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FOR THE SOUTH PACIFIC

Erected stone coins on Yap, the Caroline Islands.

(Photo: Kazutaka NAKANO)

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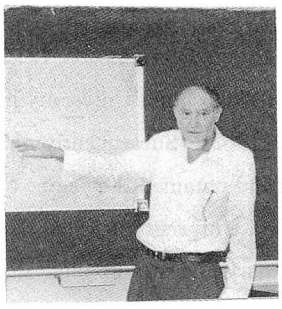
Front: Dancing girls in front of erected stone coins on Yap.

(Photo: Kazutaka NAKANO)

Asia and Oceania

Ron CROCOMBE

Visiting Professor, Kagoshima University Research Center for the South Pacific



For the past 200 years the main external relations of the peoples of Oceania have been with Europe and North America. For several decades this has been changing due to a growing proportion of interaction with Asia in trade, investment, aid, political interaction and a range of other activities. The legacy of English language (and for some French or Spanish), Christian religion, and many elements of Euro-American culture mean that there is inadequate awareness in either the Pacific Islands or Asia of the other. Nor is there adequate preparation for the fact that interactions with Asia will be the dominant external contacts for Oceania in the 21st century. It is therefore in the interest of all concerned that the relationships be better understood.

For several decades I have advocated that more Pacific Islands students study in those nations of Asia which are of most significance to Oceania, in order to acquire language and an understanding of the social, political and economic contexts, and to make personal contacts. I have also advocated, with little result, more emphasis on Asia in Pacific Islands curricula in schools and universities, and in research, publication and media. With the Pacific Islands being so small in population and economic power, it is also important for them to enhance awareness of Oceania in Asia.

Japan interacts with the Pacific Islands, on most criteria, on much the largest scale of any Asian nation. And within Japan, only Kagoshima University has a Research Center for the South Pacific. It was therefore a wonderful opportunity to be invited to the Center to begin work on a book on *Asia and the Pacific Islands.* In the course of research at the Center I also visited several other parts of Japan, presented some lectures and seminars, edited some papers for colleagues in Japan and abroad (including two Ph. D. students I supervise in the South Pacific), and was able to assist some Japanese students and academics who study in or about the Pacific Islands. The experience should also enable me on my return to the South Pacific, to facilitate interaction by South Pacific academics, students and media personnel with Japan and its neighbors.

The Kagoshima University Research Center for the South Pacific plays a vital role in promoting academic awareness of the South Pacific within Japan (and within Asia more broadly, for its publications are widely read), and in widening research opportunities and horizons for South Pacific people. It is understood that the Research Center completes its ten-year funding contract early in 1998. It is very important for the interests of both Japan and the South Pacific that the contract be renewed and the activities expanded.

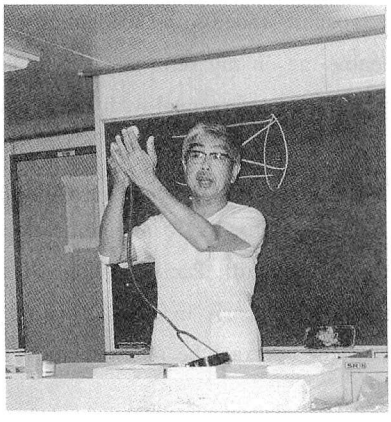
Obituary

Professor Shin-ichi TERASHI

Dr. Shin-ichi TERASHI, a professor of the Kagoshima University Research Center for the South Pacific, who had been suffering since 1992, passed away in peace at home on October 12, 1996.

He was born in Fukuoka Prefecture, Japan, on February 17, 1935. He graduated from the Faculty of Medicine of Kagoshima University in 1961 and became a qualified physician in 1962. Subsequently, he underwent academic training as a pathologist and obtained the degree of M. D. at the Faculty of Medicine of Kagoshima University in 1966. He was appointed as a Research Associate at the Faculty of Medicine of Kagoshima University in 1966 and promoted to Associate Professor of Pathology there in 1974. While he was working for the Faculty of Medicine, he published a great number of papers concerning various aspects of pathology.

In 1982, he became a professor of the Kagoshima University Research Center for the South Pacific (KURCSP). Since then, his academic interest was focused on the epidemiology of Adult T-cell Leukemia /Lymphoma in the South Pacific region. He organized an epidemiological survey team into this disease and was himself engaged in many field surveys in Fiji, Solomon Islands, Papua New Guinea, the Federated States of Micronesia, Belau, and Western Samoa. He was always trying to move forward the frontiers of academic knowledge closely related to the welfare of the inhabitants in the South Pacific. In addition to the above-stated academic career, he was designated to be the Director of the KURCSP in 1990 and made strenuous efforts for distinct improvements in its activities, conditions, and circumstances for his two-year term of office as Director. His contribution to the development of the KURCSP was remarkable. We sincerely regret his passing.



The late Professor TERASHI giving a lecture on first aid treatments as the ship doctor of the survey vessel chartered by the KURCSP on the way to Papua New Guinea.

