning to be apparent in countries like the United States and Sweden--will of course begin to appear in continental Europe. These include the disintegration of the family, the breakdown of traditional patriotism and other social loyalties, drugs, etc.--in short, the culture of boredom and affluence. Also, the explosive growth of wealth in Western Europe in our time frame is likely to create a dangerous generation gap.

The problems faced by the new governments may be relatively severe. Not only may there be a clamorous competition for the distribution of the visible wealth, but if the wealth is in fact not distributed equitably, certain kinds of revolutionary situations may emerge. At the present time the distribution of wealth is relatively equitable in Germany and Northwest Europe. It is less so in Italy and in France. In Spain, Portugal and Greece, there are great inequities at present and the great future danger will be that a massive increase in GNP will not be translated into a reasonably distributed GNP per capita. If this is the case, there will be political consequences affecting the stability of the Mediterranean region.

Europe's center of gravity--political, economic, artistic, and social--has in Europe's past been in the countries bordering the Mediterranean or those situated in the center of Europe. The future will see renewed movement toward such a situation.

The Northwest European countries likely to lose relative importance are the maritime nations, used to trading on the world scene but vulnerable to changes in the competitive world trade pattern. Very possibly this wealthy Europe of the future will be inward looking, more concerned with internal markets. In that case the world political arena will be dominated by Japan, the United States, and possibly the U.S.S.R., while Western Europe and China revert to a traditional inward-looking stance, concerned more with internal markets and less with the foreign political adventures.

The very considerable growth of west European wealth will have a marked impact on the world's strategic balance, or at least could do so--given a choice by European leaders to follow certain avenues of development. It has been usual in the last fifteen or twenty years to speak of Western European defense as entirely dependent on the United States, both for Europe's nuclear guarantee and to a somewhat lesser degree for conventional defense. The argument has been made, particularly by those who are against the proliferation of independent nuclear forces, that any European nuclear force, and certainly any national forces like those of France or the U.K., must necessarily be small, backward, and possibly provocative to the enemy, inviting preemptive strikes.

Such arguments would appear to be false for the decade of the eighties. The chief reason is that the great wealth of Western Europe in the

eighties will in fact represent a very considerable prize. Second, the kind of money available to Western Europe in the eighties is likely to permit the creation of very large nuclear forces with advanced technology and adequate survivability--even including ABM deployment if that were considered desirable. Since the Europe of the 1980's will be rich even by American standards, and far richer than the Soviet Union, certainly in per capita terms, it follows that a combination such as the U.K. and France could be able to field forces capable of exercising a workable and indeed an absolute deterrence. Certainly this is true if by that last phrase we mean assured destruction. If assured destruction is taken to be the kind of deterrence necessary to protect West European interests, and if we accept former Secretary of Defense McNamara's definition of assured destruction as meaning destruction of approximately a fifth to a quarter of the population and something like a third to a half of the industrial power of the enemy, then France and the U.K. alone are likely by 1985 to be capable of it. They are likely to have nearly as much money to spend on nuclear forces as did the United States in 1960. And if the number of nations contributing to the European defense force were expanded to include West Germany, then the three together would have nearly as much defense money available as does the United States today, and more than the U.S.S.R. spends today.

It has been widely assumed that the consequence of the British entry into the EEC, together with Denmark and Ireland, foreshadows a larger politically united Europe--probably within our time frame 1980-1990. Our belief is that British entry almost certainly will not produce accelerated momentum towards political unification but perhaps the reverse. It is

elementary that unity is easier to obtain among a small number of actors than among a greater number; the enlargement of the community from six to nine suggests no reason for this law to be abrogated. Actual unity among the six has been difficult enough to obtain heretofore, and to the degree that it has been achieved has been accomplished under the domination of a strong and assertive France. Britain's entry is likely to challenge French political supremacy in Europe, especially since British politicians and political journals have repeatedly asserted that they expect Britain to take a leading role in Europe, or certainly an extremely active one.

Furthermore, it is questionable whether the British themselves would be interested in political unification. A nation with so clearly marked a sense of national identity seems highly unlikely to prove willing to submerge its nationality in an enlarged Europe unless it were the leader of that Europe.

While the Common Market may fail to provide a political framework for a united Europe, it nevertheless is likely to register significant gains in economic unification over the next twenty years. Certainly by the beginning of the early eighties, we may expect considerable progress to have been made towards economic integration at least on the monetary level. This may have relatively negative consequences for the United States. It must be understood that in economic terms the EEC will in some sense be a U.S. adversary. The United States is likely to continue its strong efforts to move into and function within the European market. The EEC in turn is likely to make strong effects to sell in the United States. A likely prospect, however, is that gradual protectionism on both sides will exclude the adversaries from each others' home market. America is less likely to trade directly with the Common Market than to

function within the Common Market through American-owned subsidiaries which have taken on the Common Market nationality.

