

BORNEO RESEARCH BULLETIN

Vol. 3, No. 1

June, 1971

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Contributions Received;
New Member of Board of Directors.

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The Borneo Research Bulletin is published twice yearly (June and December) by the Borneo Research Council. Please address all inquiries and contributions for publication to G. N. Appell, Editor, Borneo Research Bulletin, Phillips, Maine 04966, U.S.A. Single issues are available at US\$2.00 each.

- Carved design from Bajau boat.

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NOTES FROM THE EDITOR

SPECIAL ISSUES OF THE BRB

The Editorial Board has concluded that the development of Special Issues of the BRB, organized by Guest Editors, might serve a useful purpose. Therefore, a part of the Research Notes section of each December issue will be devoted to a special topic, providing that enough interest is generated to produce volunteers for the editing of these issues. The idea behind these Special Issues is that the Guest Editor will attempt to organize a group of contributions on a particular subject in order to probe new areas of research, summarize the state of knowledge in a particular field, review the problems still to be dealt with, and so on.

C. A. Sather to Guest Edit the December 1971 Issue on Supra-Local

Political Institutions

C. A. Sather has volunteered to guest edit the Research Notes section of the December 1971 issue and organize it around the problem of traditional political systems in Borneo and the Southern Philippines. He will bring together a collection of brief reports on those societies that possess supra-local political institutions or were historically affected by them. Some of the questions that will be examined will include: how political elites were recruited; to what extent were political roles differentiated; how did succession to office occur; what powers were held by administrative subordinates and what were reserved to the head of the state; how were the goals of contending local,

regional, or ethnic groups mediated; and to what extent were these groups able to act independently of the paramount head of the state or his administrative representatives; and how were diverse ethnic groups incorporated into the state.

The contributors for this Special Issue to date include E. Casiño on the Jama Mapun; D. Brown on Brunei; I. Black on Sabah in the 19th century; J. R. Wortmann on Kutai; and C. Sather on the Bajau Laut.

Anyone else interested in contributing to this Special Issue should contact Dr. C. A. Sather, Department of Anthropology and Sociology, Vassar College, Poughkeepsie, New York 10921.

Ordinary Research Notes

It is also planned to publish as usual in these Special Issues other Research Notes that do not deal with the special topic being covered. These should be sent as in the past to the Editor of the BRB.

Future Special Issues

The Editor would welcome any suggestions from readers as to what topics or areas of research might be usefully covered in future Special Issues, and he would welcome as well volunteers for Guest Editor of such issues.

CONTRIBUTIONS RECEIVED

As we have moved to a subscription basis, one of the most rewarding and encouraging experiences has been the unexpected contributions that have come in towards the costs of publishing the BRB. These will certainly help make the BRB the kind of publication the readers desire and enable it to cover developments in Borneo research more adequately. Such contributions are very greatly appreciated indeed, and on behalf of the Borneo Research Council, I would like to thank the following individuals for their kindness and thoughtfulness:

J. Ralph Audy; I. D. Black; British Museum (Natural History); John Elliot; Peter Goethals; Jack Golson; John Heimann; M. A. Jaspán; Ernest Le Vos; David W. McCredie; Alastair Morrison; John K. Musgrave; Rodney Needham; John Henry Pfifferling; Anthony J. N. Richards; the Rev. Gerard Rixhon; Margaret Roff; Jérôme Rousseau; Ronald G. Russell; Heather Strange; Peter Weldon, Leigh R. Wright; and James L. Deegan.

At this point I should add that we are now receiving so many interesting Research Notes that for lack of space under our current budget, we may have to forego temporarily publishing the list of

contents of Borneo journals. However, we will of course reinstitute this section as soon as our budget permits us to do so. In the meantime, I would welcome comments from readers as to what sections of the BRB they find the most useful or what areas we should perhaps cover in the future. I encourage those interested in Borneo research to let me please know what their thoughts are on the direction the BRB should take in the future to make it more responsive to the needs of the readers and more useful to those engaged in research or otherwise interested in Borneo.