Colloquia

In addition to Research Seminar and Symposium Series, the Kagoshima University Research Center for the South Pacific (KURCSP) officially began, in 1994, to support another series of meetings for academic discussion called "Colloquium". The subject or head title of a colloquium is rather comprehensive as shown below. It is to be conducted regularly once or twice a year by a number of core staff and other participants. One meeting consists of a few talks about more specialized themes related to the series subject and deep discussion concerning those themes. Ideally, the time allotment at meetings ought to be fifty-fifty for talk and discussion. Each colloquium aims to stimulate further the academic activities of the staff of the Research Center by means of discussion among the frontier researchers. For thorough discussion, a theme reporter is expected to prepare and send one's full text to all the participants-to-be one week or so before the meeting day. Two series of colloquia under the following head titles have been held:

1) Conservation of Tropical Forests

A preliminary meeting for this series was held on January 24, 1994. On this occasion, Visiting Prof. John R. FLENLEY (KURCSP) and Associate Prof. Ryuichi WATANABE (Shinshu Univ.) respectively reported about the present situations of tropical forests and environmental education for forest conservation. The first official meeting was held on December 19, 1994. The common theme at this meeting was swidden cultivation. First, Prof. Kazutaka NAKANO (KURCSP) talked about the forest ecological aspect of swidden cultivation particularly concerning Southeast Asia and the South Pacific. He emphasized the importance of ecological investigation as to hampering causes of the recovery of forests in fallows. Based on his field surveys, he exemplified typical cases in which fallow forests did not recover. Subsequently, Associate Prof. Makoto INOUE (Univ. of Tokyo) reported his own field surveys on the change in the mode of swidden cultivation by an ethnic group, whose people emigrated from an original and mountainous region in East Kalimantan, Indonesia, down to even the suburban areas near the eastern coast of Borneo. He also analyzed the natural and social factors of swidden cultivation which are related to the devastation of natural forests. Both reporters agreed that, except some special cases, the original mode of swidden cultivation itself is not the direct cause of the destruction of tropical forests, and that recent changes of social circumstances forced the swiddeners to adopt destructive modes of cultivation.

The second meeting was held on December 15, 1995. The reporter on this occasion was Associate Prof. Eiji SUZUKI (College of Liberal Arts, Kagoshima Univ.), the title of whose talk was "Forests and People in West Kalimantan". After explanations of the institutional aspects of forests, inhabitants' and enterprises' exploitation of forest products, and present situations of swidden cultivation there, he showed his own data concerning forest vegetations and quantitatively compared the species diversity of various types of forest stands there including reforested and fallowed ones. Most of those forests indicated much higher values than natural forests in southern Japan.

Throughout the colloquium of this subject, the number of the participants was more than ten, and we greatly enjoyed animated discussions after each talk.

2) Formation and Development of the Nusantara Maritime World

On March 5, the first meeting of another colloquium in our series was convened at the Center. This

colloquium looked into the premodern history of maritime Southeast Asia from a fresh viewpoint by means of the regional concept of the Nusantara maritime world.

The word nusantara is a combination of the Malay nusa and the Sanskrit antara, meaning "archipelago", which appeared in a 14th century Javanese chronicle. In the chronicle, the word refers to the islands which functioned as suppliers of goods to the powerful kingdom of Majapahit on Java. In this colloquium, however, the word was used to denote the maritime world of the Malays in its broadest sense. Geographically it encompasses the seas of present Malaysia and Indonesia, that is, from the strait of Malacca to the southern half of South China Sea, through Java Sea to Banda Sea to the east, and Sulu Sea to the north. This region was not only for the ethnic Malays but also for other Malays such as Javanese and people from abroad such as Indians, Chinese and Arabs who became major players in the exchange of goods, people and information. Two specialists were invited to exchange and share ideas and opinions with researchers at Kagoshima University. Associate Prof. Sumio FUKAMI (St. Andrew's Univ.) gave a talk entitled "Structural Change of the Nusantara Maritime World: A Point of View from 12th to 14th Centuries Chinese Literature" in which he presented an overall picture. Ms. Hiroe FUKUSHIMA (Osaka Univ. of Foreign Studies) talked on "Ships in Classical Malay Literature". She analyzed two well-known classical Malay chronicles and demonstrated that three types of ships were distinguished by the Malays according to their place of origin.

Following the success of the first colloquium meeting, the second meeting is being planned to be held in year 1997.

Research Seminars in 1996

January 22, 1996

1. Some New Information about Dong Son Drums Discovered in Lao Cai Town, 1993

Pham Minh HUYEN

National Institute of Archaeology, Vietnam

In Lao Cai town between January and July, 1993, five groups of archaeological objects came to light, including 19 bronze drums. All the drums are Dong Son drums, or Heger Type I. Through classification of these drums we can discover their equivalent points of closeness with other known drums. They can be divided into three styles:

— Dong Son style

— Shizhaishan style

— Wanjiaba style

Accompanying artifacts of the 19 bronze drums were exotic, belonging to the late Western Han or to the early Eastern Han eras. In general, the latest of these drums dates to about the first century BC to the first century AD.

2. Chang Artifacts Found in Phung Nguyen Culture (Early Bronze Age in Vietnam)

Diep Dinh HOA

National Institute of Ethnology, Vietnam

Chang artifacts are characteristic of the Shan Yin Dynasty (2000 BC); these have been found in Vietnam, indicating cultural interaction between China and the ancient Viet (Yue) people.