It is difficult to write convincing scenarios for any serious rupture of relations between the U.S. and Western Europe. It is likely that economic competition may be keen and sometimes harsh, and it is also to be expected that the United States in the eighties will almost certainly have vastly reduced its military role in Western Europe and Western Europe will no longer feel much compulsion to do the American bidding in political and security matters. Reliable estimates show that the Western Europe of the eighties will be more populous, richer, and far more advanced in technology than the Soviet bloc. It would thus be difficult to write a plausible scenario for the neutralization of a region of dynamic economy and a past record of aggressive politics. The likelihood of any "Finlandization" of Europe in the decade of the eighties is remote indeed.

2. The Soviet Union and Eastern Europe

The most important fact in the situation of the Soviet Union in the decade of the eighties is likely to be that midway through that decade the Russian Revolution will be seventy years old. It is exceedingly unlikely that the Soviet Union will in the 1980's seem a successful experiment--either in the humanitarian terms which were allegedly the purpose of the Soviet revolution and experiment, or even in terms of that economic production and growth which in fact have proved the major preoccupation of contemporary Soviet governments. While Soviet bloc growth rates can be expected to maintain a fairly high rate throughout the present decade and the next, surpassing those of Western Europe in general, these growth rates will be unremarkable by comparison to those of Japan, Korea, Taiwan and Singapore.

Also, within the communist world itself, the Soviet Union will no longer appear the leader in economic or technological terms by the mid-eighties. Countries like Rumania, Poland and Hungary will probably have grown at higher sustained rates than the U.S.S.R. In almost every case the European satellites of the U.S.S.R. will have higher per capita GNP's and considerably higher living standards. The perception, even within the communist world, of this disparity between living standards and wealth enjoyed by Soviet citizens and those of other countries is likely to prove a troublesome political issue. The Soviet leaders can be expected by the 1980's to feel more and more pressure to justify the peculiar constraints and annoyances of Soviet society.

Even more striking than the economic gap between East and West is likely to be a persistent technological gap. By the mid-eighties the Soviet Union is likely to have fallen into the regular habit of importing Western technology and experts. The period is certainly likely to see the satellite states more and more oriented toward the high technologies of Western Europe rather than to the retarded technology of the U.S.S.R. By the mid-1980's the revolutionary quality of the Soviet state will be fading, and more and more of the traditional Russian qualities of the Soviet Union will come to be perceived. For the man in the street, patriotism or nationalism is likely to prove sufficient. For the intellectual classes of Russia, nationalism is likely to prove less and less satisfying. The Soviet Union of our time frame therefore faces a long-term prospect of mounting intellectual dissent and opposition.

While it is possible to write a scenario of Soviet renewal, of a new and aggressive leadership determined to assert Soviet world power

and influence, thus redeeming the sacrifices of the past half-century, this seems to us fairly unlikely--or if it happens, eventually to fail of its own contradictions. The Soviet Union of the 1980's will be a tired nation, militarily formidable but devoid of exciting ideas, less and less sure of its world role. In military terms it will maintain considerable forces, but without clear ideas of what their role might be other than defense of the Soviet frontiers. The Soviet Union in the 1980's thus is likely to be very much a status quo power, afraid of change, and probably no longer even very interested in exploiting revolution or turmoil in distant countries. Russia of the 1980's is likely to be an inward-looking and defensive minded state, facing certain new challenges noted below.

The most likely possibility for the eighties is that the Soviet Union will, at a European security conference, have succeeded in establishing the status quo in Europe as a diplomatic norm. That is, the separation of East and West Germany is likely to continue into the eighties and to have been made a form of legal rather than de facto division. If so, this will constitute a major defensive success of Soviet diplomacy. This would involve West Germany, East Germany, and West Berlin organized into a nominal confederation which has no real political content and is limited in its freedom of action either by peace treaty or by a series of bilateral treaties. While an alternative scenario is imaginable, namely the rise of revisionist and united Germany sentiments in our time frame, the probability is that by the 1980's the life styles of East and West Germany will have grown so far apart as to preclude any easy possibility of reunion. It must be remembered that

German unification was achieved only in 1870; the division of Germany has historical precedent, and the general value systems, religion, political character, and life style of two regions have seldom been identical.

Elsewhere in the satellites, one must forecast "more of the same" well into and past our time frame. Unless an aggressive Western diplomacy, within the context of the upcoming security negotiations, succeeds in moving the Soviet occupation troops back behind the Soviet frontiers, thus freeing the evolutionary political forces within the satellites, only gradual--if occasionally erratic--changes in political relationships within the bloc are likely. The general economic trend is towards less and less Soviet control of the satellite economies. No real counterpart to the EEC is likely to come about in the East.

In Yugoslavia, the death or retirement of Tito is likely to set in motion a very considerable evolution away from the socialist economic forms of the past, instituting a process of "decommunization." It is entirely possible that this economic evolution, coupled with nationality problems, might lead to turmoil, and induce a Soviet intervention. We regard this as a fairly unlikely but quite possible and important scenario.

The major threat of revolutionary activity probably exists in Poland. If living standards do not signally improve there, it is likely that somewhere towards our time frame revolutionary pressures on the Polish regime may become severe. A nation like Poland, with a population of well over thirty million, large military forces, and a national disposition--in contrast to Czechoslovakia--to use armed force when pressed to the wall, could mount a challenge to the Soviet Union quite different from the Czechoslovak crisis of 1968.

