

The Prospective Changes in the Pacific Ocean

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INTRODUCTION

Towards the birth of the twentieth century, the US Secretary of State, John Hays, made a remarkable statement by forecasting that: "The Mediterranean is the ocean of the past, the Atlantic Ocean of the present, but the Pacific is the ocean of the future." About 50 years earlier, another US Secretary of State: William Seward expressed more or less the same forecast by predicting that: "henceforth, European commerce, European politics and European activity, although becoming actually more intimate, will nevertheless sink in importance, while the Pacific Ocean, its shores, its islands and the vast region beyond, will become the chief theatre of events in the world's greatest hereafter."¹ A remarkable prediction indeed concerning the coming outburst in importance and significance of the greatest on the globe: the Pacific Ocean.

All the land areas of the earth, if united, would approximately fill the 55,000,000 square miles of the Pacific Ocean. This water hemisphere, with its minute and multitudinous islands, became an ocean of destiny in the twentieth century. But how little is our knowledge thereabout.

The problems of defence and expansion which induced the government of the United States to acquire the Aleutian Islands, Hawaii, and the Philippines before 1900, likewise persuaded alert statesmen in Australia and New Zealand to urge wider British annexation of islands still unclaimed, while France, Ger-

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¹Soedjati Djiwandono, "Development in the Asia-Pacific Region and Relations between the USSR and the USA," *Indonesian Quarterly*, vol. XIII, no. 1 (January 1985), p. 101.

many and Japan were also raising flags on unconsidered atolls and pressing claims to lonely archipelagoes.

Sovereignty was often difficult to maintain on scattered groups of islands; and as continuous occupation was impossible on most of the South Pacific reefs and atolls because few of them will adequately support even a small population, it became the custom in the twentieth century to allot the different powers fields of ocean lying between specified degrees of latitude and longitude. Thus, almost without their knowledge, isolated island peoples, who had seldom seen Europeans except visiting whalers or missionaries, found themselves swept into the sphere of influence of a government located on the other side of the world. The process of demarcation and annexation was hastened by the events of World War I (1914-1918) which was actually a war between those who had occupied the Pacific islands, while the islanders themselves did not know thereabout.

THE INDIGENOUS NAME OF THIS WATER HEMISPHERE

The above observation was made a.o. by Robert C. Suggs, the leader of the scientific expedition on Polynesia, organised by "The American Museum of Natural History" in 1957-1958 of which the result was published in "The Island Civilisation of Polynesia." Another observation of more scientific significance was his discovering of the indigenous name of this "water hemisphere," well-known in the languages of the islanders of Polynesia as "Tagaroa," re-discovered by John Rahasia as described in his book: "Pene-muan Kembali Tagaroa," (1975 = Rediscovery of Tagaroa).

The name "Tagaroa" is composed by the word "taga" and the word "roa." The word "taga" is actually an abbreviation of the word "telaga" which means "lake." The word "roa" finds its equivalent in the word "rowa" which means "extensive," or "great" or "big." Thus, the name "Tagaroa" means etymologically "telaga-rowa," which can be translated into "Great Lake," or "The Extensive Lake."

John Rahasia observed that the name "Tagaroa" was originally the name of "The God of the Seas and Oceans" according to the indigenous mythology of the islanders, which may be compared with "Oceanos," the name of "The God of the Seas and Oceans" according to the Greek mythology. So as the Greek and the Western People call "The Extensive, or the Great Seas" as "Ocean" -- derived from the name of "Oceanos," the islanders call "this extensive hemisphere": "Tagaroa" -- derived from the name of "the God of the Seas and Oceans."

Interesting enough was his further observation that the name "Tagaroa" in the languages of the islanders of Polynesia was pronounced with different modifications in the languages of the islanders of Melanesia and Micronesia, such as "Tangaroa," or "Tanaroa," or "Ta'aroa," or "Tagalaoa," or "Tangalaoa," or "Tagaloang," or even "Hanga Roa."

By further investigations, Robert C. Suggs reported that he found a Tahitian Chant, which he translated as follows:

"Tangaroa
Was the ancestor of the All Gods,
By Him were all things made,
From ancient time,
Great Tangaroa existed,
The source of all."²

According to Prof. Raymond William Firth in his book, "The Maoris," the name "Ta(n)garoa" is commonly interpreted as "The Lord of the Seas" as it was also observed by Erich von Daniken in his book "Return to Stars" or, by Edward Dodd in his book on "Polynesian Seafaring," (1972).

Edward Dodd reported that he found a more detailed description of "Tagaroa" in the Polynesian mythology when he cited the teaching of the oldest people of the Cook Islands, which he translated as follows:

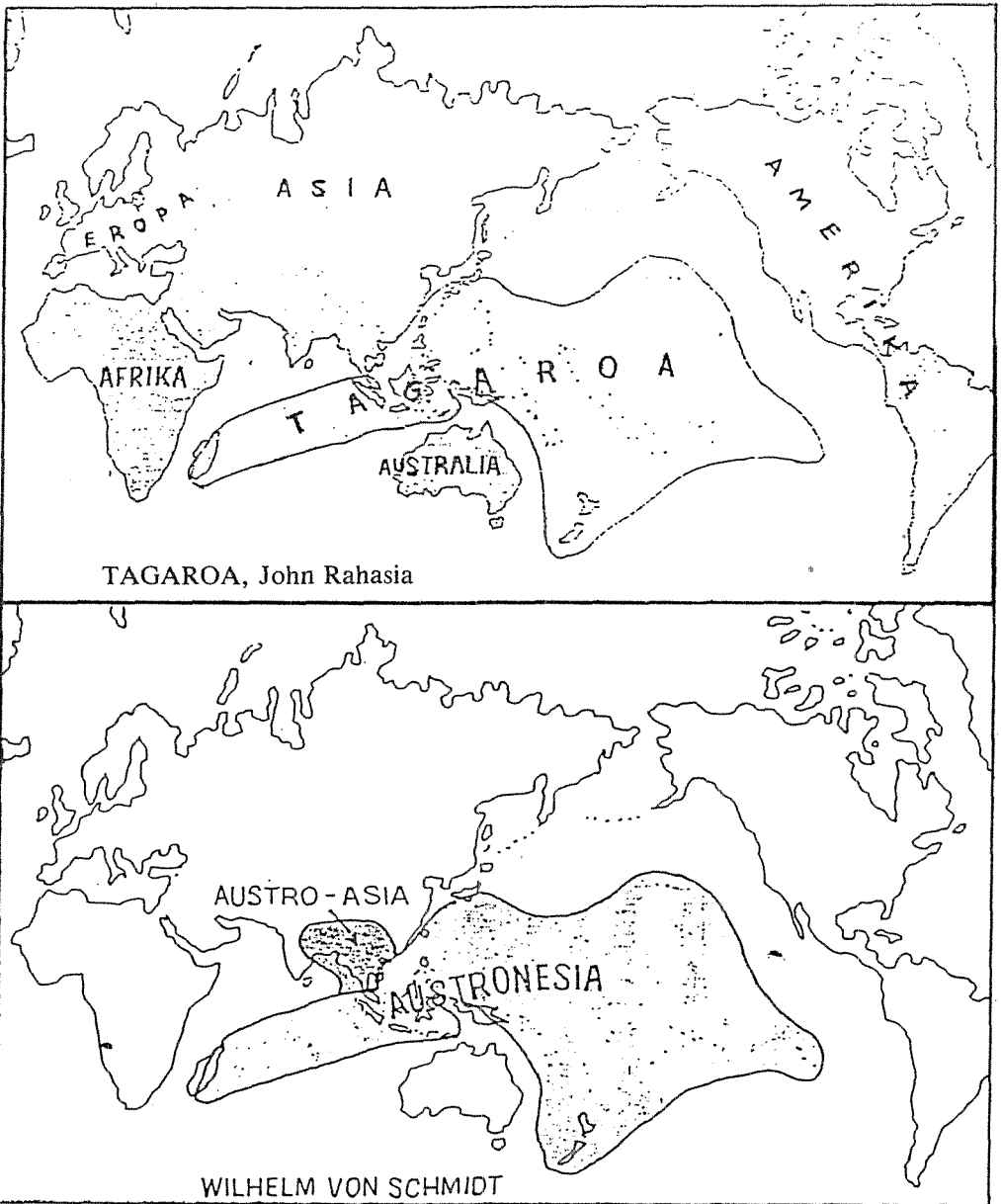
"Tangaroa,
He was there: Tangaroa was his name
All about Him was emptiness.
No where the Land -- No where the Sky
No where the Sea -- No where man
Tangaroa called out -- No echo answered.