February 5, 1996

Application of Remote Sensing Technique in Agriculture

Etsuji ISHIGURO and Muneharu SATO

Faculty of Agriculture, Kagoshima University

Remote sensing is the science and technology by which the characteristics of objects of interest can be identified, measured or analyzed without direct contact. Cameras or scanners are used to detect the electromagnetic radiation reflected from an object. Satellites are major platforms to carry sensors. The development of sensory techniques has greatly contributed to the growing use of remote sensing in various fields. In this study, satellite remote sensing was applied to estimate the yield of rice and the amount of volcanic ash deposits.

Five categories (rice paddy field, town, upland field, forest, and river) were surveyed in Hishikari Town, Kagoshima Prefecture. The data of Landsat-5/TM obtained from 1986 to 1990 were used. Band ratio index, Band-2/Band-1, yielded the best result. It identified the areas of paddy rice fields with the accuracy of over 85%.

Spectral reflectance of rice canopies were measured using spectroradiometer in visible to near infrared region. Then an index based on the spectral reflectance was developed. The index demonstrated the capability to estimate the yield of rice with reasonable accuracy. Attempts were made to obtain a reliable model representing the relationship between the yield/1,000m^2 and the index. As a result, it was possible to estimate the yield of rice using the index.

We also proposed a model to estimate the areas contaminated by volcanic ash as well as the amount of the deposits. The images processed using Landsat-5/TM data based on the model demonstrated the potential usefulness of our method.

In 1995 a NOAA receiver and its analyzer were installed at Kagoshima University. Though further investigation is needed to put our methods to practical use, the facility should contribute to our research.

March 4, 1996

The Right to Regional Development and Lifelong Learning

Yoshinobu KANDA

Faculty of Education, Kagoshima University

In the 1986 United Nations General Assembly, a declaration on the right to development was approved. This is a new concept of human rights for ethnic and regional self-decision for people's economic concerns. This human right concept is also closely related to regional economic development, connected with the right of learning for the inhabitants in the regions. The right of learning is the core of human development. On the occasion of the seminar, from the viewpoint of the inhabitants' own right to regional development, I reported a developmental movement planned independently by farmers in Northeast Thailand. In this region, we can recognize a new movement in which the farmers intend to develop their regions based on their own planning against the impoverishment owing to large-scale exploitation for the supply of goods to developed countries and owing to the modern principle of first priority to productivity or production efficiency. The above-stated movement is aiming at sustainable development which respects the farmers' traditional culture and takes the human development into account.

March 12, 1997

Aims of the Asian Natural Environmental Science Center of the University of Tokyo

Yasuwo FUKUYO

The Asian Natural Environmental Science Center, the University of Tokyo

The Center was established in April 1995 to enhance international research cooperation on suitable use of biological productivity in accord with environmental conservation. Biological productivity, including agriculture, depends upon natural environment, which is itself preserved and maintained through biological productivity. To achieve sustainable biological production, it is important to build a sound environment and to understand the function of ecosystems. This is directly connected with the development of sustainable management methods that make efficient use of the interactions between ecosystems.

To understand ecosystems functions, we need to evaluate objectively and accurately different ecosystem types such as forests, agricultural landscapes and aquatic areas. Thus it is possible to comprehend the grade of destruction of the environment along with gaining knowledge on the kind and intensity of stresses that are imposed on plants and animals in the area. Land use skills that are in harmony with the regional environment can be systematized, and valid use of biological products developed. An environment that has been devastated needs to be restored. Several species of animals and plants adapted to live in such areas can be utilized in the restoration. In addition, it is very important to search for organisms that resist environmental stress, pathogenic microbes, viruses or pests.

In order to carry out these researches, the Center consists of two Divisions, Biological Environmental

Assessment and Biological Resources Development, each of which is subdivided into two research units, i. e. Regional Biological Assessment and Regional Resources Reassessment for the former, and Symbiotic Function and Tolerance Mechanism for the latter. The units are run by professors and associate professors who belong to the Division of Agriculture and Agricultural Life Science, and guide graduate students in the Division.

April 22, 1996

"Creations of Sea, Fish, Fish Feed, and Competent Men" in the 21st Century

— Environmental Management and Preservation of Coastal Fish Farms —

Shusaku KADOWAKI

Faculty of Fisheries, Kagoshima University

"Environment-conscious aquaculture" should be the approach to the solution of the food problem that will become serious in the 21st century. It is fundamental to avoid overfeeding, and to promote feeding techniques and fishing ground preservation to minimize self-pollution by the scientifically determined quality and quantity of feed. At present, accompanying the decrease of sardine resources, fish culture by feeding has entered the age in which feed cannot be wasted.

In coastal fish culture in future, the calculation of the quantity of feed corresponding to the standing stock of each cage and the environmental conditions of the atmosphere and sea such as weather and wind force, water temperature, dissolved oxygen content, tidal current and so on are fundamental. Therefore, I and my collaborators put the personal computer software "Kukai" for fish aquaculture management to practical use, to calculate accurately and rapidly the "proper quantity of feed" and the "cost of fish culture" for each cage. Fish culture aided by a personal computer is the management tactic that yields the minimum organic loading without wasting feed and reduces feed costs by basing feeding techniques scientifically in addition to the experience and intuition used so far.