Finally, we hope that by the means of subscriptions, supplemented by contributions, we shall have the BRB established in the next eighteen months on a sound financial footing so that it can provide a permanent service to those interested in Borneo research. Readers' thoughts and comments on the problems of financial planning for the BRB would also be very gratefully appreciated!

NEW MEMBER ELECTED TO THE BOARD OF DIRECTORS

The Board of Directors of the Borneo Research Council takes great pleasure in announcing the election of Professor Frederick L. Dunn, M.D., to the Board. Dr. Dunn is Professor of Epidemiology and Medical Anthropology, Department of International Health, University of California, San Francisco Medical Center; Chairman of the Graduate Group in Anthropology at the University of California, San Francisco; and a member of the Malaysian Project of the International Center for Medical Research and Training, Hooper Foundation, San Francisco Medical Center. His fields of interest include the epidemiology of parasitic diseases, medical anthropology, ecological-anthropology, and archaeology. He has carried out extensive field work in Malaysia including two years of field work among the Temuan of Malaya during which time he conducted ecological, medical-anthropological, and general ethnographic investigations. Two of his recent publications are: 1967, The Current Status of Ethnographic, Genetic, and Other Biomedical Research Among the Primitive Ethnic Groups of Southeast Asia, in P. T. Baker and J. S. Weiner (eds.), The Biology of Human Adaptability, Oxford, Clarendon Press; 1968, Epidemiological Factors: Health and Disease in Hunter-Gathers, in Richard B. Lee and Irven DeVore, Man the Hunter, Chicago, Aldine.

Dr. Dunn will bring to the Board coverage in the fields of both medicine and medical anthropology, which to date have not been sufficiently represented. His address is: Department of International Health, University of California, San Francisco, California 94122, U.S.A.

R E S E A R C H N O T E S

MILESTONES IN THE HISTORY OF KUTAI, KALIMANTAN-TIMUR, BORNEO

J. R. Wortmann*

Borneo is the first among the islands in the Indonesian Archipelago with a known history. In fact the oldest known inscriptions in the Archipelago were found in Kutailama in Kutai. These consist of four stone sacrificial poles (sanskrit: yupa) dating from about 400 A.D., on which in Pallawascript, metrical sanskrit, King Mulawarman's generosity towards the Brahmins is commemorated. King Mulawarman's father, Acwawarman, was the founder of the royal dynasty and it seems likely that the Brahmins referred to in the inscriptions were Agnihotrins, followers of the Veda, a branch of the Hinduism. (As a comparison it is worth noting that the oldest dated inscriptions in Java are only from the year 732 A.D.)

Subsequent to these inscriptions nothing is known about Kutai for nearly 1000 years. Then, in 1365, we find the name Kutai mentioned in the old-Javanese historical poem Nāgarakrtāgama, verse 14.I. It is also around this time that the saga-period of the Kutai-dynasty begins and the Kingdom of Kutai begins to take shape. The mythical origin and genealogy of this royal house are described in the Salasilah of Kutai. There are five known manuscripts of this genealogical register, which is written in literary Malay, showing traces of the language of Kutai and including Javanese words and phrases.

The original Salasilah was probably written, at least partly, during the reign of the eighth Sultan, Pangeran Sinum Pandji Mendapa ing Martapura, ca. 1600-1635. Kutai evolved most likely from the joining of four regions, Djahitan-Lajar, Hulu-Dusun, Sembaran and Binalu, presumably settlements of Hindu-Javanese. Especially after the introduction of Islam, ca. 1606 by Tuan Tunggung Parangan, the Sultanate expanded more inland, annexating three small countries Markaman (on the Mahakam, 15 miles above Samarinda), Kota Bangun (near Markaman) and Pahu (37 miles above Samarinda). From that time on the Sultans of Kutai have borne the royal insignia of Kota Bangun.

The genealogical line of the Kutai dynasty begins with Batara Agung Maharadja Dewa Sakti as first Sultan of Kutai and ends with Adji Mohammed Parikesit, the 20th Sultan, who still lives at Tenggarong.

