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The Geography of the Globe

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FOREWORD

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THE GEOGRAPHY OF THE GLOBE

A Staff Presentation delivered
at the Naval War College
on 17 August 1951 by
Commander Fred E. Bakutis, U. S. N.

Gentlemen:

Your intensive course of study here at the War College begins and ends on a global note. Today, we shall take a brief look at some of the more prominent patterns of our global environment. We shall also examine a few of their more obvious implications.

At the end of the year, in June, you will take part in a series of global strategy discussions to determine for yourselves what you consider to be a sound strategy for the United States.

Throughout the year, during your studies of strategy, logistics, tactics and foreign policy, you will see repeatedly how the facts of geography set the stage for all your problems, whether these be real or exercise problems.

As Shakespeare very aptly put it, "All the world's a stage, and all its men and women merely players". The same can be said for nations. The same can be said for armed forces in a particular theater of operations.

It is particularly interesting to study the principal geographic patterns of the globe to see how closely related they are to one another, to see how they point to certain implications concerning the affairs of nations. The patterns I speak of are those of the Physical World, the mountains, deserts, jungles, frozen regions, the usable land, and the oceans; the patterns of the Human World,

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or the distribution of mankind; those patterns made by man's activities, his industry, agriculture, and mobility or transportation systems. These geographic patterns and facts form the basic bedrock foundation for the world situation today. You can go so far as to predict the future course of nations through a study of their geographic circumstances, just as Admiral Mahan, Sir Halford J. Mackinder, and many others have done.

In any event, a sound appreciation of the world geography should help us understand:

- (1) Why certain nations are particularly blessed with power;
- (2) Where we stand in this global family of nations; and
- (3) What course we should take to achieve lasting security for ourselves not only in a physical sense but also in a "way of life" sense.

Some of the patterns I have mentioned are fixed or constant. These are the physical features of the world. Mountains, deserts, jungles, and oceans change very little except in so far as man is able to alter some of these things slightly. The earth has remained basically the same for the past thousand years or more. It can be argued that the world is undergoing constant change, particularly with respect to climate. Yet, New England winters are still disagreeable. To us who think in terms of a couple of generations or a century, at the most, the Physical World is relatively fixed or constant.

We all know that the earth is round, yet we have been so accustomed to looking at flat maps of the world that sometimes our ideas get distorted. Here is the only type of an undistorted map of the earth that we can hope to observe. There is simply no way

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in which any large section of such a sphere can be flattened out without a great deal of distortion. The greater the section, the greater the distortion. Now that our primary interest has shifted northward, we should use a chart that provides us with a clearer picture of the arrangement of land masses across the northern part of the world. Better yet, we should refer to a globe to check ourselves and our ideas.

You who are in the middle of this auditorium are looking at the world at a scale distance of about 300,000 miles. You see a certain pattern of land and ocean areas. Water covers most of the surface of the globe, about three-quarters of it, in fact. Since all of the individually named oceans are inter-connected somewhere, world geographers call all of these wet areas of earth, the Global Ocean. This relegates the land masses to mere islands, islands on a grand scale.

Land covers the other one-quarter of the globe. Of all the land masses, the greatest is the European-Asiatic-Africa combination frequently referred to as the World Island. The other lesser continental islands, North and South America and Australia, are apart from this principal place of habitation for mankind.

Then there is a thin film of atmosphere around this globe. Man has learned how to make use of this film of air, just as he has made advances in land and water transportation. He needs all three to get along, but he keeps his feet on dry, solid ground. Furthermore, he makes all his preparations for his ventures across the water and into the air on land. To a great extent, the success of these expeditions is measured by his safe return to his home base on land.

Therefore, since man is so definitely a land animal, it is significant that most of the land exists in this one-half of the earth

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which is quite logically called the Land Hemisphere. The center of the land Hemisphere is the European peninsula.