Than in this solitude He became the world
His knot of roots it is Tangaroa
The rocks are He again
Tangaroa -- The song of the Sea
Tangaroa -- He named himself
Tangaroa -- Eternity
Tangaroa -- The powerful
Creator of the universe which is but the shell of Tangaroa
Who bestows on it Life-in-beautiful-harmony."³

²John Rahasia, "Penemuan Kembali Tagaroa" (Jakarta: Yayasan Tagaroa, 1975), pp. 97-99; as the main source of author's book: *Wawasan Nusantara*, X, vol. 2, pp. 21-46, and more detailed, see his other book: *Hukum Lingkungan*, III: Regional (Bandung: Binacipta, 1982), ch. XIV, pp. 303-313.

³*Ibid.*, pp. 21-31.

TAGAROA/AUSTRONESIA



Source: John Rahasia: *Penemuan Kembali Tagaroa* (Jakarta: Yayasan Tagaroa, 1975); cited by the author in: *Wawasan Nusantara - X*, vol. 2 (Bandung: Alumni, 1983); more detailed, in St. Munadjat Danusaputro, *Hukum Lingkungan - III: Regional* (Bandung: Binacipta, 1982), Ch. XIV, pp. 303-313.

Thus, "Ta(n)garoa" as a name of "The Lord of the Seas" is used to name the ocean which later on was called by "Fernaõ de Magelhaes" in 1521 as "The Pacific Ocean," because he regarded "this water hemisphere" as very Pacific during his voyage from the Southern tip of South America to the Philippines, while he did not know the originally indigenous name thereof.

The creation by Fernao de Magelhaes of the name "The Pacific Ocean" for "Tagaroa" in the regions of Polynesia, Melanesia and Micronesia coincided with a similar act of another Portuguese sailor, Vasco da Gama in 1498, when he called "Tagaroa" which he sailed from the Southern tip of Africa to India as "The Indian Ocean," because he also did not know about the real and indigenous name of this "water hemisphere."

So the name of "Indian Ocean" for the Western Tagaroa since 1498 and the name of "Pacific Ocean" for the Eastern Tagaroa since 1521 are both artificial names for Tagaroa (The Extensive Lake) which flows between the eastern coast of Africa and the western coast of America. Since time immemorial this "water hemisphere" has been regarded by the islanders of this region as but an extensive lake or "Telaga Rowa (luas)" from which is derived the original name of "Tagaroa," the seat of "The God of the Seas and Oceans" according to the indigenous mythology.

By digging out this simple fact of the originally indigenous name of this "water hemisphere" to be compared with the artificial names created by the Westerners, one may hopefully understand the two different outlooks upon this "water hemisphere" as adhered to by the islanders and those developed by foreigners.

Taghaloang

In Indonesia, the name of "Ta(n)garoa" is known as "Tlaghaloang" as it is used in the religious song of the People of the Sanghir-Talaud Archipelago in the northern part of the province of Sulawesi-Utara (Northern Sulawesi Province). This song of the fishers-population of the Sanghir-Talaud Archipelago is named "Sakaeng Su Taghaloang" (A ship on the Extensive Lake), symbolising "the existence of man in his environment," as reported by John Rahasia above.

"Sakaeng Su Taghaloang" is a religious hymn sung by the fishers-population as a prayer before they start to sail. The complete couplet reads as follows:

SAKAENG SU TAGHALOANG

Sakaeng su Taghaloang	(A ship on a big, extensive lake)
Masaseng-go Mapia	(Sails with fastness)
Nagkodang-kai I-tuang	(The captain is the Lord)
Api su takaghia	(Free from all threats)
Maning selihe Maiha	(Although the ocean is rough)
Balade gaghuwa	(The waves are terrifying)
I Kami Tawe Mataku	(We are not anxious)
Nangkidang Mawu	(For God is our Captain)

Based upon this religious hymn, the people of the Sanghir-Talaud Archipelago believe that their activities on the "Big, extensive Lake" (Taghaloang) which is bestowed by God almighty upon them, is a blessing from Him. Therefore, they perform their fishery and sailing activities always under the guidance of God, their Captain on seas and oceans. They consider the "Big, extensive Lake" as a single water hemisphere, Taghaloang (Tagaroa) constituting their "physical life-environment," divided into the "western" and the "eastern-Taghaloang" (The Indian and the Pacific Oceans).

Because they consider this "water hemisphere" as but a single lake, they are never anxious to sail whatever direction as to the west towards Africa, or in the eastern direction towards the coast of America. This is just the reason why many islanders of this region moved and transmigrated to other islands off the coast of Africa since time immemorial, such as to the island of Madagascar where they built up the old Kingdom of Merina. To the eastern direction many of them transmigrated to the Island of Tahiti and even to the Easter Islands off the coast of Chile, or to Hawaii (Hawa-ii = Little "hawa"/Jawa?).