On November 7, 1635, Gerrit Thomassen Pool was the first Dutchman to sail up the river Mahakam. Kutai was again visited by Dutchmen in 1671 and 1673, but after that it had no further contact with

* This is a very brief synopsis of the history of Kutai that I am currently writing and intend to publish in an illustrated book.

the Dutch, although it was indirectly, via the Kingdom of Bandjermasin, tributary to the East-India Company. This remained however a dead letter because they did not live up to the contracts.

Samarinda was founded ca. 1730, and in 1825 the Dutch, in the person of Georg Müller, made their first direct contract with the Sultan of Kutai. This contract also did not last.

The first half of the 19th century brought to Kutai the presence of several English merchant-adventurers: Dalton, Murray, King, Carter, and Morgan. There was a busy trade at that time between Kutai and Singapore, and proas from Kutai took rattan, gutta-Percha and beeswax to Singapore and returned with, among other things, cotton, textiles, and arms. During the last quarter of the 19th century the Scotsman Gray played a role in the development of navigation on the Mahakam and also within the native Community of Samarinda. It was not until 1846 that Dutch rule was established with the arrival of H. von Dewall, first civil administrator of the east coast of Borneo. From that time on the Sultans of Kutai comported themselves as loyal vassals of the Dutch. This was especially obvious during the War of Bandjermasin (1859-1863). The extent of Dutch power was enhanced gradually through supplementary treaties.

In 1888 the mining-engineer J. H. Menten began, with the exploitation of coal along the Mahakam, the Steenkolen Maatschappij Oost-Borneo with its first mining venture at Batu Panggal, some miles up the river past Samarinda. Menten also laid the foundation for oil exploitation in East Borneo by leasing his concessions to Samuel & Co., of London, founder of the Shell Company. This is also the time of the abolition of slavery in Kutai (1895) and of Dr. A. W. Nieuwenhuis' famous expeditions across Borneo.

The first Roman Catholic mission was established at Laham in 1907. One year later Kutai ceded the district of Upper Mahakam to the Dutch government in exchange for a yearly compensation of 12,900 guilders "for the sultan and his princes of the Kingdom."

By the end of the 19th century trade and industry were being developed by small trading companies. But it was in the beginning of the 20th century that the economy of Kutai flourished as a result of the establishment of the Borneo-Sumatra Trade Co., with offices along the whole archipelago. In these years the capital of the "landschapskas," or regional treasury, grew at a steady pace through annual surplus. By 1924 the Kutai treasury held a reserve of 3,280,000 guilders--for those days a tremendous amount for this self-governing territory with a size of 45,190 square kilometers and a population of only ca. 179,000.

NEW RADIO-CARBON (C-14) DATES FROM BRUNEI

Tom Harrisson

Little work has been done on dating open sites or the metal age generally in Southeast Asia. This does present special difficulties, owing to rapid decay of exposed materials, flooding, contamination by roots, animal and later agricultural disturbance. Thus while there are many cave dates in Borneo--back 38,000 years in Sarawak and 10,000 in Sabah (T. & B. Harrisson 1971)--hitherto only the terminal phase at the extensive Santubong open sites in the Sarawak River delta has been determined by a single result: 1315 A.D. (\pm 95 years; Harrisson & O'Connor 1969, 1970).

Through the cooperation and support of Pengeran Shariffuddin, Curator of the Brunei Museum, a series of fifteen C-14 dates have now been obtained from prehistoric vegetable materials at Kota Batu, Brunei's old capital, where they were excavated in 1952-53 (T. & B. Harrisson 1956). Kota Batu is extraordinary in that ancient cut wood, charcoal, dammar resin, coconut and other fruits remain well preserved in an acid deposit with a high water table.

These results will be reported in detail, with several necessary qualifications, elsewhere. Meanwhile, they do provide the first at all comprehensive picture of its kind, however inadequate. They also confirm the previous view that this is an exceptionally important site, with long human continuity. All other published metal age sites in this part of the world were occupied for shorter periods, with sharp interruption.