Thus while the probabilities are for continuation of the status quo in Eastern Europe, within the context of slow evolution and diminution of Soviet authority, with volatile states like Poland and Hungary, no wholly "surprise-free projection" can be made with confidence. In the long run, the Soviet Union will have to face the fact that it has built an empire in an extremely unstable region of the world, and that it is holding in check populations which are far more advanced in technology and living standards than is the U.S.S.R. itself. Towards the end of our time frame, these "contradictions" may become severe.

Within the context of the above it seems clear that relationships between Moscow and Washington will remain relatively as they are today, cold, but more or less unaggressive. In fact, both the United States and the U.S.S.R. are likely to be in a kind of inward looking, if not neo-isolationist, phase so that the risks of major confrontation on any military level will be remote. A series of European security conferences will undoubtedly have been held by our time frame, but these will merely have brought about a regularization of the status quo. In general, the Soviet Union is likely to find itself faced by a Western Europe far more dynamic, far richer, and less interested in the Soviet "experiment" than ever before. On the strategic level, one can expect some progress to have been made in arms limitations talks with the United States, but nuclear proliferation by the mid-eighties is likely to have made such agreements less and less binding on the rest of the world. Despite its general "neo-isolationist" state of mind, the Soviet Union is likely to have introduced long-range intervention forces into its military capability. That is, we can by the mid-eighties expect a Soviet fleet capability coupled with air cover and the development of one or two marine

or strike divisions allowing overseas intervention. But the actual opportunities for the employment of these forces would appear to be slight.

One possibility to be borne in mind in the realm of economics is that both the United States and the U.S.S.R. may find certain interests in common in containing the economic aggressiveness of both Japan and a West European Economic Community.

3. Middle Eastern and Arab Region

The region could be divided into several groups of countries:

A. The North African Countries. Although Algeria has tried to play an independent role in the radical world and is on close terms with the Soviet Union, group A is more closely tied to the fate of Western Europe than the rest of the Middle East. Algeria's efforts within the Middle East however are also considerable, with even an aid mission in Yemen. In their more modest way Tunisia and Morocco are apt to continue to be moderating influences in the area.

B. Northeastern Africanstates dominated by Egypt, perhaps the only Arab Country that can potentially play a world role on its own. Libya's oil is a great boon to Egypt, and Libya may continue to be willing to play a positive role in support of Egyptian policy.

C. For Israel, Egypt is the primary problem. In spite of its small population, Israel will be able to stand off Egypt's own resources in the 1970's. Outside aid and training, however, combined with increasing resources for the group B states as a whole, might change the situation dramatically in the 1980's.

D. Syria, Jordan, Lebanon. In spite of military weakness, the GNP/Capita levels of these states without the artificial support of oil suggests

that they are more modernized than the other Arab states. In any event they pose no real threat to surrounding states. The largest state, Syria, has had such a dismal record in political and economic organization that its revival as a significant national power may be impossible for many years to come.

E. Saudi Arabia, Kuwait, Oman, Arab Sheikdoms and the Yemens. Although essentially more backward, this group of states have capabilities for rapid change provided by oil revenues. Kuwait could buy a military force capable of defending itself; with some justification its rulers probably fear such an army. As it is, Kuwait is protected by the willingness of Saudi Arabia and Iraq to block one another from intervention, while Iran and Saudi Arabia have a similar relation for the rest of the Gulf. As a result of these balances, these small states may be allowed to continue to enjoy their wealth and independence through the 1980's.

The northern Yemen Arab Republic seems to be developing on politically moderate terms. Although both Soviet and Chinese communist missions have been very active, the government is utilizing this aid to develop much in the manner of Afghanistan. By changing its name to People's Democratic Republic of Yemen, Southern Yemen has implicitly laid claim to both Yemens, even though the northern state is much larger. On its part, Northern Yemen is likely to reassert its claim to the South. However, the indebtedness of the North to the Soviet Union and China, and the interests of the communist powers in preserving the South as a political base, are factors tending to perpetuate the status quo.

F. The Northern tier states; Iraq, Iran, Afghanistan, Pakistan represent more power than the rest of the Middle East, and this disparity may

grow in the 1970's and 1980's. Iran has been most interested in unity, and today this is more than ever true. With U.S. retrenchment of its world role and the dismemberment of Pakistan, there would seem to be increasing grounds for cooperation in this region. The three larger states are apt to become more neutralist, moving closer to the status of Kabul in relation to the U.S.S.R. In order to avoid total dependence on transportation routes through the U.S.S.R. Afghanistan will more than ever need good relations with Pakistan and Iran. There continues to be potential for trouble between Pakistan and Afghanistan on the issue of the frontier provinces, but this would only become active if Pakistan appeared in jeopardy of further dissolution.