Based upon their belief on "Taghaloang" as the "God of the Seas and Oceans," their mythology teaches them that "Taghaloang" has many sons and daughters, reigning over all the Seas and Oceans of the world. One of his daughters is known by the people of Indonesia as the "Queen of the South Seas" (Nyai Loro Kidul) who governs the Ocean lying south of Indonesia (the Indian Ocean). Her sister is known in Vietnam as the "Queen of the East" (Back-Deng) who controls the seas lying east of Vietnam (The South China Sea).⁴

Two Different Perceptions

How different is the perception of the islanders about their life-environment "Ta(n)galoang" (Tagaroa) if compared with the outlooks of foreigners

⁴Danusaputro, *Wawasan Nusantara*, pp. 21-46; more detailed: Danusaputro, *Hukum Lingkungan*, ch. XIV, pp. 303-313.

coming from the western world who consider this "water hemisphere" as just "an undiscovered region" which they could freely occupy or annex at will without any restriction.

When the first Europeans visited Tagaroa in the 16th, 17th and 18th centuries, they returned home with descriptions of a region that sounded much like "the Garden of Eden." Islands like Tahiti seemed to Europeans to be "heavens of beauty, innocence, and ease." The magnificent tropical trees and exotic flowers edging down to the blue waters of Tagaroa provided a splendid background for the island people, who were handsome, clean, and usually friendly. The climate, although hot, was not uncomfortable. And since coconuts, breadfruit, and other fruit could simply be plucked from the trees and fish netted easily in the seas, there was no need to work hard in order to survive. To visitors from Europe it seemed that there was little to do but live gently from one day to the next, and dance, surf, swim, eat, and sleep when one felt like it. The regions's flaws, such as violent storms, earthquakes, and local warfare, were not immediately apparent.

It is obvious why European sailors who had spent months aboard a cramped, dirty ship on a dangerous voyage should have found the islands appealing, as it had been experienced by Fernao de Magelhaes and his crew. Life on the islands seemed no less charming to the Europeans who remained at home. Chronicles of the voyages told of a last unspoiled comes of the earth, and the European intellectuals saw in this untouched world the virtues of the unspoiled "Noble Savage," which provided a contrast to their hectic pace of life on the crowded continent of Europe.

The isolation of Tagaroa dates back to the time when their ancestors came to the area. The arrival of explorers, missionaries, scientists, traders, and settlers between the 16th and 19th centuries began to break down that isolation. By the end of the 19th century almost every island group and island had been annexed by "world powers."

But, the end of Tagaroa's isolation did not become a reality until World War II. For three long years, from 1942 to 1945, hundreds of thousands of troops from Asia, Europe and America fought one of the bloodiest wars this world has known in Tagaroa. At that time Eastern-Tagaroa's strategic importance became apparent, constituting the idea and concept of "The Pacific Strategy." It became impossible for the great powers and the nations that bordered the area ever to ignore it again.

It became also impossible for its people to avoid the outside world, whether they wished to or not. Thousands of islanders were thrown into close contact

with outsiders for a long period of time. They fought with them in the jungles. They worked with them on the huge military bases. As a result the island people developed a whole range of new habits and new desires that could not be satisfied within their traditional economic and social systems.

Sometimes the clash between the islanders' way of life and the material wealth and power of the outside world produced strange results. Among the strangest were the "Cargo Cults," forms of religious worship that grew up in parts of Eastern Tagaroa or "the Pacific."

CONFLICT AROUND THE PACIFIC

After World War I, half of New Guinea, with New Britain and New Ireland became an Australian mandate. Samoa was mandated to New Zealand. The Fiji, Salomon, the Gilbert Islands went to Great Britain with other scattered possessions. In general, the equator formed the northern limit of the British area of supervision.

North of the equator lay the Japanese mandates, which embraced the Caroline Islands, Yap, the Marianas, and the Marshall Islands. Only a study of the map can prove how intermeshed the Japanese and the American lines of communication became with the extension of Japanese influence. The American stepping stones from Hawaii to the Philippines, especially Midway, Wake and Guam, lay directly across the Japanese routes of advance.

It is not difficult to understand why the people of Australia and New Zealand came to respect American Naval strength at their first line of defence against a possible southward threat by Japan. At the Washington Naval conference of 1921-1922, the United States, Britain, France, and Japan agreed not to change the existing situation or expand their influence further. Each of the four powers promised the others that it would "respect their rights in relation to their insular possessions and insular colonies in the region of the Pacific Ocean."

At the same time, the United States, Britain, and Japan agreed not to increase their naval bases and fortifications in the Western Pacific. The Japanese resented these restrictions and felt that the United States and Britain wanted to limit Japanese expansion. This was true, when the British allowed their alliance with Japan formed in 1902, to lapse, a move that pleased the Americans, Australians, and New Zealanders. These changes reflected a new balance of power in the Pacific -- the "white" nations were lining up to oppose the design of the Japanese to extend their empire in Asia and the adjacent seas.

The Pacific Ocean, with its innumerable islands, has become an area of tension.

The outbreak of the war in Europe in 1939 changed the balance of power in the Far East. The European powers with possessions in the Pacific -- Britain, France and the Netherlands -- were all belligerents and had to devote the major energies and forces to the conflict in Europe. The great neutrals, the USA and the USSR, both had interests in the Pacific and were free to act. But both were in an isolationist mood and seemingly indifferent to Pacific developments, which left only one strong power, Japan, ready to fill the vacuum of power. Just as in 1914, some circles of the Japanese leadership regarded the European war as a "golden opportunity" to bring under Japanese control new lands to provide raw materials for her expanding industries, new markets for expanding production, and new homes for her expanding population.

Since 1931 and especially since 1937, Japan had increased her influence in China. In 1938 Japan seized Canton and Hankow, after the fall of Nanking. Moreover the fall of France and of the Netherlands in 1940 left French Indo-China and the Dutch East Indies to shift for themselves. The British position in the Far East was likewise weakened by the necessity to prepare for a possible German invasion. British forces were withdrawn from Shanghai and North China posts, since British naval units were recalled to danger points nearer home. In September 1940 Japan extorted from the helpless Vichy Government the right to establish bases in northern Indo-China.

Resistance to the new Japanese policy came from the United States which put an embargo on export of scrap and steel on which Japan depended for a substantial part of her need. Japan paused, but by no means renounced her plans to create an "East-Asia Co-prosperity Sphere."

In July 1941 Japan occupied Southern Indo-China. Again the United States retaliated by "freezing" all Japanese assets in America. Also Britain and the Dutch adopted the same measures, which was a serious blow to Japan, since it had the effect of cutting her off from her sources of oil, rubber, tin, and other raw materials without which the Japanese economy and war machine would soon come to a halt.