The basic information is summarized in the following table, which uses depths as a rough index, although clearly absolute depth is of itself no final standard under these conditions.

KOTA BATU, BRUNEI C-14 RESULTS
--arranged by approximate age.*

<u>Date</u> <u>(Approx.)</u>	<u>Material</u>	<u>Depth</u> <u>(inches)</u>	<u>Geochron Laboratories</u> <u>Serial No. (GX/-)</u>
B.C.			
95	Charcoal	72-78	1807
A.D.			
595	Charcoal & Wood	48-54	1802
605	Charcoal	66-72	1806

* The last four and latest in the tabulated dates have been published and discussed in Brunei Museum Journal 2:186-197, 1970; the other eleven are here reported for the first time.

Date (Approx.)	Material	Depth (inches)	Geochron Laboratories Serial No. (GX/-)
690	Wood (<u>Instia palembanica</u>)	84-90	1801
805	Wood (<u>Instia palembanica</u>)	66-72	1799
820	Charcoal	72-78	1808
875	Wood and Charcoal	48-54	1803
940	Wood (<u>Shorea</u> spp)	54-60	1798
1030	Wood & Charcoal	54-60	1805
1090	Ironwood (<u>Eusideroxylon</u>)	78-84	1800
1300	Wood (<u>Koompassia</u>)	54-60	1797
1300	Charcoal	24-30	1543
1415	Charcoal	24-30	1541
1695	Charcoal	24-30	1540
1815	Charcoal	24-30	1542

The sigma varies between \pm 85 to \pm 125 years. Further samples from sectors and materials not yet tested will be reported in due course.

Bibliography: Harrisson, Tom and Barbara, 1956, Kota Batu in Brunei, Sarawak Museum J. 7:283-319; Harrisson, Tom and Barbara, 1971, The Prehistory of Sabah, Kota Kinabalu, Sabah Society; Harrisson, Tom and S. J. O'Connor, 1969, Excavations of the Prehistoric Iron Industry in West Borneo, Southeast Asia Program, Ithaca, Cornell U., 2 vols.; Harrisson, Tom and S. J. O'Connor, 1970, Gold and Megalithic Activity in Prehistoric and Recent West Borneo, Southeast Asia Program, Ithaca, Cornell U.

THE ESTABLISHMENT OF A RESIDENCY IN BRUNEI 1881-1905*

Colin Neil Crisswell
University of Hong Kong

In granting a royal charter to the North Borneo Company in 1881 the British Government was strengthening its claim that northern

* The writer has recently submitted a Ph.D. thesis on this topic to the University of Hong Kong. His findings are outlined here-with.

Borneo was a British sphere of interest. This was another step in the process begun by the acquisition of Sarawak by James Brooke in 1841. The intention of the British Government was to exclude foreign powers from the area, for strategic and commercial reasons, while keeping its own direct involvement to the minimum. The sphere of influence policy did not prove sufficient to guarantee the exclusion of foreign powers. By 1885 the rapid colonial expansion of Germany and France and their policy of ignoring prior claims not backed by occupation or treaty had outmoded it. Moreover the establishment of a rival to Sarawak for the dominance of northern Borneo created new local problems. The area from Kimanis to the Sarawak frontier remained nominally under the rapidly weakening control of the Sultan of Brunei. Rajah Charles Brooke disliked chartered companies on principle and was inclined to regard Sarawak as the natural successor to the decadent sultanate. Accordingly, when the Company began to seek the extension of its territory southwards, he resolved to bring as much as possible of the Sultan's territory, south of the Padas, under the Sarawak flag. A bitter struggle ensued between the Company and Sarawak for the remains of Brunei. The instability of the area and the growing colonial rivalry between the powers led the British authorities to decide, in 1887, to establish protectorates in the three territories. There was no intention that Britain should assume responsibility for the internal administration of the protectorates, nor did the grant of protectorate status to Brunei mean that the British officials envisaged that the sultanate would survive for long. On the contrary, in order to end the feud between North Borneo and Sarawak and at the same time remove a possible source of international embarrassment, it was decided that Brunei should ultimately be divided between its two neighbors.