Furthermore, in order to establish sustainable cultured fish production, I propose; 1) to investigate what components in the marine ecosystem have been damaged, 2) to develop a new aquacultural technique utilizing marine macroalgal as feed for cultured animals, 3) to establish a harmonized aquaculture among diverse animal species, and 4) to restore the balance of marine ecosystem.

In order to leave less polluted coastal environment, in which red tide is now frequently occurring as a consequence of fishaquaculture aiming only at effective fish production, to our offspring, fish farmers must be aware of the importance of the management of their own fish farms and environment preservation, and have the spirit and technology to preserve their own sea by self-help. The fish farms have to become cleaner and more productive. Now is the age in which the innovation of conscience and the introduction of technology for the management of fish farm and environment preservation for our offspring by fish farmers are necessary. When sea is supported by the various species of living organisms, and ecosystems are harmonized by maintaining the balance, the productivity of fish farms will be enhanced, and sustainable productivity at high levels might be realized.

May 11, 1996

Progress Report of the 1995 Survey of the Research Project, "Man and the Environment in Micronesia"

(The full texts of the component reports are available from the Research Center in Occasional Papers No. 30, which includes some additional reports. The titles of some papers are slightly different in the published version. See page 19 for details.)

June 24, 1996

Recovery of Tropical Forests

Hideo TAGAWA

Kagoshima Prefectural College

There are two means for recovery of tropical forests, natural and artificial. According to my experience in Kutai National Park, East Kalimantan, Indonesia, trees with large and heavy disseminules such as *Eusideroxylon zwagerii* which has adapted to produce successors only in a dark forest floor, are difficult to disperse their disseminules into lumbered areas. So the recovered forest is a little different from the preceding forest. Even on lateritic soil secondary forests dominated by Euphorbiaceae such as *Macaranga* spp. are developed except for removing top soil, but the replacement of dominants is very hard and *Macaranga* forest would exist for a long time with repeating generations. If we remove top soil, recovery will be hopeless.

Artificial recovery is a way of assisting natural recovery. In the temperate zone useful timber trees have been produced genetically for a long time, but in the tropics they have been collected only from natural forests. Nursery and testing cultivation of juvenile trees such as *Acacia, Albizzia, Araucaria, Eucalyptus, Shorea* and a few tree species were just initiated in the 1960s. Single tree species has been commonly used in afforestation in the temperate zone, but if it is applied to the tropics with high species diversity, it throws out a suggestion that it causes outbreak of noxious insects which heavily damage the trees planted. In afforestation for timer production, simultaneous lumbering and planting as we do in Japan is impossible on the lateritic soil because of extremely poor nutrients in the soil.

July 12, 1996

What Is "Wa (Harmony)" to Scientists

Hiroshi OHMOTO

Faculty of Science, Tohoku University, and Department of Geosciences, the Pennsylvania State University

Development of an important new theory (hypothesis) in science, whether natural or social science, is born from a simple question "Why can't we adequately explain a new set of data (observation) by a conventional theory?" In a society where "wa (harmony)" is considered most important, is it possible for

scientists to generate questions, to pursue them, and to develop a new theory that changes his (or her) field of science? For scientists, is "wa" in small communities important? What is the "ultimate harmony" to scientists? Why is it important for scientists to look beyond small communities and to think of the welfare of the society and the future of the human race? These questions were share with the audience.

September 30, 1996

Aoshio, Hypoxic Milky Blue-green Water

Yoshihachiro NIMURA

Graduate School of Agriculture and Life Sciences, the University of Tokyo

There are many kinds of discoloration of the surface seawater. They are roughly grouped into *akashio* (red tide), *sumishio* (clear water) and *aoshio*. The red tide is caused by plankton bloom. The clear water is mainly due to the upwelling of transparent bottom water. The *aoshio* has been observed only in Tokyo and Mikawa Bays, and is cooler and more saline than the adjacent surface water.

In summer, the surface water in enclosed bays rich in nutrients often blooms and the bottom water becomes anoxic or hypoxic due to the little vertical mixing. The sulfuric ion in the anoxic seawater is reduced in or near the bottom by the sulfur reducing bacteria, becoming sulfide ion. Although the prevailing wind in summer is onshore in the bays, the temporal offshore wind carries the surface water off and the bottom water wells up near the shore to compensate.

Both the upward radiance and the reflex ratio of skylight have a broad peak at 550nm. In comparison with the adjacent water, both the beam attenuation coefficient of *aoshio* water filtered through a 0.1-1.0 μm pore-sized filter and the concentration of suspended particles in *aoshio* water are found to be richer in sulfur and manganese. The Mie theory on light-scattering also suggests that the colloidal sulfur of the above size may cause the *aoshio* color. However, the other questions remain to be clarified in future.

October, 28, 1996

Japan and Oceania: Possible and Probable Relations in the 21st Century

Ron CROCOMBE

Kagoshima University Research Center for the South Pacific

The past 100 years are a significant factor shaping the next 100 — or at least the next generation. But they are far from the only factor. How the potentials are handled depends to a large extent on the actions of people today.