Diametrically opposite is the wet side of the world, or the Water Hemisphere. However, most of our time will be spent on the Land Hemisphere since this is where most of the people of the world live.

This chart of the Land Hemisphere is an azimuthal equidistant projection centered on London. Every other point shown is at a true scale distance and a true azimuthal bearing from this central point. London is the center for most of these charts because it falls pretty close to being the center of the Land Hemisphere. In such a projection the accuracy is excellent close to the center. Around the edges you get an expanding distortion. However, as long as you stick to a chart of a hemisphere, this distortion does not become too great. It is a useful type of a projection to show the relationships of land masses, both in area and relative position.

Notice how compactly the land masses are arranged around one another; also how centrally located is that factory or dynamo of modern history, the European peninsula. The North Atlantic shares this centrality of location. Thus the Atlantic has become the most important connecting link between the New and Old Worlds.

About 90% of all the usable land areas of the globe are contained here. In this half of the world are found practically all of the land areas that are in the temperate climatic zones of the world. Practically all, or an overwhelming percentage, of the physical resources of the world exist in this half of the world.

Ninety-five percent of all mankind lives here. All of the great and potentially great powers of the world are found here.

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It is no small wonder, then, that it is called the Principal Hemisphere.

Now let's take another quick look at the diametrically opposite part of the globe, the Water Hemisphere. Here, land, the natural habitat of man, is quite scarce. Distances between places and people are great. Communications are difficult. There are few ties between the various places and peoples. There are no great powers in this half of the globe, nor do there appear to be even any potentially strong combinations of powers. So, with all apologies to Australia, New Zealand, and those who have worked so hard on the Antarctic, I would like to dismiss this half of the globe as relatively unimportant and concentrate on the Principal or Land Hemisphere.

THE PHYSICAL WORLD

Next, let's consider the Physical World. This chart diagrammatically shows the main physical patterns of the Principal Hemisphere.

The darkest areas are mountains; the dotted areas are the deserts. These are the equatorial jungles, and here up north is permanently frozen ground. The hatched area indicates the desirable real estate regions of the world.

These high mountains of the world have historically been the principal barriers to mankind's travel and his ease of communications across the land masses. Notice how these mountain regions form a horseshoe-shaped ridge around this central region, thus tending to concentrate most of the people of the world towards the North Atlantic. This important pattern resembles a stadium, or arena, where the big game always seems to be played.

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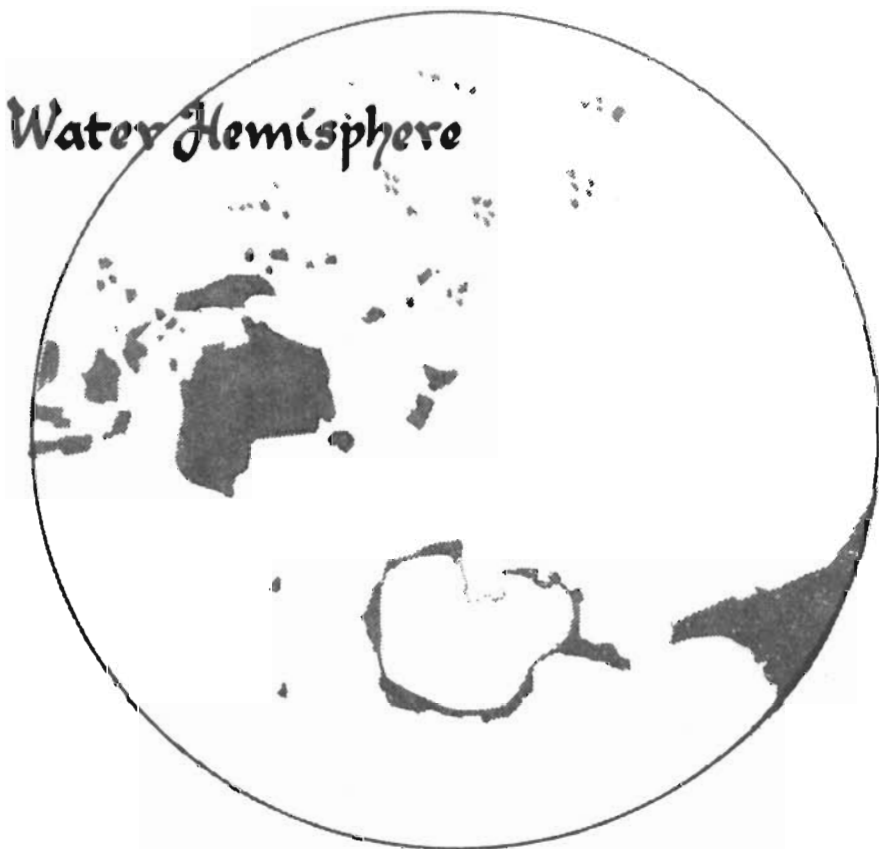