When this decision was taken the British officials did not consider that Brunei would make any serious effort to resist absorption. However Sultan Hasim, who had succeeded the senile Sultan Mumin in 1885, was a proud man who did not want to see the extinction of the ancient sultanate. His opposition to the absorption of his remaining territory became more determined, almost obsessive, when Britain accepted Rajah Brooke's annexation of the Limbang River in 1890. His efforts to retain what remained of the sultanate were regarded with some sympathy by the governors of the Straits Settlements who, after 1888, were also high commissioners for Borneo. Moreover the official attitude to North Borneo and Sarawak was changing. The North Borneo Company was never strong financially and by the mid-1890's it seemed probable that it would not survive for long. There had always been some doubt about the future of Sarawak after the death of elderly Rajah Charles, and opinion in the Colonial Office, which hitherto had favored the Brooke regime, began to regard Sarawak as an anachronism.

As early as 1887 Sir Frederick Weld, Governor of the Straits, had suggested that a residential system, similar to that in the Malay States of the peninsula, should be established in Brunei, but the question of finance had been the major obstacle. The changing attitude to the colonies, summed up by Chamberlain's vow to assist

the "undeveloped estates" of the empire, made this difficulty seem less insurmountable. In addition the discovery of oil and the existence of some other minerals in Brunei made it seem possible that a residency in the sultanate might be self-sufficient. The officials in London had accepted the opinion of the high commissioners that it would be unwise and unjust to force the Sultan, the ruler of a protected state, to cede his territory. Hasim maintained his obstinate opposition to further cessions to Sarawak, but at the same time conditions within the sultanate were becoming increasingly anarchical. Accordingly, in 1905 the Foreign and Colonial Offices agreed to install a resident. Sir Charles Lucas, Assistant Undersecretary at the Colonial Office, the principal advocate of a residency, saw this as the first step towards the creation of a British colony of northern Borneo which would consist of the residencies of Brunei, North Borneo and Sarawak.

Bibliography: The principal primary sources used were: C.O. 874/1-323, F.O. 12/50-130, C.O. 144/55-81, C.O. 145/1-3, C.O. 146/1-59, C.O. 573, F.O. 572/1-39, located at the P.R.O., London; and the Letter books of the 2nd and 3rd Rajahs and Sarawak District Reports 1881-1905 in the Sarawak Museum, Kuching.

BAJAU POTTERY-MAKING IN THE SEMPORNA DISTRICT

C. A. Sather
Vassar College

In the June 1970 Bulletin the editor called attention to the scarcity of data describing the current provenance of native pottery-making in Sabah. In this regard, it is notable that pottery was--as of 1965--still being produced by local Bajau potters at Kampong Danawan in the Semporna District. To my knowledge the people of Danawan are the only villagers in the Semporna District who still engage in pottery-making. Their output is restricted exclusively to earthenware fireplaces or hearths called locally lapo'an. These hearths are similar to those described by Alman (1960:596) for Kota Belud and consist essentially of a box- or basin-like stove, open at the front to receive firewood, with three prongs at the top to support a metal cooking vessel, such as a kuali. My only knowledge of this pottery is based on the trade relations that existed between Danawan potters and the people of Kampong Bangau-Bangau with whom I lived in 1964-65. According to the Bangau-Bangau people, all Danawan hearths are made of river clay collected on the Semporna coast, although at least some firing is done on Danawan Island.

It is interesting to note that trade in pottery is part of a much wider network of inter-village commercial ties based partly on local specialization. Other items traded by means of this network, in addition to lapo'an, include fruit, boats, gravemarkers, kajang matting, sea products, and a wide variety of metal utensils, including knife blades, fish spears, harpoon heads, spatulas, and

coconut graters. Although it is possible to purchase some craft products directly from a producer's available stock, or from other owners, the supply of such goods is limited, owing to the part-time nature of craft production, and most local buyers find it advisable to enter directly into agreements with a particular craftsman--specifying in advance the quantity and type of item desired and agreeing to purchase the goods requested at a set price upon delivery. Most local goods are thus produced on order for specific buyers.