Japan was presented with a difficult choice. She could obtain these indispensable commodities either by yielding to the United States or by conquering their sources in defiance of America. Since March 1941, Japan had been carrying on negotiations with Washington for a settlement. When the Japanese demands were rejected by Washington, Japan had no other choice than deciding to risk the war.

On the morning of December 7, 1941, a Japanese task force arrived off the Hawaii Islands and dumped its load on the American Fleet assembled at Pearl Harbour. On December 8, 1941, the United States declared war on Japan. The Pacific War broke out.

Six months after the attack on Pearl Harbour, Japan succeeded to master the sources she needed, such as oil, rubber, tin, quinine and other products. In rapid succession Japan overwhelmed Southeast Asia and sought to extend its control to the Salomon islands, New Hebrides and New Caledonia, which was the main base of Allied operation in the Southwest Pacific.

General Mac Arthur, the Allied Commander, determined to check the move. In August 1942, American marines were landed on Guadalcanal Island, and in November 1943, the Americans seized the Gilbert, followed by the Marshalls and the Marianas in 1944, while on October 1944, Mac Arthur landed on Leyte. In November 1944, long-range B-29 bombers based on Saipan inaugurated systematic bombing of Japan. And to get closer to Japan, American troops landed on Iwo Jima and Okinawa in April, 1945. On July 16, 1945, the first atomic bomb had been successfully exploded on the Alamogordo proving grounds in the New Mexican desert. On July 26, 1945 President Truman, Churchill and Chiang Kai Shek addressed a stern summons from Postdam to the Japanese Government to surrender or face a destruction.

The Japanese rejected the ultimatum, and President Truman then authorized the use of the atomic bomb on Hiroshima. On August 9, 1945 a second atomic bomb was dropped on Nagasaki. On August 10, 1945 the Japanese appealed for peace, and on August 14, 1945 the Emperor Hirohito ordered a "cease fire." The Pacific War came to an end.

For almost 6 years Japan was occupied by American forces. But, on September 5, 1951 a peace conference was held in San Francisco to conclude peace with Japan. On April 28, 1952 when the Peace Treaty of San Francisco went into effect, the American occupation of Japan formally came to an end.⁵

TOWARDS CO-OPERATIONS FOR THE PACIFIC

At the same time of the signing of the Peace Treaty, in San Francisco a United States-Japanese Security Treaty was also signed by which Japan granted the United States bases and allowed United States forces to remain in

⁵Bruun & Mamatey, *The World in the Twentieth Century* (Boston: D.C. Heath and Company, 1962), part two: Since 1939, sections VII & VIII (summarised).

Japan as allied troops. This United States -- Japanese alliance treaty gave an impetus to the formation of an intricate network of alliance whereby the United States organised the defences of the Pacific area against Communist expansion. The United States intention to rearm Japan caused apprehension in Australia and New Zealand. To reassure them, the United States concluded with Australia and New Zealand a tripartite Pacific Security Pact, known as the ANZUS Treaty on September 1951. Similarly, the fear of the Philippines of a Japanese military revival was allayed by the conclusion of the United States -- Filipino Mutual Defence Treaty on August 30, 1951.⁶

Turning to the southern part of the Pacific, Australia and New Zealand need to be surveyed. During and after World War II, the development of Australia paralleled that of its rim-neighbour in the East, Canada. Both its area and its population were smaller than those of Canada. Approximately half of the growth of its population was the result of immigration. Six out of seven Australians were native-born at a later date and over nine-tenth were of British ancestry. In their anxiety to preserve a "white" Australia they favoured immigrants from the British isles, Europe, and North America. The primitive Australian aborigines, whose number have declined to about seventy thousand, live mainly in government reservations.

A high per capita income (US\$1,300 a year) and an efficient public health service make Australia one of the healthiest countries of the world. The Australian economy is heavily depended on animal products and considerable areas too dry for farming have sufficient forage for sheep or cattle. Australia holds one-sixth of the billion sheep in the world. Wool accounts for about one-half the value of Australian export, and farm products for one-quarter.

East of Australia lies New Zealand with an area of 103,736 sq. miles, which is a little larger than that of Great Britain. Like the Australians, the New Zealanders are almost exclusively of British descent, treasure their ties with the Old Country, export large shipments of wool, meat, and dairy products, maintain a high per capita income (US\$1,300), and enjoy exceptionally good health.

Aware of their good fortune, the New Zealanders have sought to preserve it for themselves by a strict immigration policy, accepting British citizens but taking few applications from other countries. Like Australia, New Zealand has developed its industries sufficiently to provide for many of its own requirements. But the home market is too limited to stimulate mass production methods to top efficiency, and high wages and transportation costs make it difficult for New Zealand to seek external markets.

⁶*Ibid.*

Like the Australians, the New Zealanders cherish their ties with Britain and the Commonwealth, have made an alliance with the United States, and have become a member of the South-East Asia Treaty Organisation and the ANZUS.

New Zealand administers the territory of Western Samoa, the Cook Islands and some other island groups in the Pacific Ocean, while it also claims the Ross Dependency in the Antarctic Continent. Their interest in Antarctica is understandable, for New Zealand is nearer to the South Pole than any other states except Chile and Argentina.

The Development of Oceania

Between Japan in the North and Australia-New Zealand in the South there exist the world of ASEAN and the world of Oceania. The "Association of Southeast Asian Nations" (ASEAN) includes, Brunei-Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand, while Oceania forming only the Southern part of the Pacific, usually viewed together with the other archipelagoes of the Pacific, known as: (a) Polynesia; (b) Micronesia; and (c) Melanesia.

Polynesia, meaning "many islands" lies within the vast triangle formed by Hawaii, New Zealand, and Easter Islands. The people within this area share a common basic language, social system, and religious beliefs.

Micronesia, meaning "small islands," stretches westward from the borders of Polynesia, north of the equator, and includes the islands north of New Guinea to the borders of Oceania. The people within this area have little in common with one another. Some of them speak Polynesian language, but most use non-Polynesian languages that are unrelated.

Melanesia, meaning "black islands," encompasses the islands south of the equator and west of Polynesia and includes New Guinea. Apart from the fact that most of the people of this area have darker skins than the people in the two other areas, they have little in common with one another. Linguistic experts have been able to identify a Melanesian group of languages, but these form only a small proportion of the many hundreds of languages spoken in the Melanesian area. There are many physical types, social systems, and religious beliefs in Melanesia.

The mixed character of the Pacific islanders reflects the different places from where they came. There are, of course, many theories about the origin of

these people. One of the best-known was set forth by the Norwegian Thor Heyerdahl. He tried to prove that the migrations came from the east by making his new celebrated voyage in the *Kon-Tiki*. Most scientists, however, believe that the migrations came from another direction, from, Southeast Asia. A widely accepted theory is that the first people came in the area from the Southeast Asian peninsula at a time when New Guinea and Australia were still linked. Many years later other people with a more highly developed material culture came from Southeast Asia through what is known as Indonesia into Micronesia. To these were added groups from Asia and the Philippines. Finally, descendants of these predominantly Southeast Asian people move out of Micronesia into Polynesia.