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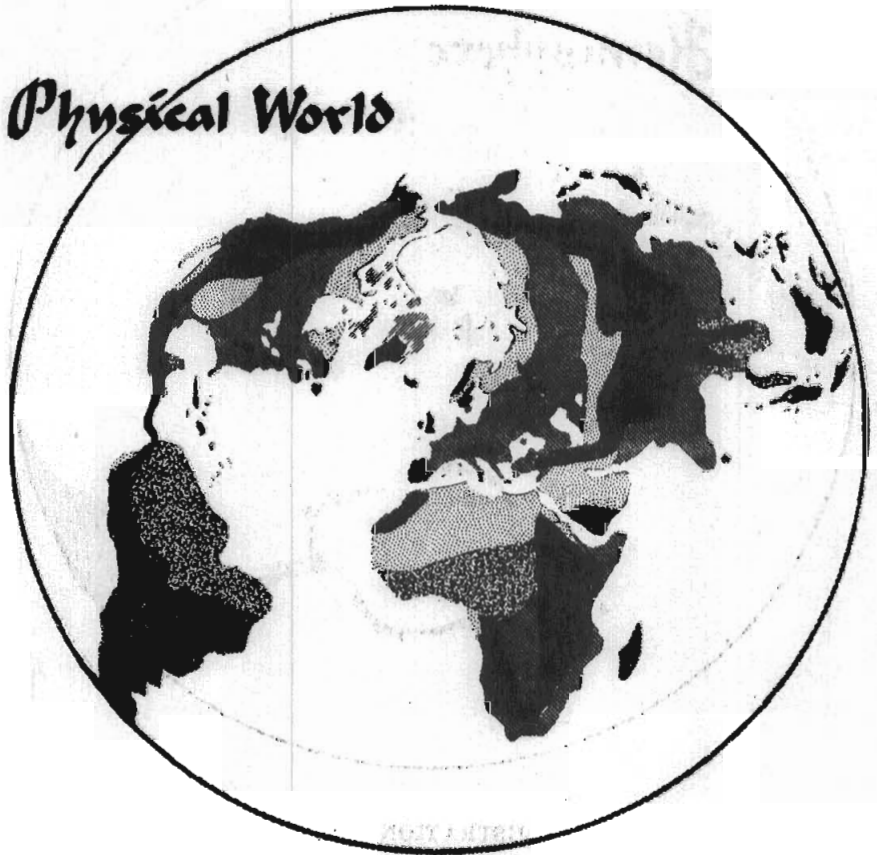


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The Arctic, the frozen tundra and Polar icecap regions, have further accentuated the barrier-like characteristics of the mountains of the world.

The principal deserts, indicated here, are hot and dry and, therefore, are relatively difficult places for man to live in and travel through.

The jungle areas, too, are relatively impassable, unusable, and not very comfortable for man's existence.