Craft production in the Semporna District appears to have diminished markedly during the last two or three decades. In addition, some items, especially metal work, are increasingly being marketed by local dry-goods shops, even though, in most cases, both producers and buyers are Bajau villagers. In the interest of assuring these people a supplemental source of incomes, as well as maintaining the viability of local craft production, the State Government might consider the possibility of establishing a market stall in Semporna town for craft products similar to those that currently exist for fish and local farm produce.

Bibliography: Alman, John, 1960, Bajau Pottery, Sarawak Museum J. 9:583-602.

BAJAU VILLAGES IN THE LESSER SUNDA ISLANDS, INDONESIA

C. A. Sather
Vassar College

Professor James Fox, Department of Social Relations, Harvard University, reports the presence of two Bajau villages on the island of Roti in eastern Indonesia. These communities are of considerable interest, since geographically they are located further from the Sulu-Celebes center of Bajau settlement than any other villages yet reported in the ethnographic literature. The main Bajau settlement on Roti is located at Oe-Nggae, on the northeast coast, in the domain of Korbaffo. The second village is said to be situated at Cape Tongga on the far northwestern tip of the island. Professor Fox was unable to visit this latter settlement and is uncertain of its relation with the Oe-Nggae community. However, he was told that the village was once the larger of the two and that a number of Tongga people moved to east Roti in recent times, presumably to Oe-Nggae. Off the coast of west Roti, visible from Cape Tongga, is a tiny island called Ndao which has a separate non-Rotinese population. The Bajau figure prominently in Ndaonese folklore and historical traditions which describe the Ndaonese as waging war against Bajau raiders. Curiously enough, in light of these traditions, Oe-Nggae is near, and actually interpenetrated with, a Ndaonese settlement. According to Professor Fox, the two groups are quite distinct, although some intermarriage has occurred. Ndaonese assimilated over a generation or two to a Rotinese way of life; they speak Rotinese, tap trees, and wear Rotinese clothes; whereas the Bajau do not, but remain socially isolated and keep to themselves.

Recently Peter Hollinger, a former Harvard student, visited a Bajau burial island between Flores and Komodo where he photographed Bajau gravemarkers. Currently Professors Fox and Sather, with Mr. Hollinger's assistance, are preparing a brief report comparing these markers with those of the Semporna District of Sabah.

JAMES BROOKE AND BRITISH POLITICAL ACTIVITIES IN BORNEO AND SULU

1839-1868: LOCAL INFLUENCES ON THE DETERMINATION OF IMPERIAL POLICY*

J. E. Ingleson
Monash University

This study investigates the activities of James Brooke and local British officials in Borneo between 1839 and 1868, and it attempts to assess the relative importance of the influence of local interest groups on the modifications in Britain's Borneo policy in this period. It considers the establishment of Brooke in Sarawak and his development into the dominant ruler of the northwest Borneo coast, assisted by British naval forces.

The term "local interest groups" as used here comprises not only the local men, such as Brooke and the local British naval officers, who were active in the Borneo area, but also people working on Brooke's behalf in England and promoting his ideas to the British Government, the public, and organizations in Britain, such as the Chambers of Commerce, which had or hoped to have interest in the Borneo area. Thus, a broad distinction is made between local interests, comprising men on the spot and pressure groups in the Metropolitan country with interests in Borneo, and, on the other hand, the wider factors influencing British policy, the considerations of diplomatic rivalry, and naval strategy.

Brooke's attempts to make Sarawak a protectorate or a Crown Colony are discussed with particular emphasis on the methods used by him and his supporters in England. Attention is also focused on the activities of the local naval officers and, after 1846, of the Consuls-General in Borneo and the Governors of Labuan.