Iran seems intent on building up its military ability, with its attention directed primarily toward Iraq and the Gulf. Historically Iraq has often been a part of Iran. The majority of the Arab Iraqis are Shiites of the same sect as the Iranians, and the Shiite holy places are in Iraq. The Sunni Kurds, on the other hand, are linguistically closer to the Iranians than to the Arabs, and Iran gave signs of helping them in recent years. In spite of its apparent weakness, Iraq has been expelling Iranians for some time as a kind of deliberate insult. Iran has also announced that it expects to take the place of the British in the Persian Gulf.

Although the Chinese Communists will continue to play a role in the area, particularly in Pakistan and the Yemens, the major threat to American and independent Middle Eastern interests will come from the growing power of the Soviet Union. This may be developed by the 1980's in at least the following forms.

1) Military aid to certain states, in particular Egypt, Iraq, or Syria, or a leftist Jordan after the removal of Hussein.

2) Sales of military equipment to Persian Gulf states to secure their independence from powerful neighbors.

3) Expansion of Mediterranea, Red Sea (possibly in support of Eritrean independence movement) and Indian Ocean fleets.

4) Development of an expanded base system for both planes and ships, combined with developing power in the states concerned.

5) 'Finlandization' of the Northern tier states if they were (or appeared) abandoned by the United States.

However, this process of Soviet advance could only go so far without a reaction. In the central heartland of the Arab world the Soviets make advances only because of the intensity of the Israeli problem; if this changes, their position would decline. On the other hand, truly radical states such as South Yemen could become Cuba-like clients.

The role of oil in Middle East politics in the 1980's is not clear. The Soviet Union, Europe, Japan and the United States will all want the oil and several local economies will continue to be dependent on it. However, it seems unlikely that Europe or Japan would effectively counter Soviet policy during this period in the Middle East. The Middle Eastern countries will undoubtedly continually press for higher prices and larger shares, and the financial advantage of operating in the Middle East for American companies is likely to decrease.

In the 1980's Israel is apt to have its basic problem of survival further exacerbated. In 1970 10% of the 2.9 million Israelis were Arabs. In addition, Israel administered one million Arabs in the occupied territories. As suggested by the population growth rates of Arab countries, the Arab population proportion is likely to increase faster than the

Jewish, even with continued Jewish migration. Israel seems most unlikely to allow many refugee Arabs to settle in Israel, nor can it easily occupy a large territory populated by Arabs for an indefinite (or 'permanent') period. Thus, the threat to occupy more territory if there is another war--e.g., Jordan--may be hollow.

Israel is surrounded by regional enemies, and the strength of these enemies is growing relative to that of Israel. Thus, even leaving Soviet aid aside, the militarily usable GNP in the hands of Israel's enemies will rapidly rise in the 1970's. And while the Arabs can lose wars repeatedly, Israel can only lose once.

We conclude that unless there is a reduction in the intensity of the Israeli-Arab dispute, the United States will be under heavy pressure to continue to play a supporting role in the Eastern Mediterranean in the 1980's in support of Israel.

The possibility of a more moderate turn in the area should not be wholly ignored. Neither socialism nor war with Israel has served the Middle East economically, and many among the Arab elites may realize this.

4. South Asia

South Asia is likely to be dominated by India in the 1980's. While Pakistan has in the past grown more rapidly than India, growth rates recently seem down in Pakistan and up in India, and certainly the morale of Pakistan now has slipped badly. Pakistan now is too weak to challenge India without the direct aid of the Chinese army. To this extent the Kashmir issue is settled. Whether India will want to go further, and try to reestablish the "natural borders" of India--that is, the borders of British India--is hard to predict, but this could conceivably become

an international concern in the eighties. India is now in an expansive mood, and undoubtedly will try to play a larger role in the whole area, including the Indian Ocean.

Bangladesh presents the greatest challenge and opportunity to India in the next two decades. For some time the new state will be an economic drain on India. But with the opening of the border, Calcutta will again become the economic capital of East Bengal, making possible its revitalization. The inevitable gap between reality and expectations, even if growth occurs, or perhaps especially if it occurs, will offer an opportunity to the many extreme leftist factions in both Bengals. A serious movement for an independent Bengal could develop in the 1970's. Such a movement would be strengthened by a provincial crisis in West Bengal in which the central government was forced to step in. To prevent an uncontrollable situation in West Bengal, India could feel itself forced to incorporate Bangladesh. Delhi has not been reluctant in the past to do what it felt it had to do.

The opposite of an expanding India would be a fragmenting India, a result many feel might be triggered by the success of Bangladesh. India is composed of many areas with nationalist aspirations based on linguistic differences. Several provinces are potential independent states with populations in the tens of millions. But to succeed, such separatist movements would have to have an opportunity to exploit weakness in the central government. At present these prospects seem slight.

Economically, India has been growing too slowly and its population too fast. Yet currently there is progress, particularly in agriculture. India has in many ways the best entrenched and best organized non-communist political structure in the underdeveloped world.