From the late 1800s Japan's technology, economy, education and population expanded. As with all peoples, this generates territorial expansion. Workers move in search of better pay and prospects, businessmen for commercial opportunity, governments to expand their power and influence. All three moved into the Pacific Islands, in competition with several economically and politically successful countries of northwest Europe (and their derivatives) which began the same process a little earlier in competition with each

other.

Of the potentials for the future, I will concentrate on several of many. First is the need for young people of both regions to mix in climates of positive mutual growth. This is happening in several fields (eg. formal educational exchanges, worker exchanges of the kind long established with Australia and New Zealand but not yet with the islands nations, creative and mutually beneficial commercial investments), but the potential is vastly greater than has yet been achieved.

Positive elements in the relationship include Japan's success (all humans are impressed by success) with consequent high income, high technology, high standards of education, health and social services, and growing awareness of it being in its own interest to know its neighbors better. Another positive potential is Japan's strong desire for support in the United Nations and other international forums (there are 10 UN General Assembly votes in the South Pacific Forum, and 16 votes in many of the international agencies such as WHO and UNESCO). Negative elements include the difficulty of learning another language and culture, the high money cost of interaction with Japan, some restrictive aspects of government and society at both ends, and the legacy of World War II. All can be ameliorated.

The main emphasis of the talk was on how the positive elements can be optimized and the negative minimized to the mutual benefit of both Japan and Oceania in the coming generation.

November 25, 1996

Environment as Seen by Scyphomedusae (Jelly Fishes)

Yoshiko KAKINUMA

Faculty of Science, Kagoshima University

Scyphomedusa living in Kagoshima Bay performs the alternation of generation and keeps a flexible variety of life with the change of different water mass. By considering the connections of these animals with their environment in terms of development, physiology, ecology and behavior, it has become clear that Scyphomedusae improve sea quality and promote the circulation of matters, such as ash deposits from the Sakurajima Volcano and artificial pollutants, and their deposition by means of mucilage. This function is unique to Scyphomedusa which demonstrates its flexibility in accordance with environmental changes.

This group of animals, rejected as valueless by human beings and harmful in the development of industry, has now been found to be useful in both natural and human related activities. This illustrates the need to study the life history of organisms and the history of nature conserving how organisms are living. Moreover, to preserve nature should be considered.

December 6, 1996

Special Open Lecture and Classical Javanese Dances

The 93rd Seminar was a special program jointly organized by the Kagoshima University Research Center for the South Pacific, the Japan Association for Southeast Asian History and the Promotion Board

for the Establishment of the National Museum of Kyushu. The program coincided with the 56th semiannual meeting of the Japan Association for Southeast Asian History.

The program was divided into two parts. In the first part, Professor Yoneo Ishii of Sophia University gave a talk on the relationship between Japan and Southeast Asia during Japan's seclusion period (see the summary below). In the second part, Ms. Sayuki OKAMURA and Ms. Kanae KUWAHARA, both trained in Indonesia, performed classical Javanese dances. The titles were *Gambyong Pangkur, Golek Ayun-ayun and Beksan Srikandhi* vs. *Suradewati.*

Gambyong Pangkur: a dance originally associated with a harvest festival. This dance symbolizes prosperity.

Golek Ayun-ayun: a little girl dreaming of her debut into society. She practices displaying her elegance.

Japan and Southeast Asia as Reflected in the *Tosen* Crew's Reports of the Late 17th and the Early 18th Centuries

Yoneo ISHII

Institute of Asian Cultures, Sophia University

After the adoption of the seclusion policy in the 1630s, the Tokugawa Shogunate continued to keep their eyes upon political developments in neighboring Asian countries and tried to gather relevant information continuously brought by the incoming Dutch VOC ships and the *tosen* or Chinese junks. They were the only two kinds of privileged foreign vessels which enjoyed the exclusive right to enter the single port of Nagasaki for trade until the 19th century, when Japan finally opened her gates to the rest of the world. The reports of these incoming ships categorically known as *Fusetugaki* are a precious source of information unavailable elsewhere for the study of Japanese external relations during the seclusion period.

The talk explored the possibility of using the *Tosen-Fusetugaki* collected in the *Kai-hentai* as one of the contemporary source materials with which to elucidate some hitherto little known aspects of Southeast Asian history and at the same time to reinforce the validity of some existing evidences of important event which took place in the region. It is also intended to invite students in the field of Southeast Asian history to further utilize these valuable documents in their study of history of the port polities which were visited by these *tosen.*

Public Lecture Series: The South Pacific

— Toward the 21st Century —

August 3 and 4, 1996

The public lecture series of the Kagoshima University Research Center for the South Pacific entitled "The South Pacific" was held on the campus of Kagoshima University during August 3 and 4, 1996. The subtitle of 1996 lectures was "Toward the 21st Century".

Although the Asian and Pacific countries have to solve many problems in relation to natural resources, environment, economy, politics, and so forth, it is generally said that the 21st century is the time of those countries. Focusing on these regions which will be the core of world development in the 21st century, the 1996 public lectures aimed to illuminate explanations for the public, based on the research efforts of the staff of this Research Center, on how the nature, culture, and society of the South Pacific has been changing and may change in future.