There is very little left in the way of desirable real estate, indicated here in tan. These preferred areas of land are the flat or rolling, rich, lowland regions of the world. Here we have abundant natural and mineral resources, adequate rainfall, usable vegetation, and perhaps most important of all—a rich soil and a kind climate.

We can see then how mankind would tend to grow in a compartmented fashion, with the undesirable and difficult regions of the Physical World acting as barriers between the principal concentrations of humanity. We can see how the principal races, the yellow and brown, the black and white, would develop separately behind their natural barriers, each adapting themselves independently to their local environment.

To visualize this a little better, let's take a look at where man lives.

THE HUMAN WORLD

This chart of the Human World gives you an idea of the patterns made by the distribution of the human animal. The concentrations and densities of people are graphically shown.

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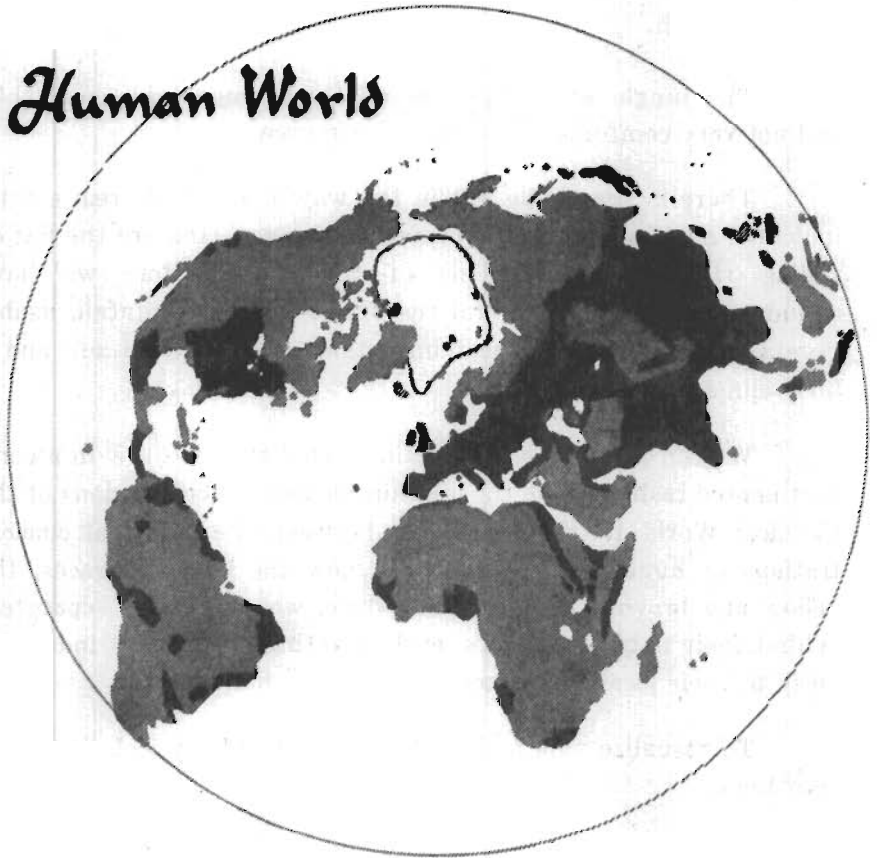


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These darkest areas indicate where humanity is really packed in tightly; the lighter shades show decreasing population densities. Such places as Belgium, Holland, New Jersey, and Rhode Island, have average densities of about 700 persons per square mile. New York City is perhaps the most crowded area of them all, for within a radius of 15 miles from the City Hall about 10 million people live and work.

The total population of the entire world is now estimated at 2.3 billion. It took the world a billion years to grow its first billion inhabitants. The world population has doubled itself in the past century, and it is estimated that in the next 75 to 100 years the population of the world will double itself again. So, if population pressures mean anything, it looks as though future generations will have an even tougher problem learning how to get along with one another as nations.