China and the Soviet Union will continue to compete for influence in South Asia through diplomacy, the support of rival communist parties, and applying external pressures on the states of the region. Since the U.S.S.R. is less of a direct threat, India is likely to continue to conduct a close association with Russia. But India will be concerned both about the growth of a Russian-oriented Communist party and the presence of a Soviet fleet in the Indian Ocean. Combined with the lack of important Soviet objectives in South Asia, India's caution could inhibit Soviet initiatives in both areas.

5. Eastern Asia

Japan will become a major power in the 1980's with an economic growth that may surpass the U.S.S.R.'s GNP. Having replaced the U.S. as the dominant trade partner in Thailand and the Philippines, it is likely to go on to a dominant position in all Southeast Asia and probably Brazil, and to a strong trade position in Canada.

Japan's primary weakness will be political. Although very stable by comparison with most developing nations, Japan is not so institutionalized politically as the U.S. and U.S.S.R. Such rapid, long-term growth as Japan has experienced disrupts traditional social patterns; earlier in this century the same conditions which supported economic growth contributed to political destabilization.

Internationally, Japan's economic power may cause friction and fear among both large and small powers. Japan's lack of domestic raw materials and dependence on external markets may promote a sense of vulnerability and thereby makes overreaction possible if Japan finds itself adrift from alliances or other cooperative systems of security.

Weakening of the U.S.-Japanese alliance could lead to an isolated and anxious Japan, or conceivably to a hasty alignment with a Soviet Union offering a form of security and mutual development programs in Siberia. On the other hand, growing economic regionalism may counteract isolationist tendencies. Japan views her security as closely tied to that of South Korea and Taiwan and to unhampered use of sea lanes. Japan's economic interests in Southeast Asia may rapidly increase the perceived importance of that area.

By the 1980's Japan will be a substantial military power and could become a superpower. Defense budgets and allocations will depend upon domestic politics, upon the degree of insecurity felt by Japan, and upon world tensions and world attitudes toward arms control. U.S. policy will heavily influence all these factors. If the Japanese perceive the U.S. as a close, strong and dependable ally then pressure for rapid armament will be reduced. An eventual U.S. withdrawal from Asia may reduce rearmament pressure if a general reduction of tensions in the area follows, but may also increase rearmament pressure to the extent that the Japanese feel more exposed to hostile powers. Development of nuclear weapons may not necessarily be seen as increasing Japanese security because this could make Japan a nuclear target. Nuclear weapons would increase Japan's prestige, and might be developed for that reason if prestige proportionate to Japan's economic power is not forthcoming (especially from the U.S. and U.N.). But other weapon systems such as laser BMD may serve the same purpose by the 1980's, while preserving Japan's non-nuclear status and defensive posture.

By the 1980's the generation of revolutionary leadership in China will be gone and the revolution is likely to have become highly

institutionalized--presuming that national unity can be maintained following Mao's death.

The late 1970's and 1980's will probably see considerable decentralization. China is run by old men and the death of these old men will leave China without leaders of national stature--except Chiang Ching and Yao Wenyuan, neither of whom is likely to be able to obtain or hold the top position. Party unity has been strained by political campaigns (especially the Cultural Revolution) and strain is likely to continue between the party and the army (or between civilian and military party leadership) at the middle levels; thus the center has weakened and will have difficulty restoring its previous unity. Regional power concentrations are likely to grow and become difficult to dislodge, and possible enhancement of economic growth through economic decentralization will provide an additional incentive for decentralization. This, together with the policy of commune-level self-reliance, is likely to tend to enhance local concentrations of political power.

The trends toward institutionalism and decentralization carry corresponding dangers of factionalism, fragmentation, and bureaucratic ossification which could become so strong as to bring about stagnation or even breakup of the country. More likely, central Party awareness of these dangers will lead to periodic minor purges of provincial or regional officials who become too independent, and of the central bureaucracies.

China's reputation as a great power in the 1960's was a myth, created by the Western powers' own misconceptions and fears; China possessed little means for projecting power beyond her boundaries.

China's basic foreign policy has been one of self-reliance, derived from China's traditional self-sufficiency and a century of humiliation by

foreigners--from the Opium Wars to the withdrawal of Soviet aid in 1959. A new generation of Chinese leaders may be more confident in their dealings with foreigners and may feel more strongly about the slowed economic growth which results from autarchy. Anxieties caused by intensive Japanese-Russian development of Russian Siberia, or increased threats or hostility from the U.S.S.R., could induce modification--but almost certainly not complete abandonment--of the policy of military, technological, and economic self-reliance.

The second most important Chinese foreign policy perspective of the PRC is the "united front." Hostile to all the large powers in the vicinity (U.S., U.S.S.R., Japan, India), China chooses one or more of these as the principal opponent and seeks to isolate that principal opponent through limited and openly temporary alignment with the other opponents. For a long time the U.S. was the principal opponent, and a return to this position is not impossible, but the U.S.S.R. and (by the 1980's) Japan seem more likely targets for hostility. Splitting the U.S.-Japanese alliance is and will continue to be a major Chinese objective within the united front policy.

Entry into the U.N. and broader international contacts are likely to increase Chinese sophistication in bargaining, reduce the ideological component of Chinese foreign policy, and cause prolonged conflict within the Chinese policy-making organizations between those with extensive experience outside China and those without such experience.