According to one of the many theories, the people we know as Polynesians gathered first in the Tonga-Samoa area in about A.D. 300. From there they moved to the surrounding islands. In time -- probably about A.D. 1000, another centre developed farther east in the Tahiti area. From there people moved to Hawaii in the north, Easter Islands in the east, and New Zealand in the south.⁷

The Emergence of the Pacific Island States

After the territories of the Pacific were acquired by the contesting foreign powers, great emphasis was placed on establishing law and order, putting an end to intergroup fighting, and inducing people to settle their differences according to the legal codes introduced by the new administrators. This was seen as part of the "Europeans' civilising mission" in the islands. A respect for European ideals of law and order seemed essential if Europeans were to live there, to grow crops there, or simply to trade there.⁸

In the smaller islands this presented a great problem, but in the larger islands and island groups the process was more difficult and took much longer. In the Melanesian Islands in particular, the task of imposing and enforcing laws was made more difficult by several factors -- the rough and broken terrain, the fact that the people lived in small communities scattered over large areas, having little contact with one another, and the fact that they spoke many different languages.

In the Melanesian Islands months of arduous travel on foot were necessary in order to make the first contact with only a relatively few people. These ini-

⁷See, *Land and Peoples*, vol. 2 (Grolier Incorporated, 1981), pp. 500-532.

⁸*Ibid.*

tial contacts had then to be followed up over a period of years by further contacts before it could be claimed that the administration had established any degree of respect for its new system of law and order. In such places as New Guinea, the Solomon Islands, and the New Hebrides, this process took many years.

This process was necessary as a first step if the people of the Pacific were to take their place in the modern world. However, it had the effect of undermining the old system of leadership and authority. It also undermined the existing systems of law and justice. One of the main criticisms leveled at the colonial administrators has been that they failed to replace the old system with a new one with which the people felt they could identify. It seemed that for too long the new system remained something foreign that had simply been imposed from outside and always in "top-down" direction.

But the establishment of law and order by the new administrators brought about changes in the economic life. In many of the islands there had once been a single economy that proved to be able to provide food and shelter for the community. There were two economies thereafter. The old one still existed in varying degrees. The new economy was run by the Europeans and to a lesser extent by Asians. The island people hardly took part in the European-run economy. This was an economy based on plantations or mines owned and run by Europeans. Asians participated as traders. The local people participated only as the providers of the land and sometimes as labourers.

The Europeans, in addition to growing and producing copra, began to experiment with other tropical products, such as rubber, sugar, coffee, cacao and tea. The large-scale production for export of such tropical fruits as bananas and pineapples was also begun. But the planters met with many difficulties. There were problems of terrain, climate, and soils. Even if they were able to overcome these, there were the problems arising from the long distance the products had to be shipped to reach the world markets. Another problem was the fluctuations in the prices that buyers were willing to pay for these commodities. Up until World War II production in most of the islands was limited to sugar and copra.

The other main economic interest of the European was in minerals. Gold was found in New Guinea and was the mainstay of the economy before World War II. Gold was also important in Fiji. In New Caledonia large deposits of nickel and chrome have been worked successfully since the early years of this century.

Both these economic activities on the islands and the commercial and trading activities entailed required skills or experience that the islanders did

not have. The Europeans have overcome this problem first by importing labourers from Asia -- Chinese, Indians, Philipinos, and Indo-Chinese. When this practice became too expensive or when governments prohibited it, the Europeans were forced to turn to the local population to take up steady employment. In this way the work that had to be done on a plantation was divided up into a series of minor and simple tasks that required a relatively large number of labourers to carry out. As an inducement to work for money, governments imposed head taxes on every able-bodied male, which had to be paid in cash.

Since World War II the pace of change in the Pacific has increased. The people of the islands have become increasingly aware of their problems and have been pressing for changes. The administering countries have had to provide capitals for services in the territories they administer. They have placed more of the responsibility for government in the hands of the islanders themselves. The pressure of world public opinion has become a factor that cannot be ignored by the countries involved. Events that take place in the Pacific are recorded in the world's newspapers. The situations in the territories of the Pacific are regularly examined in the United Nations, which recommends new policies and courses of action.

As a result, the economies of many of the islands and groups have become more diversified. Per capita income has risen. New crops have been tapped. At the same time medical, health, and educational services have been expanded. Many hospitals, schools, and universities have been built and staffed.

These economic and social progresses supported rapid developments in the political field. The Hawaiian Islands became a State of the United States in 1959. Western Samoa and Nauru achieved their independence in 1962 and 1968. Fiji and Tonga became independent in 1970; Papua New Guinea in 1975; Salomon Islands in 1978; Kiribati (formerly the Gilbert Islands) and Tuvalu (formerly the Ellice Islands) in 1979; and Vanuatu (formerly New Hebrides) in 1980. The Cook Islands and Niue have full internal self-government in association with New Zealand; and the French territories are Overseas Departments of France. Within the United States Trust Territory of the Pacific Islands, the Palau Islands, the Marshall Islands, and the Federated States of Micronesia want independence, except for military affairs. The Northern Mariana Islands voted to become US Commonwealth.

With this stage of development, the Pacific Island States participate actively in the world politics of today to improve their existence as members of the modern international community.

TOWARDS THE PACIFIC AGE

Contemplating the rapid progress of the Pacific Island States up to the beginning of the 1990s, John Miles (Senior Political Affairs Officer of the United Nations) observes that all Pacific Island Communities, whether they are in Micronesia, Polynesia, or Melanesia, face the problem of an old system that is crumbling or has almost disappeared and the development of a totally new political and economic system, which has only partially replaced the old. Every individual and family unit is required to adjust to the new way of life.

How quickly change and the adjustment to change will take place, and whether there will be an atmosphere of peace and harmony between one group and another, between one community and another, between islanders and Europeans, all this depends on the efforts made by the people of the Pacific themselves. Progress and harmony also depend on the degree of assistance the Island States receive from the World's wealthy nations, particularly from their close neighbours within the Pacific realm itself.

Although the trends in development of the Pacific promise a bright future, there are still some problems to be solved immediately.

In *Polynesia*, the prospects for economic development are really bright. Copra is an important product there, but there are also others, such as sugar, tropical fruits, and vegetables. Tourism has also become an established and lucrative industry in such places as Hawaii, Samoa, and parts of French Polynesia.