There are four principal concentrations of humanity. In round numbers, East China contains about 500 million people. Another 500 million live in India and Southeast Asia. All of Europe has about 500 million, while we in all of North America can barely muster 200 million. The Old World outnumbers the New by a ratio of about 10 to 1.

However, numbers of people are not the complete story on manpower and its utilization. Numbers are still a powerful factor in military action. However, as far as economic productivity is concerned, numbers of people mean very little.

Furthermore, numbers of people, by themselves, in localized compartments, are not a threat to the stability of the whole world until these numbers achieve a high degree of industrial activity and the mobility required to break out of their natural boundaries.

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In other words, the ability of mankind to utilize natural resources and manpower efficiently; technical ability and know-how; these are a definite part of this business of "what makes a nation a world power".

In order to evaluate numbers of people in terms of their effectiveness, let us examine the world's economic activity.

THE ECONOMIC WORLD

This chart of the Economic World indicates the two basic elements of economic strength. The darkest areas show the intensely developed concentrations of industrial activity and agriculture. The light shading indicates the other food producing lands of the world, those that are not as intensely developed as these darker shades. When the two principal parts of world economy, agriculture and industry, are considered together, you get a good representative picture of how mankind has modified and improved his position.

We can see how favorably we sit in our space here in North America. Our system economically outstrips that of any other single system in the world.

This area in Europe is split politically and economically about here. If the economies of Western Europe and Eastern Europe were combined and integrated as a unified, efficiently administered system, this system could easily outstrip ours and surely dominate the whole world.

In the Far East, the economic strengths of Japan and North China have suffered as a result of World War II. We are doing all we can to bolster up Japan so she will become an asset to the free

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Economic World

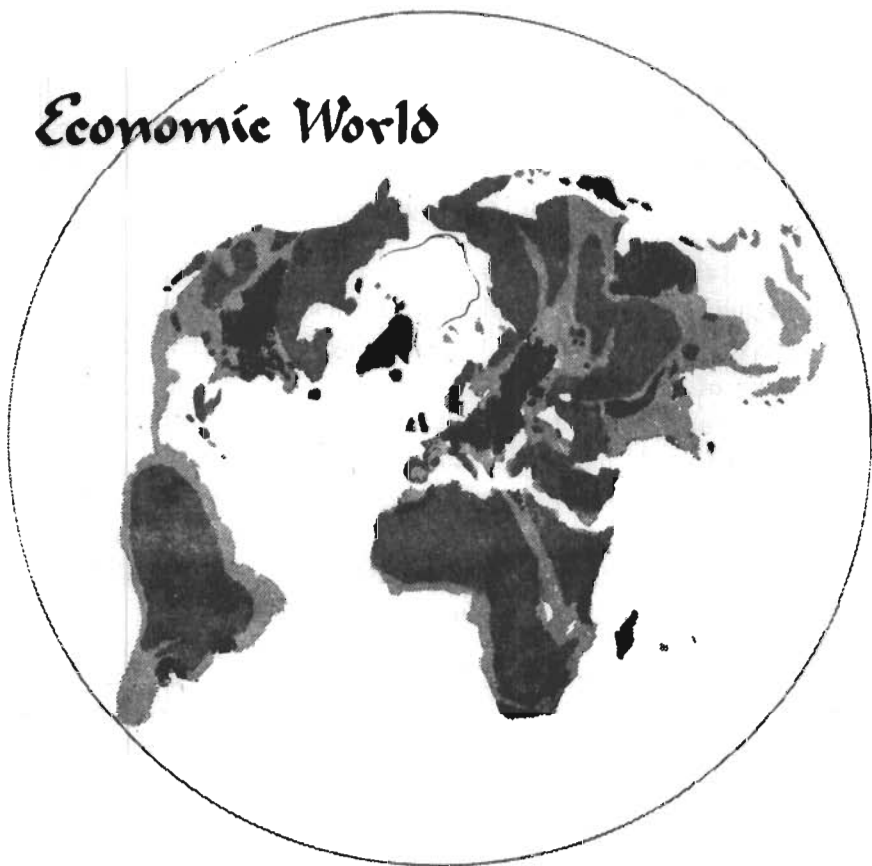


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world rather than a liability. China's economic potential, although somewhat second-rate, has become all the more significant by reason of its loss to the free world and its gain by the Communist world.