The rise of a unified and powerful Asian communist bloc under Chinese leadership is highly unlikely. Mongolia's subordination to the U.S.S.R. is unlikely to change dramatically in the 1970's and 1980's. North Korea

pursues fiercely independent policies, playing China and the U.S.S.R. off against one another and perhaps leaning more toward the U.S.S.R.; soon North Korea may also be able to use Japan in this game. Likewise, North Vietnam will not likely become a strong ally of China. A North Vietnam which achieved its maximal goals in the Vietnam War would become a nation of nearly fifty million people and would be viewed by the Chinese as a serious threat. A North Vietnam which lost the Vietnam War, or had to fight an indefinitely protracted war, would probably depend most heavily on the resources of the U.S.S.R. and would in any case be a weak ally.

Withdrawal of American power from Eastern Asia--even if only to a Pacific defense line--reduces the likelihood that China will continue to view the U.S. as China's primary external threat. Likewise the U.S.' perception of threats from China has greatly decreased, and will likely continue to decrease. China is unlikely to initiate war or serious provocations towards the U.S.S.R., since it could gain little of value, and would risk loss of its Manchurian industrial base. Settlement of boundary issues with countries other than the U.S.S.R. is likely, but China's territorial waters claims could provoke difficulties, as could her claims to Taiwan and the Senkaku (Chinese: Tiao Yu Tai) Islands. The latter issues could conceivably provoke Sino-Japanese incidents in the late 1970's and the 1980's.

China's position on arms control is likely to be dictated largely by pride and by fear of the U.S.S.R. Facing superior forces across a disputed border with the U.S.S.R., she is not likely to decrease her arms expenditures relative to this threat although easing of tensions and decreasing of forces in other areas is possible.

Taiwan and Korea appear to be major flashpoints of Eastern Asia in the late 1970's and perhaps the 1980's. Korea lies at the confluence of Japanese, Chinese, and Russian power and is considered strategic by all three powers. This volatile situation has induced three wars in the last century; withdrawal of American forces could initiate the old competition once again--particularly if Japan were to rearm and become involved closely in Korean security. Desire for unification is rising rapidly in Korea, and both Koreas are unstable and adventurous in their external affairs. Institutionalization of the status quo is the surprise-free projection for Korea, but the possibilities for surprise are unusually high there and heavily dependent on American policy.

Taiwan may become internationally isolated in the 1970's and faces constitutional and succession crises. Constitutional reform which gradually gives a proportionate political voice to the Taiwanese could semi-permanently stabilize the government, and a few such reforms have occurred recently, but the Nationalists may lack the flexibility to carry such reforms far enough. Given stability, Taiwan's high growth rates could make her a significant independent power in the region, with an impressive independent defense budget and possibly with increased international recognition by the late 1980's. Given severe domestic instability, the Nationalists might bargain with the People's Republic for status as an autonomous region in return for assistance against Taiwanese dissidents. In any case Taiwan seems likely to maintain independence of economic and internal political policy, although other countries may increasingly perceive it as a temporarily detached part of China and although it might itself accept the status of an "autonomous region" of the PRC.

Hong Kong, acquired by the British in the Opium War, faces expiration of the lease on most its territory in 1997, but the PRC does not recognize the lease and thus cares little about expiration. Recent PRC assurances indicate that Hong Kong faces no short-term threat of takeover. She is so small as to be no threat to the PRC, and she remains economically and politically useful to the PRC.

Southeast Asia will experience economic growth accelerated by Japanese investment, but politically will remain a zone of instability containing few points of stability. Australia, New Zealand, and possibly the Philippines, are likely to remain stable and prosperous, as is North Vietnam if the Vietnam War ends fairly soon. Economic growth will stabilize these countries, whereas growth will mobilize new groups into politics and may destabilize other countries in the region.

The future of mainland Southeast Asia depends heavily on the outcome of the Vietnam War. American success could return the situation almost to the status quo ante, leaving South Vietnam politically unstable, militarily stronger, and economically prosperous, with Laos still bereft of the prerequisites of nationhood. Cambodia could conceivably be reconstituted, and could even develop strong political institutions forged in the war, but this would be a long-term process and prolonged instability seems more likely. A North Vietnamese hegemony over Laos would ordinarily lead to conflict with Thailand, but it is quite conceivable that the Thais and North Vietnamese could come to terms without a Thai revolution. If they did not, and there were a U.S. withdrawal from the area, the obvious weaknesses of the area's traditional regimes might bring about new-style authoritarian or populist-rightist regimes in some Southeast Asian

countries, a possibility enhanced by the dimming of memories of World War II.

Insular Southeast Asia faces little direct pressure from China, the U.S.S.R. or North Vietnam. Malaysian democracy is currently prospering but ethnic conflict might occur and might bring military rule. Indonesia's military rulers are currently effective but may become increasingly divided along political lines and thus less effective both militarily and politically. Resentment of corruption will rise. Reestablishment of constitutional government in Indonesia is unlikely but not impossible. Some rebuilding of Indonesia's communist party by the 1980's is likely, and revolution some time in the 1980's cannot be ruled out.