Besides the talk-and-showing lectures, some of which acquired a particularly favorable reputation, an attempt was made to instruct participants how to operate the personal computers to obtain information about Southeast Asia by themselves using the Internet Communication System. This was enthusiastically accepted among them as it had been as in the preceding year. As with the previous years, an hour was allotted for overall discussion between the staff lecturers and participants. During this time, deep discussions on various topics were conducted eagerly. Subjects and abstracts of the lectures are as follows:

1. Toxins of Fish and Bivalve

Akio INOUE

Kagoshima University Research Center for the South Pacific

It has long been known that many species of marine organisms have various kinds of exogenous and/or endogenous toxins. All the mechanisms of toxin production are not yet elucidated. The quantity and quality of toxins included differ according to several factors such as environment, age, food and season. Some toxins become fatal to people when ingested as in the cases of poisoning induced by Fugu (puffer fish), crabs and shellfish. The lecture was on the outline of marine toxins. Some features of two common toxins of marine origin were introduced.

Japanese are especially fond of taking Fugu as *sashimi*. Fugu toxin is known as one of the strongest natural toxins. Its chemical structural configuration has already been established. The same toxin is known to exist also among other animals such as some kinds of newts, crabs and mollusks and so on. It is very interesting this toxin has been shown to be distributed widely among diverse animals that belong to taxonomically remote classes. The Fugu toxin is thought to be produced by peculiar species of bacteria which inhabit the stomach and intestine. We must wait further studies, however, before we

can explain every mechanism of toxin production.

Ciguatera is an intoxication induced by the ingestion of tropical and subtropical coral reef fish. The toxins originate from a benthic unicellular alga and are further transferred, changing or not changing their chemical structures, to other marine animals of higher trophic levels through the food chain. The strength of toxins differs from place to place even in small areas, and in some areas every fish becomes toxic although fish have been previously taken there without any problems. The reason why the toxic alga grows abundantly, leading to poisonings, at peculiar areas and periods are not known at present. It is estimated that more than 10,000 people in the whole of Oceania suffer yearly from ciguatera poisonings.

2. The History of Exchange between Japan and the Southern Sea Area

Izumi HARAGUCHI

Faculty of Law, Economics and the Humanities, Kagoshima University

This paper focuses on the history of exchange between the most southern part of Kyushu and the southern sea area, an area between Ryukyu, China, and the Southeast Asian countries. The era extends over 300 years, from the age of civil wars to the opening of the country and the closing days of the Tokugawa government (from the mid 16th to the mid 19th century).

The era includes the introduction of firearms, Christianity, and trade with foreign countries, through the use of trading ships authorized by the shogunate. With sudden change, the era proceeds through Japan's introduction of its seclusion policy, which banned the Japanese people from going abroad. It is reported that about 10,000 Japanese people who were working actively at various places in Southeast Asian countries, called the South Seas Japan town, disappeared immediately.

Japan considered China and Holland "countries for trade", and Ryukyu and Korea, "country of correspondence". As a result, Japan had 4 limited windows to the outside world, through Nagasaki, Tsushima, Ryukyu, and Matsumae. Trade with Southeast Asian countries at that time did not exist officially and the feudal government prohibited Macao and Luzon from visiting Japan. However, there were some Chinese boats (called "Okubune" in Japanese), which left from these countries. The countries were literally called Okukuni, which meant "countries far away" which were to the south of Macao and Luzon for Nagasaki. It was through these areas that Japan unofficially allowed trade between Japan and the countries in the southern sea area via Chinese boats. Japan could keep trade relations with these so called "Okukuni" (Tongkin, Champa, Cambodia, Siam, and other places that are the Southeast Asian nations at present) while depending upon China for its trade, which also had trade relations with "Okukuni". Therefore, information about Southeast Asian countries was brought into Japan through China, via Nagasaki and Ryukyu. The trade route via Ryukyu was in the hands of the Satsuma clan and independently, the Satsuma clan could acquire information about China and the Southeast Asian countries. From that standpoint, I clarified the features of the window for Ryukyu. To better do this, the following points were explained in detail: the issuing of sealed letters by a Shogun, the relations between Yajiro

IKEHATA in Nejime and early European visitors from the South, Kichinojou OOSAKO, a trader engaged in the trade authorized by the Shogun, the connection of Satsuma and Fuchien during the period from the end of Ming dynasty to the early Ching dynasty, and the attack on Ryukyu by the Shimazu clan. After that, I presented my view concerning how Ryukyu took an important role for the Satsuma clan under the policy of seclusion and how the collection of foreign information affected the enforcement of political power of the Satsuma clan in Japan.