Human economic activity is also based on two other fundamentals, on manpower and resources. When I say "manpower" I mean the organized and effective ability to produce results. Similarly, I refer to resources in the broadest possible sense.

Man takes the resources provided by the earth, and by the efficient application of his combined abilities he conducts his economic activity. He builds up economic systems which reach out to all parts of the world for raw materials and markets. As an economy matures, it becomes more and more dependent upon world resources and world markets. It develops "roots" and "branches" that keep it going. Economic systems develop transportation systems which are the veins and arteries of the Economic World. As Montesquieu very aptly put it, "Commerce consists in making superfluous things useful and useful things necessary".

So, in order to visualize the economic activity of the world a little better, we should look at the transportation systems of the world.

HUMAN MOBILITY

This is the general pattern of Human Mobility, of mankind's global travel and transportation systems across the face of the earth. It roughly indicates the ship traffic, the railroads, the motor roads, pipelines, and inland canals.

While air transportation systems are not shown, man's more recently achieved mobility moves him and his gear between the

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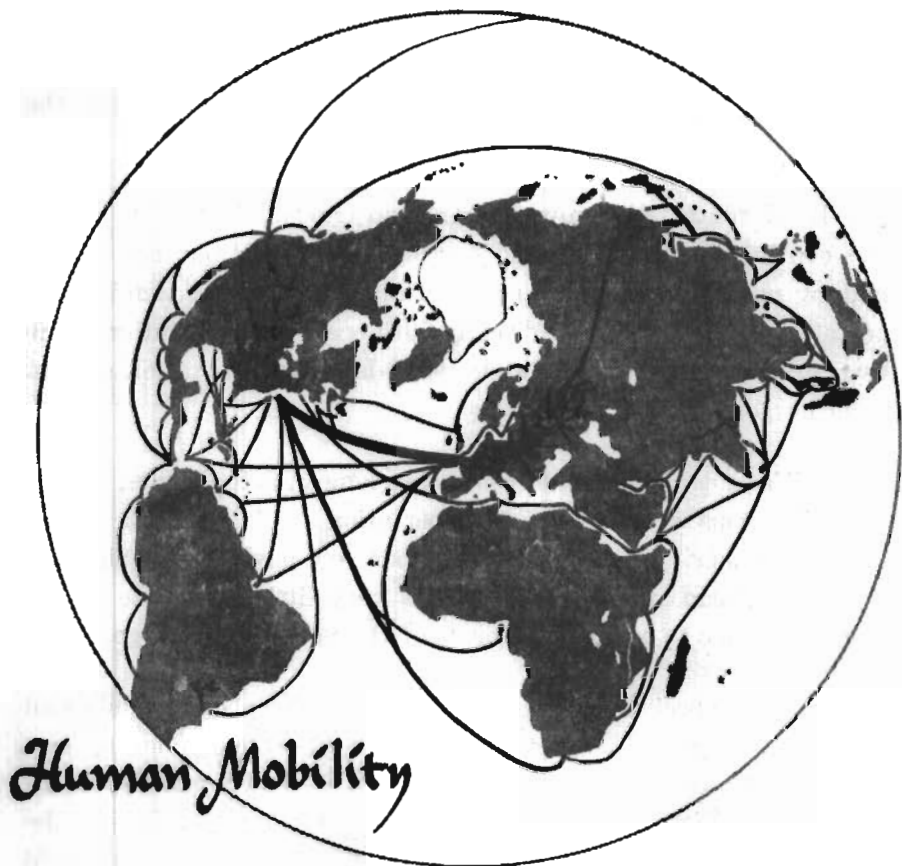


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same terminals and generally along the same routes that surface transportation does. It is surprising how little of the bulk weight is carried by air. On a tonnage basis it is but a fraction of 1%, while surface transportation takes care of the remaining 99% plus.