This firm economic base on the islands of Polynesia is coupled with the fact that the population is concentrated on fewer islands that are closer together. This has helped the people in Polynesia adapt their social and political life to the demands of the modern world more quickly. It was the Polynesian Island Groups such as Hawaii, Western Samoa, and the Cook Islands that were the first to achieve independence or self government.

In *Micronesia* the possibilities of economic development are not so bright. The low coral atolls have generally poor soil and possess no mineral resources. Their economies depend almost entirely on copra. For the future they will probably have to rely on the development of fishing and tourism. In Kiribati the prospects for living are so grim that the possibility of moving the people of some of the islands to other parts of the Pacific has been explored. These problems are so fundamental that there is little hope for the future until they are solved. The fact that the islands of Micronesia are so scattered makes communications difficult and prevents the development of a sense of unity. This, in turn, delays political and economic development.

In *Melanesia* the situations are quite different. Fiji has a good potential economically. Sugar and coconut products are important, timber is abundant, and even though gold mining is declining, there is still a bright prospect for mineral development.

In the remaining parts of Melanesia -- Papua New Guinea, New Caledonia, the Salomon Islands, and Vanuatu -- one of the major problems facing the people is how to develop a sense of unity and nationhood among themselves. Even now the people of the various parts of Melanesia still often have only limited contact with one another. Most people in these areas still think of themselves as members of a village or family rather as "Salomon Islanders" or "New Caledonians." The formation of national legislatures for which representatives from all over the island group are elected, helped to introduce the idea of a wider unity, even to villagers in remote regions.

All these problems have already been identified by their leaders. And looking back on the history of their region, they still find various traces of the great migrations of their ancestors in the distant past, as they entrusted themselves to the winds and the ocean currents to cross the rough waters. In regions widely separated by the reaches of the ocean, there are not a few languages, dwellings, tools, folklore and legends that share a common origin. In that sense, they are convinced that the peoples of this region already have a basis for sharing a sense of affinity which should be developed into a sense of unity.

Yet, at the same time, it is true that in the past ages this vast Pacific also hindered free exchange among themselves. In every corner of the Pacific they find that peoples differing completely in language, religion, and ways of life have independently created the distinct cultures in keeping with their environment. Even after mankind began to cross the ocean on the transportation systems created by modern civilisation, the countries of the Pacific Region remained "distant lands" to each other.

However, with the recent remarkable progress in transport and communications, made possible by modern advances in science and technology, people now cross the Pacific by jet in about 10 hours. Communication satellites allow people to converse instantaneously over great distances, while larger container ships transport huge cargoes across the ocean in a few weeks. Isolation by distance has indeed become a thing of the past, and as a result, the peoples of the Pacific, always rich in enterprise have unleashed a flood of exchanges. Despite their political, economic and cultural diversity, the Pacific Nations are deepening their mutual interdependence and understanding at an ever-accelerating rate.

Mankind today is standing at a historic crossroad, a moment in history when many civilisations encounter each other and come together in the Pacific. Mankind is witnessing the birth of a civilisation fertile with the vitality that nurtures ideas and creativity, precisely because it is so rich in diversity. This is really the beginning of the Pacific Age.

The Pacific Age is an age that will open the doors of the 21st century. In this vast region, joined by an ocean that covers some 50 per cent of the ocean surface of the planet, there are bountiful human resources. The Gross National Product (GNP) of the Pacific Region now constitutes a considerable share of global GNP, and the region is blessed with abundant food and natural resources. Today, even the Pacific Ocean itself has come to be seen as an inexhaustible treasure trove of resources. The Pacific Region, among all, is displaying the most dynamic growth on earth.

These facts suggest the great future potential of the Pacific. It is no exaggeration to say that the success or failure of Mankind in making these possibilities real, will shape the future of development, not only in the Pacific, but also throughout the entire world.⁹

The Discovery of the Pacific Ocean Resources Base

Nearly half the world's human being, about 2,100 million people, live in the Pacific Basin or around its rim. They are divided into 53 nations and semi-autonomous territories, ranging in population size from such "mini-states" as: Niue, Nauru, and Norfolk Island, which amongst them have less than 16,000 inhabitants, to 5 of the world's six largest countries -- China, USSR, USA, Indonesia and Japan. These giant nations contain 80 per cent of the Pacific population and about one-third of the entire population of the earth.

Of the 53 national entities in the Pacific, only 6 -- Japan, USSR, Australia, New Zealand, USA and Canada -- are classified by the United Nations as "developed" or "industrialised countries." The remaining 47 are euphemistically called the "developing" ones with the notable exceptions of Singapore and Hong Kong. They exist at various levels of poverty and economic backwardness.

For both "developed" and "developing" countries, opportunities exist for greater utilisation of ocean resources.

⁹Zenko Suzuki, "The Coming of the Pacific Age," Address at the East-West Center, Honolulu, June 16, 1982.

Map 2.

NEW PERSPECTIVES ARE REQUIRED BY POLICYMAKERS RESPONSIBLE FOR THE FORMULATION OF SOUND MANAGEMENT STRATEGIES FOR THE OPTIMAL UTILIZATION OF OCEAN RESOURCES.



Source: Mark J. Valencia, James Barney Marsh and John Berdach, "Marine Resources, Extended Maritime Jurisdiction and Development," A Research Prospectus.

These opportunities are especially significant for the Island States and Territories of the Pacific. But they are also important for the bordering continental nations. For both groups of countries, improved marine technology and better scientific understanding of the ocean realm can bring great benefit. Because of the vast size of the Pacific Ocean and the interconnectedness of all parts of it, scientific understanding will be fostered by international co-operation in ocean exploration and exploitation among all the Pacific States. In marine technology, shortages of capital and technically-trained manpower will severely constrain the "developing" countries unless technical assistance is provided by the industrialised nations.

Based upon the new Law of the Sea, promulgated within the UN Convention on the Law of the Sea 1982, the jurisdiction of Coastal and Island States over ocean areas has been immensely enlarged. It is now generally accepted that the territorial sea over which a coastal state exercises absolute sovereignty will extend 12 miles beyond its coastline. Each coastal state and each inhabited island will also have jurisdiction over all marine resources in an "Exclusive Economic Zone" (EEZ) extending out to a distance of 200 miles (370 kilometres), and jurisdiction over the resources on and under the seabed for a further distance which may be as much as 150 miles beyond the EEZ.

For states consisting of numerous islands such as the island states of the Pacific or the archipelagic states within ASEAN such as Indonesia and the Philippines, the "ocean waters" inside a line drawn around the outermost islands are considered part of the "archipelagic territorial sea" over which the state has sovereignty.

As can be studied on the Map 2, about a third of the entire area of the Pacific Ocean and its bordering seas, north of 55° South latitude is contained within the EEZ of different Pacific States and Territories.