Japan's influence in Southeast Asia will increase rapidly, while America's will probably decline less rapidly. Systematic expansion of regional economic groupings, mostly tied to Japan, will occur. Politically regionalism will grow but remain muted, and military regionalism is likely to be insignificant. Conceivably, the U.S. could by the 1980's be encouraging Chinese influence in Southeast Asia in order to limit influence by the U.S.S.R. or Japan or both.

The foreign policies of the United States, China and Japan seem to be moving toward a curious congruence which could endure into the 1980's. All three are tending to emphasize local self-reliance, aid, and limited costs, rather than direct, large-power involvement, and all three seem newly cautious about the costs and implications--and possible inconclusiveness of military involvements.

6. Latin America

Political ideas, procedures, and systems will change in Latin America by the end of the 1980's, but these changes will almost certainly be variations on existing themes: democracy, military rule, communism, "caudillism."

Special interests will continue to press their cases: Ethnic diversity and class distinctions will continue to perturb the integration of national communities; and national communities will continue to find difficulty in reconciling internal with international interests.

It will be the new elites--technocrats, young clergy, new military--who will become prominent as agents of change. It already is clear that the church and the military--so often champions of the status quo--have become increasingly oriented toward the need for constructive social and economic change.

The military are no longer a symbol of reaction. As Latin Americans come to realize that there are no wholly political solutions to their problems, they tend to look with sympathy towards those who can provide competent administration--who can be seen as caretakers or would-be technocrats. Democratic government has been the exception not the norm in Latin America. Authoritarian rule appears time and again. And a new breed of military leaders appear genuinely concerned with reform and economic growth.

The domestic social structure and ideological milieu of political competition predispose most Latin Americans to either rightist (corporatist and/or military) or leftist (Marxist, Socialist) statist solutions--both tendencies opposed to foreign and domestic private enterprise. The average Latin American state tends to be bureaucratic, with state-owned

enterprise dominated by a bureaucratic oligarchical triangle composed of state employees, labor union leaders, and the officer class of the military.

By the 1990's, the remaining U.S. private investment in natural resources of Latin American economies will be threatened by nationalization--even in politically friendly countries. However, manufacturing may hold a relatively bright future for foreign investment.

Only two countries appear able to play a major political role: Brazil and Mexico, the two economic giants of Latin America.

The sheer increase in Brazilian economic might, and her interest in playing a global role (for example, obtaining a permanent seat on the U.N. Security Council or developing a nuclear capability) seem to indicate a growing concern for the stability and security of the Latin American region. Brazil is likely to share with the U.S. an interest in keeping the region outside the orbit of non-hemisphere powers.

Mexico is likely to continue to pursue a very independent foreign policy, including an attempt to play a global role as leader of a nuclear-free Latin American zone. The Peruvian model of reformist military government has already inspired some neighbors (Ecuador, Panama) and is likely to be the model followed by other "revolutionary" governments in the next two decades. By 1990, Cuba will no longer be a focus of radical activities, but rather--after normalization of relations with the United States in the very near future--will quite likely become, again, simply another middle-range Latin American power. After the disruption of the Chilean economy under the Allende experiments, it is likely that by 1990 a Brazilian-type (1964-1970) solution will be adopted in Chile.

Overall, the political outlook is one of continued authoritarian rule. Short of an economic disaster, it is difficult to imagine any

major change imposed upon the government by the forces of resistance (politicians, priests, disaffected army officers) during the next decades.

7. Canada

The 1980's could see a growth of Canada's importance to world affairs, partly due to exploitation of the great abundance of natural resources in Canada such as uranium, Arctic oil, and tar sands.

The possibility of a joint venture with either Japan or France in the construction of a Canadian gaseous diffusion facility for uranium enrichment is rather likely by the 1980's, since uranium will be increasingly marketed in its enriched form as nuclear reactors proliferate. The large amount of potentially cheap hydroelectric power which has not yet been exploited may provide energy for both uranium enrichment plants and the energy-demanding United States.

Oil reserves in the Canadian Arctic, estimated to be more than twice as large as those of the Alaskan North Slope, could produce 5-10 million barrels/day by the 1980's. This affords a politically stable and reliable direction for the U.S. and Japan to diversify their energy sources.

American domination of the Canadian economy will be moderated by the 1980's due to the countervailing effect of increased Japanese investment in and trade with Canada. Whether or not Canada's high level of exports, the highest per capita exports in the world, can be maintained will depend upon the success of the on-going transition from reliance on agriculture and natural resources (e.g., wheat, oil, and copper) to a variety of manufactured goods and synthetics. Once this transition is completed, a higher rate of domestic investment could

lead to reduced economic dependence on the United States and sustained growth of Canada's already high standard of living.

National security probably will not be an important issue in Canada in the 1980's since U.S. proximity will attenuate most of the effects of the increasing erosion of NATO. Although Canada will certainly have the technological ability to acquire nuclear weapons, that option is unlikely to be chosen.