Ships are still the prime movers for carrying man's goods cheaply over the great distances between places on the face of the globe.

Land routes not only answer man's needs internally within the continents, but they also complete or finish out the job of making material available to people inland. In a way, land transportation does not compete directly with ocean transportation. The two form one continuous system, with land transportation supplementing sea transportation.

Water transportation routes are long in actual miles. However, in terms of cost, sea transportation tends to bring places closer together. In terms of cost per ton payload, a ship is a relatively cheap vehicle, and it takes very little money to run it from one place to another in terms of the value of its cargo.

As a specific example—a bale of rubber can be shipped from Singapore to New York, a distance of 10,000 miles by sea, for the same cost that it takes to haul it by rail from New York to Akron, a distance of only 500 miles. The cost of lifting the same bale of rubber by air from Singapore to New York would cost about 300 times more than it would by freighter.

But now we are getting pretty deeply into the implications of the geographical facts and patterns of the world. And it is properly so, for such is the true nature of the study of geography. Geography is important to us primarily because of its close re-

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relationship to the activities of man and nations. There have been many great people who have looked upon geography as a guide to practical politics and strategy. To mention a few, there was Kjellen of Sweden, Ratzel and Haushofer of Germany, Fargrieve and Mackinder of Great Britain and Mahan and Spykman of the United States.

At this time I would like to review the ideas of three of these gentlemen; three theses that cover practically the whole field of differing opinions regarding geographical interpretation. These are the ideas of Admiral Mahan and seapower, Sir Halford Mackinder and landpower, and Professor Spykman whose views fell somewhere in between these two extremes.

MAHAN

First let's take up Admiral Mahan's ideas. As you all know, he was a member of the staff and later the President of the Naval War College in the late 1800s. He published his significant book, "The Influence of Sea Power on History" in 1890, and followed this with numerous articles and books on related subjects. Most of us think of Mahan as a naval strategist and tactician. He was also a great geopolitician long before the term was invented.

To Mahan, the key to national greatness and power was seapower.

Seapower consisted not only of the ability of a nation to use the sea for international trade, but also of a strong naval fleet that could insure the continuous use of the sea.

Mahan showed that the United States was admirably situated to take advantage of all the benefits of seapower.

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He saw the sea as a great highway, a broad, wide common over which man could travel and goods could be transported in all directions, easier, safer and cheaper than by land.

He did not think that any nation could ever achieve the status of a true world power or lasting greatness without seapower.

And lastly, he accurately predicted that the United States would eventually succeed Britain as the dominant maritime power of the world. As a consequence, it would become the greatest power in the world.

MACKINDER

Sir Halford Mackinder, a British geographer, took the opposite point of view. This eminent geographer convincingly argued that seapower was transitory; that eventually landpower might succeed in outflanking seapower. He delivered a significant lecture and paper before the British Geographical Society in 1904; this paper was called the "Geographical Pivot of History". Later, in 1919, he amplified his thesis in his book, "Democratic Ideals and Reality".

Like Mahan, Mackinder traced the rise and fall of nations, but from a landpower standpoint. He very convincingly indicated how landpower *might* have the last word over seapower. He traced through many historical examples, including those of Alexander, Xerxes, and Hannibal to show how landpower might have gained control of the troublesome seapowers by controlling all of the contiguous land areas, thus surrounding seapower. He applied this thesis to his time and showed how advances in land and air transportation might close the gap on the advantages of seapowers. You can almost see what Mackinder was talking about in his fears of

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landpower outflanking seapower in the present day, with Russia shifting her attention from one part of Eurasia to another.