Within the territorial sea and EEZ, marine scientific research can be conducted only with the consent of, and effectively under the conditions laid down by the government of the coastal state or island. A government will be deemed to have given its consent if it has agreed to a programme of ocean research sponsored by a "competent international organisation" such as the WMO or IOC.

Co-operation in Marine Exploration and Exploitation

As we are now in the year 1986, over a century has passed since "Challenger I" circled the globe from 1872 to 1876, while engaged in deep sea

exploration. The wake of "Challenger I" extended to the Pacific, where it confirmed the distribution of: (a) Red clay; (b) Calcareous ooze; (c) Siliceous ooze; and (d) Manganese Nodules.

From the time of "Challenger I" until the outbreak of World War II, numerous expeditions have been set out and the facts surrounding the marine geology of the Pacific Ocean has become gradually clearer as a result. From 1918 through 1944, the Japanese Hydrographic Division conducted surveys of the Coral Reefs around a number of islands in the South Pacific.

The Dutch ship "Siboga" carried out geological survey of the seabed off eastern India during the years 1899 and 1900. In 1929, the "Carnegie" collected materials from the floor of the deep Pacific.

The decade of the 1930s saw the inauguration of the "Scripps Institute of Oceanography" on the West Coast of the United States. The world of Professor Shepard, Dr. Emery, Dr. Dietz and others abroad the "E.W. Scripps" did much to advance the study of the geology of the Pacific Seabed off the American West-Coast.

In 1939, Professors Revelle and Shepard discovered submarine canyons in the deep seabed off the coast of California.

It goes without saying, that normal research and survey operations suffered a decline during World War II. During this time, however, flat topped seamounts were discovered in the Central Pacific by the American Professor Hess. In Japan, Professors Tayama and Niino had been active in the pre-war years in the study of the configuration of the seabed and in marine geology, which they continued after the war.

But the activities that took place up until this time could not be termed "systematic, consistent geological research of the seabed." Rather, they were usually carried out as "national projects" by individual nations.

This situation changed radically after World War II. The appearance of large-scale measuring equipment, the beginning of "international co-operation," advancement in observation technology and other developments permitted the study of marine geology to achieve rapid progress.

The Swedish ship "Albatros" circumnavigated the earth from 1947 to 1948 conducting an exploration of the deep-sea. The Danish ship "Galathea" followed, circling the globe from 1950 to 1952 while exploring the deep-sea. Its principal aim was to search out living things that inhabit the ocean's depths.

During the same period, the "Challenger III" set out on a voyage which lasted from 1950 to 1952. It travelled around the world conducting surveys of the deep-sea, part of which consisted of surveying the geological composition of the sub-seabed by means of artificial seismic waves. Bottom samples were also taken. The result was the discovery of the existence of accumulations of deposits averaging some 200 metres high lying upon the basalt.

Since 1950, the "Scripps Institute of Oceanography, University of California" has made an energetic use of its large fleet of research ships including: (1) the "S.F. Baird"; (2) the "Horizon"; and (3) the "Argo," to conduct research surveys over a very wide area of the Pacific.

In the years that followed, the "Vema" and the "Conrad," both belonging to Columbia University in the United States, made frequent visits to the Pacific, conducting research that has done much to advance our knowledge on the potentials of the seabed. Since 1949, the Soviet Union has used the ship "Vityaz" for its deep-sea Pacific research, also conducting surveys over a very wide area. The work of Dr. Udintiev on the study of ocean floor has brought forth many interesting results.

In Japan, research on deep-sea began in 1959 with the Meteorological Agency's "Ryufu Maru." This led to Tokyo University's "Hakuho Maru," inaugurated in 1962. The "Umitaka Maru" of the Tokyo University of Fisheries has been continuously conducting research on seabed geology, as have the "Takuyo" and the "Shoyo" of the Hydrographic Office of Japan. The geological survey of Japan has the "Hakurei Maru" under charter and carries on geological surveys of the deep-sea, including the deep-waters around Japan.

China also operates a good number of research vessels, and there is every indication that China will continue to advance into the field of Pacific Ocean research in the years to come.

This has been a somewhat abbreviated list, but it does illustrate how almost every nation in the Pacific Area maintains research and survey vessels, and uses them to study the seabed as the need demands.

As a result of the above mentioned research and surveys, it can be stated that the continental shelf and ocean floor of the Pacific are known to be deposited with various kinds of mineral resources, which will serve to a large extent in the economic and industrial development of the countries of the Pacific.

Deposits of oil & gas have been discovered off the Western Pacific coast of the United States of America, off Alaska and Indonesia. And these resources are being actively exploited. Recent geophysical investigation indicated a high potential of oil in the South and East-China-Sea as well as in the Yellow Sea, and the Sea of Okhotsk and Bhering Sea are awaiting investigation.

Placer minerals such as gold, tin, black-sand and illuminite are known to exist from the coast of Alaska, Malaysia and Indonesia, and along the coast from Japan to the Philippines and along the eastern coast of Australia respectively. Deposits of phosphorite which play a vital role in the future production of food are known to be on the Pacific coast of the United States of America.

In the deep-ocean floor of the Pacific, large amounts of manganese nodules which contain nickel, cobalt, and copper in addition to manganese (= polymetallic mineral) have been prospected so far and this mineral resources will initiate a new ocean industry when its actual exploitation is realised.

The exploitation of marine minerals is even now contributing to the improvement of the international economic balance of some nations. In Indonesia, oil is a major source of her international income. In Malaysia, tin mining, including recovery from the coastal area, is one of her big primary industries. In Alaska, the oil industry is a local key business together with the fishery industry.

With regard to manganese nodules, it has been reported that nodules are composed of fine-grained oxide material and are distributed widely over the floor of the Pacific Ocean. They vary widely in their composition as well as in their physical and chemical properties. There is now considerable commercial interest in exploiting them for their component metals, chiefly: (a) copper; (b) nickel; (c) cobalt; and (d) manganese.

Only about 3 per cent of the total sea-floor has been extensively surveyed. However, intensive exploration in recent years has revealed enough about the extent and location of deposits to permit commercial exploitation of nodules. Potential deposits exist in the Pacific Ocean, followed by that of the Indian Ocean, while none has yet been located in the Atlantic Ocean.

Various commercial groups have completed the exploration or prospecting phase, and are now evaluating potential mining sites. Site evaluation focuses on estimating the average concentrations of the constituent metals in nodules and on the nodule density per unit area of the mine site.

There is a great interest in the Central Pacific Region, which contains extensive concentration of higher value nodules. Within this region, some evidence suggest that nodules with the highest potential value are concentrated in a belt between: "6°N - 20°N latitude," and extending between: "110°W - 180°W longitude."