The 770,000 *Goku* Satsuma clan controlled the territory extending from Takaoka Town in Miyazaki Prefecture to Yonaguni Island in Okinawa Prefecture. Its territory was indisputably the south sea area of the East-China Sea Culture Zone (the sea area connecting China, Korea, and Japan). This route was an ocean route for bringing a variety of culture into Japan from the Southeast Asian countries and it had been called since ancient times "the route for rice", "the route for sea shells", "the route for medicine", "the route for oranges", "the route for porcelain", and "the route for Tsumugi and Kasuri, or silk textile". The Satsuma clan controlled a trade route for Kango trade, which meant a trade of using special statements authorized by the Shogun between Japan and Ming dynasty during the Muromachi period. It also controlled the sea area in the activity of Bahan boats during the age of civil wars. During the era when Japan applied the seclusion policy, I introduced the trade activities of Taheiji HAMASAKI, the Daitoujima expedition by Tousumi KIYOSHI in Amami, and the construction of ships and features of navigation. It was said that ships used by the Satsuma clan travelled much faster than those by other clans.

3. Virtual Trip to Southeast Asia with the Internet

Toru AOYAMA

Kagoshima University Research Center for the South Pacific

The word Internet which was still new to our ears in the preceding year has already become a house-hold one within a year. But we are still searching what really it has to do with our life. At this moment, two points need to be addressed: First, the Internet should be regarded not as an objective itself, except for those who work in computer science and industry, but as a means to provide services with which we can gather and spread information. Second, it will not displace existing means to transmit and store information but will coexist with them in the future, although it may radically change our perspective of life. In this lecture, I used three Macintosh personal computers in the classroom, which were connected to the campus network. The presentation of the lecture itself was conducted using the computers and the participants were invited to use them to collect information. The objective of the lecture was to give a better understanding about the Internet through a hands-on experience.

The first half of the lecture was allocated to explaining the minimum theoretical basis for understanding the principle of the personal computer, networking, and the mechanism of the Internet. In the second half of the lecture, the participants used the WWW to experience the feel of being on the Internet. Following the last year's lecture entitled "the South Pacific through the Internet", this year's objective was to collect information about Southeast Asia. To make the objective realistic, the participants were asked to

tackle a few tasks, which may concern the topics they are interested in.

By accomplishing these tasks, the participants came to understand that Southeast Asia has become one of the regional centers of the globe. Furthermore, the participants gain a global perception that one is connected to the whole world on the electronic network. This is the most significant result of this lecture, because the change of one's perception of the world is the real change that the Internet has brought into our life.

4. Rice Farmers in the Philippines: Increasing Overseas Workers and Consequent Change in Village Economy

Satoru NISHIMURA

College of Liberal Arts, Kagoshima University

This report is aimed to clarify how the world economic system involves farmers in developing countries. It is based on field research that the reporter conducted in a rice growing village in Western Visayas, the Philippines.

Since the early 1970's, the socio-economic structure in the village has been largely transformed due to both the Land Reform, initiated in 1972, and the Green Revolution. Some beneficiary farmers have increased their income greatly. The Sugar Boom in the neighboring island, Negros, created a substantial market for rice and accelerated their rice production. Reform in the land tenure system, productivity growth, and the economic boom created wealthy farmers, some of whom started rice trading.

Besides this, the village economy has changed as the increasing number of villagers started to work abroad. Nowadays, it is reported that more than two million Filipinos, or more than three percent of the total population of the Philippines, are overseas contract workers or seamen. The most prevalent type of male overseas workers is a construction worker in the Middle East, whereas that of women is a maid in Hong Kong or Singapore. The villagers are also beginning to use their money for educating their children and sending family members abroad to work. Many of them are borrowing the necessary money from the money lenders in the village in security for cultivation rights. The money lenders are not willing to raise the productivity of the farms gained by loaning, for they have to return the rights in a few years. They prefer to employ agricultural laborers, keeping their profit by paying low wages.

The government should take measures so that the farmers consider agricultural production if it searches for healthy agricultural development.

5. The Role of the Kuroshio in the Global Climate Change

Hiroshi ICHIKAWA

Faculty of Fisheries, Kagoshima University

The Kuroshio near Kagoshima flowing northeastward from the tropical Pacific Ocean is one of the largest oceanic currents in the world. Our present knowledge on the role of the Kuroshio in global climate change was presented in this lecture.

Our planet the earth receives much heat energy from the Sun and the greatest intensity from the Sun at the zenith, so the maximum is at

the equator and the minimum at the north and south poles. This spatial difference of heat gain from the Sun would have to be compensated by severe strong storms if no ocean existed. The climate in the present age is kept moderate by not only the circulation of air with vapour but also the circulation of sea water in the oceans which occupy 70 % of surface area of the earth.

At first, the reason the climate in the present age is so mild was discussed, giving emphasis to the meridional heat transport by oceanic currents and the heat exchange at the sea surface. The variability of the Kuroshio revealed by observations was presented next. Finally, the ongoing research programme for estimating the role of the Kuroshio in global climate change mechanism was discussed.

6. Asia and the Pacific Islands

Ron CROCOMBE

Kagoshima University Research Center for the South Pacific

The main ancestors of today's Pacific Islanders came out of Asia. The first category came up to 50,000 years ago and are not closely related to any of today's Asian peoples. The second category came in the last 4,000 years or so and are related to some ancestors of the present-day peoples of the ASEAN region. In the last 200 years European and modern Asian infusions have created new more complex populations and cultures in the region.

The proportion of Pacific Islands trade that is with Asia has been increasing every decade for the past half century. It is expected that Asian nations as a whole will be the largest trading partners of the Pacific Islands nations as a whole early in the 21st century.