Mackinder's concepts had mainly to do with the European-Asian-African landmass, which he called the "World Island". He contended that within this island there was a "heartland" that was inaccessible to the power and influence of the seapowers.

He foresaw that advances in land and air transportation could weld this entire landmass into a closely-knit, compact and powerful base. It could be a fortress offering defense in depth which no seapower would be able to penetrate completely, regardless of its amphibious character.

Thus Mackinder saw Russia as the pivot region of the world, with interior lines of communications and defense, with potentially a self-sufficient economy, and with a powerful military organization.

His fears of a combined Eurasia under one power gave birth to his famous triplet:

"Who rules East Europe commands the Heartland:
Who rules the Heartland commands the World Island:
Who rules the World Island commands the World."

SPYKMAN

The late Professor Spykman of Yale University analyzed the opposing views of Mahan and Mackinder. After his death in 1943, his staff at Yale University published his accumulated articles and lectures in book form, "The Geography of the Peace". Spykman provides us with a good critique of the theses expanded by Mahan and Mackinder, particularly as to how these ideas have withstood the test of time.

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Spykman agreed that Mahan very clearly saw conditions as they existed for his day, but that he had not attempted to predict, or foresee, the influence of improvements in land and air transportation on seapower's dominant position. Also Mahan had visualized a balanced condition, or a state of equilibrium, between seapower and land power as applied to Eurasia.

With regard to Mackinder's views, Spykman believed that Mackinder's Heartland did not possess all the power potential that he had ascribed to it. Although Mackinder had remarkably assessed the topographical and space factors of Russia's power position, Spykman concluded that the Heartland did not necessarily mean domination of the World Island.

In fact, Spykman showed that the key areas of the Eurasian landmass were the "Rimlands". The Rimlands were the crossroads, the threshold between landpower and seapower as applied to Eurasia. The Rimlands possessed a vast proportion of the people, industry, and economic strength of the entire landmass. Spykman, therefore, changed Mackinder's famous statement to suit himself. Spykman said:

"Who controls the Rimlands rules Eurasia:

Who rules Eurasia controls the destinies of the World."

These three stimulating viewpoints make us wonder about our own country and the significance of our own geographic position in this highly competitive world.

AMERICA'S WORLD

The United States is an insular power of continental dimensions. We have direct access to both oceans and therefore to all of the ocean highways of the world and all of the maritime nations of the world.

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Physically, we are fairly secure. We have no unfriendly, threatening, land neighbors on our continent to absorb our energies and resources. Though human mobility has improved to the extent that our northern approaches and those of the East and West are no longer perfectly secure, these space and surface barriers offer some degree of protection.

Economically, we are not nearly as secure as we would like to be. We are dependent on other parts of the world for critical materials and for markets. We are not a self-sufficient nation. It is easy to see how a unified and efficiently administered Eurasian continent could outclass us, particularly in manpower and economic strength.

A military power sitting on the broad foundation of the entire Eurasian continent would enjoy the largest and potentially the strongest possible base for power.

It would be simply a matter of time before the "roots" and "branches" of our economic strength would be snipped off by such a rival power.

Therefore, our geographical circumstances seem to point to three basic conclusions:

First, we cannot hope to stand up against a Eurasia united against us. We need friends and allies, both to assist us and also to deny further strength to a rival power. Our natural friends and allies are the nations of the maritime world.

Second, we must do all that we can to insure, to build up, and to preserve the strength and well-being of our allies and friends abroad.

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Finally, we must always have the physical strength and capability, together with the moral intention, of striking back effectively whenever any part of our system, either at home or abroad, is threatened.

Thus we can see how the affairs of mankind find their foundation in the facts of geographical environment. It is only through an understanding of these basic geographic facts, their patterns, and their relationship to one another that we can intelligently determine where we are heading and what we need to do in terms of a global strategy.