Another "prime area" of about 3,5 million Km² has been found in the North Pacific between: 7°N - 15°N and 120°W - 155°W, laying between the Clarion and Clipperton fracture zones. Another much more smaller "prime area" in the North Pacific is found "to the South-West of Hawaii" which is only about 0.8 million Km².

Although a mirror image of the Clarion-Clipperton "prime area" might be expected to be present in the South Pacific, the area in a corresponding position relative to the equatorial zone of high productivity is restricted by the presence of part of the East Rise and the Marquesas and Tuamotu archipelagoes; nevertheless there may be about 1 million Km² of "prime area" in the South Pacific.

Some high grade nodules have been recovered from the floor of the Indian Ocean (in a position that may correspond to a zone of high productivity south of the Equator), where there may be about 0.5 million Km² of prime area.

Although more information is published on nodules in the Clarion-Clipperton "prime area" than anywhere else, it is also very sparse. About three-quarter of the nodules in this area may be above a cut-off 1.71 per cent combined Ni and Cu, and this grade may be combined with a minimum abundance of 5 (wet) Kg/M² in about one-third of the area (1.2 million Km²). If it is assumed that the proportion is the same in all "prime areas," then "first generation nodules" would be present in an area of very approximately 2.2 million Km².¹⁰

CONCLUSION

After having followed the different stages of development of the Pacific Ocean up to the present, we have to acknowledge that:

1. The Pacific Ocean is the largest ocean on the globe. The surface area of all the oceans on the globe comprises about 71 per cent of the Earth's surface

¹⁰"The Ocean Association of Japan," Proceedings of the 6th International Ocean Symposium, Tokyo, 1981 (summarised).

area, while the area of the Pacific Ocean accounts for about 46 per cent. In term of the total ocean volume of 137 million cubic kilometres, the Pacific Ocean comprises about 51 per cent with a volume of 70.8 million cubic kilometres. If the average altitude of "dry land" is 875 metres, the average depth of the ocean is 3,795 metres, while the averages depth of the Pacific Ocean is 4,282 metres -- thus a full 490 metres deeper that the average depth of all oceans together. This is due to the fact that the frequent "zonal deeps" in continental slopes which from areas called "trenches" are distributed mainly in the area encompassing the Pacific. The world's deepest ocean area is: "The Pacific's Mariana Deep," with a depth of: 11,034 metres.

2. Nearly half of the world population, -- about 2,100 million people -- live in the Pacific Basin or around its Rim, divided into: 53 States and Semi-autonomous Territories. There are 6 "developed" and 47 "developing" countries. Among the 47 "developing" countries there are: 14 newly independent Island States which together with 9 Semi-autonomous Territories constitute the Pacific Island Community, usually grouped into three ethno-geographically designed realms, i.e.: (i) Polynesia; (ii) Micronesia; and (iii) Melanesia. Together with Indonesia developing its Nusantara Outlook, the three ethno-geographically designed realms fill the concept of: "Tagaroa" embracing both the Pacific and the Indian Oceans.
3. On April 30, 1982 the UN-Convention on the Law of the Sea was adopted which was later on signed by 117 States at Jamaica on December 10, 1982. The UN-Convention on the Law of the Sea grants to Coastal and Island States the jurisdiction over: (i) a territorial sea extending to 12 miles beyond their coastline; (ii) an EEZ extending out to a distance of 200 miles from their baseline; and (iii) a continental shelf of 200 miles breadth, which may be further extended for a further distance as much as 150 miles beyond their 200 miles breadth. Accordingly, about a third of the entire area of the Pacific Ocean and its bordering seas north of 55° South latitude is contained within the EEZ of different Pacific States and Territories. These provisions of the new Law of the Sea ensure that the future progress of oceanographic exploration and exploitation will depend more strongly than in the past on international co-operation.
4. Viewed from the point of natural resources, the Pacific Ocean seems to be bestowed with a significant degree of richness, both with regard to its living as well as its non-living resources. In the field of living resources, according to the FAO fish-catch statistic for the individual sea areas (FAO Statistical Area) during 1976-1979 among the sea areas in which the catch greatly increased, were: (i) the North-West Pacific (which applies to the East Asia area); (ii) the Western Central Pacific (which includes the Southeast Asia

area); (iii) the Eastern Central Pacific (which includes Mexico and Central America); and (iv) the Southeast Pacific (that is, the areas off the coast of Peru and Chile). Among the States and Territories in which the catch quickly increased during 1977-1979 were: Canada, Mexico, Argentina, Iceland, and Oceania, while among the States in which the catch increased during 1976-1979 were: the United States, Chile, Brazil, and Indonesia. These States, all have vast 200 mile EEZ, are promoting fisheries and have been claiming the rights of the Coastal States from an early stage. It will be necessary to carefully watch the influences of the 200 mile EEZ system on the world's fisheries for a long time before drawing any conclusion. However, it is clear that the Catch has increased in the countries which have profited from the expanded rights of the Coastal States based upon the EEZ, while the Far-sea Fisheries have suffered damage due to enforced restriction based upon the EEZ rights and jurisdiction.

5. With regard to the prospecting richness of the Pacific on non-living resources, a special attention is focused at the existence of manganese nodules (= polymetallic minerals). On the basis of sparse and unreliable data, it has been suggested that about 15 per cent of the total area of the world's ocean floor is occupied by Nodules. By applying the methodology of "prime areas," defined as those in at least part of which there are abundant nodules with significantly higher grades than elsewhere and that they are the areas of the deep-seabed where the environment is favourable to the formation of "high-grade" nodules, a kind of "mine site" is determined. The distribution of grade and nodules population indicates that "prime areas" account for only a small proportion of the seabed and that the largest "prime area," about 3.5 million Km², has been discovered in:
 - a. North Pacific, i.e. the Clarion-Clipperton Area (7°N - 15°N and 120°W-155°W);
 - b. North Pacific to the South-West of Hawaii, about 0,3 million Km²;
 - c. South Pacific, a mirror image of the Clarion-Clipperton "prime area" in a corresponding position relative to the equatorial zone of high productivity but restricted by the presence of part of the East Pacific Rise and the Marquesas and Tuamotu archipelagoes, about 1 million Km².

Based upon the above mentioned data, it has been suggested that:

- a. It is most likely that there are "1.5 trillion tons in the Pacific alone." (The total quantity in all oceans is likely to be nearer 500 billion [wet] tons).
- b. It is possible that between about 15 and 25 billion (wet) tons meet the criteria adopted to satisfy the economics of "first generation" deep-sea mining operations.

- c. If the estimate of the potentially recoverable reserves of nickel, copper, cobalt, and manganese are of right orders of magnitude, then nodules would yield neither enormously more nor enormously less than the reserves on land.

Based upon the above mentioned data, it has been acknowledged that mankind now is witnessing the outbreak of the Pacific Age.