Asian investment in the region is relatively new, but growing in marine resources, mining, timber extraction and tourism. It is expected to become the major source of investment within a decade or two.

The interest of Asian governments in the Pacific Islands relates to resource extraction, trade, and the marketing of sovereignty symbols such as voting rights in international forums, international finance centers and "flag of convenience" ship registries, and support in strategic linkages and postures. Aid is closely related to these interests.

Asian-Pacific regionalism, first promoted by the United Nations agencies, has become much more widespread, though it is still much less important for Pacific Islands nations than connections elsewhere.

Whereas trade, investment, aid and intergovernmental relations with the larger East Asian nations are becoming ever more important, this shift is not so apparent in information, education, religion or culture. This is because of the entrenchment of English as the international language (and often also the national language, or one of two or more equal national languages), the Christian religion, American entertainment, and established patterns of educational, administrative and other organization.

Relations with Asia seem set to continue to increase, more with Northeast than Southeast Asia, and more with both of those than with the rest of Asia, which is likely to remain relatively marginal to the Pacific Islands region.

7. The Political Situation in the South Pacific

Yasuaki TAKAHASHI
Faculty of Social and Information Studies, Gunma University

The political situation of the South Pacific is not critical enough to require immediate action, but if ignored, it could develop into a political problem and eventually affect every nation with a vital interest in the stability of Asia Pacific Region. Today, more than ever before it is necessary to make policy fully cognizant of the political volatility and economic fragility in this region.

Recent Publications of Kagoshima University Research Center for the South Pacific

South Pacific Study

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Articles:

John R. FLENLEY. Further Evidence of Vegetational Change on Easter Island.

Hiromitsu IWAMOTO. The Impact of World War I on Japanese Settlers in Papua and New Guinea, 1914-1918.

Masahiro YAMAO. Transitional Stage towards Structural Reforms of Agricultural Cooperatives in Thailand.

Yasuhiro TAJIMA. Life History of Retired People in Okinoerabu-island

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Articles:

Kazutaka NAKANO and Nobufumi MIYAUCHI. Changes in Physical and Chemical Properties of Surface Soil in a Swidden and Subsequent Fallow in a Northwestern Region of Malaita Island, Solomon Islands.

Akio HATTA. *Pyrgo rasheedi,* n. sp. (Foraminifera).

Hiromitsu IWAMOTO. Japanese Southward Expansion in the South Seas and Its Relations with Japanese Settlers in Papua and New Guinea, 1919-1940.

Diep Dinh HOA. New Findings of Zhang in the Phung Nguyen Culture.

Note:

Diep Dinh HOA. Dynamics of Yao Genealogy (a Case Study of a Yen Stream Village).

Occasional Papers

No. 27 (1995)

Studies of *Nautilus belauensis* in Palau. Edited by Yoshiko KAKINUMA.

Shozo HAYASAKA, Kimihiko ÔKI, Hiroshi SUZUKI and Akihiko SHINOMIYA. Environmental Background of the Habitat of *Nautilus belauensis* off the Southeast Coast of the Malakal Island, Palau.

Hiroshi SUZUKI and Akihiko SHINOMIYA. Study on the Fauna Associated with *Nautilus belauensis* in the Area off the Southeast Coast of the Palau Islands.

Mutsuo HATTORI. Observation of the Sea Bottom in the Habitat of *Nautilus* by a Small Remotely-operated Vehicle.

Akihiko SHINOMIYA, Hiroshi SUZUKI, Kimihiko ÔKI, Junzo TSUKAHARA, Kazushige TANABE and Augusto NARUO. Underwater Still Camera Works in the Habitat of *Nautilus* off the Southeast Coast of Koror, Palau.

Kazushige TANABE and Junzo TSUKAHARA. Morphological Analysis of Living *Nautilus* from Palau.

Junzo TSUKAHARA and Yoshiko KAKINUMA. Seasonal Changes in the Gonad of *Nautilus belauensis* from Palau.

Junzo TSUKAHARA. Ultrastructural Changes in the Formation of Spermatozoa of *Nautilus belauensis* in Palau.

Yoshiko KAKINUMA and Michihiro TABATA. A New Design of an Apparatus for the Observation of *Nautilus*.

Yoshiko KAKINUMA, Kazuhiko HISANAGA, Junzo TSUKAHARA and Michihiro TABATA. The Predatory Activity of Captured *Nautilus belauensis*.

Yoshiko KAKINUMA, Kazumi MAKI, Junzo TSUKAHARA and Michihiro TABATA. The Breeding Behavior of *Nautilus belauensis*.

No. 28 (1996)

Tropical Fisheries. Edited by Tatsuro MATSUOKA.

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Co-prosperity Sphere".

Sumio HATANO. "The New Order of Asia" during World War II and the Post-war Conception.

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IV. Some Biological Aspects of Oceanography

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Editor's Note

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We hope that our *South Pacific Newsletter* will link Japan into the flow of information available in the South Pacific. Letters to the editors are invited. We hope to publish some of them in a future issue of the *South Pacific Newsletter*. The post or E-mail address is shown together with our facsimile number on the back cover of this Newsletter. All contributions are welcome.

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