8 Africa

Africa, in the late eighties and nineties, will be much the same as it is today. While there will be many local changes, many coups, some wars, some recessions, and continued conflict, from the standpoint of overall U.S. national security, the situation will be little changed.

Economically, few of the sub-Saharan states can be expected to advance from the status of pre-industrial to industrial/transitional. The fundamental reason for this is the small economic base now existing in nearly all these countries. Current efforts to accelerate the development of an infrastructure will not produce decisive results in the next ten or fifteen years. Manufacturing is still in an infant stage, concentrated on locally produced items for local consumption. Exports, mainly of crops and ores, continue to be very vulnerable to fluctuating world market prices. The trade union movement is still in an infant stage. Finally, there is a lack of theory or ideology for development. "African socialism" is in reality a mixed bag of nationalized enterprises, and a small sector of locally financed and managed enterprises.

Planning, handicapped by lack of capital, is rudimentary at best and is further handicapped by governmental political instability.

The political infrastructure of most of the African countries is weak and will remain so. This is a residue of colonial policies which (except for the British) did little or nothing to train administrators or political leaders. Education and especially higher education was neglected. Most of the new nations were left with only a handful of university graduates and in some cases none at all. The governments are under control of what is referred to as "educated elites" but these have been educated mainly in secondary schools. Often political development during colonial days was based on tribal affiliations and tribal interests have continued to be at the forefront of political action. In some cases the issues are religious and even racial.

Political weakness has provoked military take-overs: coup has followed coup all over Africa in the last ten years. Even where ideology is a factor, revolutionary fervor often must give way to financial realities. Ideology, in any event, usually is weak, and where strong is highly nationalistic, often a residue of pre-independence anti-colonialism. Although there are communist cells throughout Africa (and even a few Communist parties), no pro-Moscow or pro-Peking communist group has any real influence in Black Africa. Thus in political expertise as well as economic management capability there is a void, which is likely to persist into the 1990's.

Intervention by both the Russians and the Chinese in Black Africa was the subject of much concern a few years ago. However, the general reaction of the African nations to the all-too-obvious attempts to gain

control was one of rebuff. The Soviet Union has little influence south of the Sahara. The Chinese, on the other hand, tried infiltrating all over Africa but have now abandoned their former scattergun approach and have concentrated on the Congo (Brazzaville) and Tanzania. The aid to these countries is relatively small (when the Tanzanian railroad project is considered separately) but this aid does include military equipment and training. The Tanzanian railroad involves a large number of Chinese technicians and even laborers. This project should give the Chinese a permanent foothold in Africa but given all the factors discussed above, it does not appear that such a development will affect the world power picture in this century.

Strategically speaking, South Africa has become more important with the closure of the Suez Canal. Sea lanes to Middle East oil and the Indian Ocean must all pass through its adjacent waters. It seems unlikely that the Communist nations would get undue influence in South Africa in the time frame in question, but Soviet dominance in the Indian ocean would make South African cooperation most important to the United States.

It seems unlikely that political economical or ideological aspects of Africa south of the Sahara will have any great effect on U.S. national security interests in the 1980's. While the continent may have many internal problems and conflicts, some of them quite serious, the effect on the outside world cannot be expected to be large.

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R&D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)

Hudson Institute
Quaker Ridge Road
Croton-on-Hudson, New York 10520

2a. REPORT SECURITY CLASSIFICATION

UNCLASSIFIED

2b GROUP

na

3. REPORT TITLE

THE FUTURE OF THE NIXON DOCTRINE IN PACIFIC ASIA:
Vol I: The U.S. and Pacific Asia in the Seventies
Vol II: The World Context Vol III: Appendices

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

5. AUTHOR(S) (Last name, first name, initial)

William H. Overholt and Herman Kahn

6. REPORT DATE

September 29, 1973

7a. TOTAL NO. OF PAGES

Vol I: 344 + XIV
Vol II: 126

7b. NO. OF REFS

Vol III: Six Chapters

8a. CONTRACT OR GRANT NO.

DAHC15-71-C-0239

b. PROJECT NO. ARPA No. 1778

c.

d.

9a. ORIGINATOR'S REPORT NUMBER(S)

9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)

10. AVAILABILITY/LIMITATION NOTICES

As per ARPA instructions and permissions

11. SUPPLEMENTARY NOTES

12. SPONSORING MILITARY ACTIVITY

Advanced Research Projects Agency or the Department of Defense

13. ABSTRACT

Analyses various formulations of the Nixon Doctrine for U.S. strategy and programs in East Asia and related areas with emphasis on the issues and possibilities of the late 1970 (and 1980) time period. The analysis considers the basic factors and context for U.S. policy, potential issues, crises, and policy choices and their likely implications for the U.S. and other nations.

Presents the result of the analysis of implications and alternatives in terms of the basic strategic approaches to the area, the bilateral relations between the major countries in the area and the United States, and the advisory and assistance role for the DoD and other agencies of the U.S. Government.

DD FORM 1473

UNCLASSIFIED