Although there was a gradual growth in Britain's involvement in the area throughout the thirty years of Brooke's presence in Sarawak, the Government modified its non-interventionist policy only reluctantly. This was largely because Britain's basic interest was not in Borneo itself but in the security of the China trade routes. While the British Government was determined to prevent other European nations acquiring territory on the northwest Borneo coast because it flanked these trade routes, it was

* This constitutes an abstract of Mr. Ingleson's M.A. thesis for the University of Western Australia.

equally determined not to be drawn into permanent commitments in Borneo which might eventually lead to annexation of the whole of the northern coast.

The main conclusions are that local interest groups were an important factor in the three significant modifications in Britain's Borneo policy: the appointment of a Consul-General to Borneo and the annexation of Labuan in 1846, the promise of naval protection to Sarawak in 1860, and the appointment of a Consul to Sarawak in 1863. Between 1839 and 1868 James Brooke laid the groundwork which led to the subsequent protectorates over Sarawak, Brunei and North Borneo in 1888.

HISTORY OF MISSIONARY ACTIVITY IN BORNEO: A BIBLIOGRAPHIC NOTE

Jay B. Crain
Sacramento State College

Some of the most significant influences on the native populations of interior Borneo in the twentieth century have been the activities of Christian missionaries. While missionary activities, mission-inspired native churches, and educational systems and institutions are significant features of the social landscape of Borneo, little scholarly attention has been paid to them. Churches and societies which carry out these activities have left few records of their history, although the oral traditions of some interior peoples contain references to the impact of initial missionary contact.

One source I examined in the course of my Lun Dayeh research concerns the activities of the Christian and Missionary Alliance, an American evangelical group which has worked extensively in East and South Kalimantan. This group contributed notes and articles to The Pioneer, a missionary newsletter published by the Alliance Press in Wuchow, China. This began in November 1929 and was published two or three times a year up until 1945. It resumed after the war, but I have not seen these. The Pioneer succeeded The Borneo Pioneer (this only had two issues, written between July and November 1929).

The Pioneer was apparently published to provide Christian and Missionary Alliance congregations in the United States with an account of the progress of the mission (which was dependent upon donations). The general tenor of the writing is "evangelical."

Each issue contains a report of activities and the entire corpus, taken together, provides a good deal of information about the personnel and events of this mission's work in South and East Kalimantan during the period 1929-45.

In the various articles are descriptions of visits to regions and villages, baptism statistics, the initiation of religious and educational institutions, mention of the influential converts, etc. Even the sections not amenable to historical use gives us insight

into the ideas and personalities of such individuals as Fisk, Clench, Post, Presswood and Michelson--some of whom are folk heroes in inner Borneo and all of whom played a role in the transfiguration of native life in this area during this period.

Aside from the importance of such sources as The Pioneer for studying the very significant historical processes of culture change, they also provide cross dates as remembered temporal significata in some instances.

REPORT ON ANTHROPOLOGICAL FIELD WORK AMONG THE
LUN BAWANG (MURUT) PEOPLE OF SARAWAK

James L. Deegan
University of Washington

Introductory. From November 1969 to November 1970 I conducted research among the Lun Bawang (Murut) people in the Lawas District of Sarawak.* This is a brief summation of my research and the data collected.

Language. During the initial stages of research, language study was necessarily my most important project, and it remains an important part of the ongoing research. A Lun Bawang-English dictionary was constructed and to date it contains some 8,000 entries. These entries are marked in reference to the various texts in which they occur. An English-Lun Bawang dictionary was also made to facilitate my learning to speak and use the language. It is our hope, several Lun Bawang and myself, to eventually cooperate in the publication of these dictionaries under the auspices of the Borneo Literature Bureau. Out of necessity I have done an informal analysis of the grammar as well. Though I do not expect to publish this material by myself, it is my desire to work jointly with a linguist and eventually publish a grammar.**

Census. I completed a sociocultural census of the entire Lun Bawang community in the Lawas Dammit Basin; it included eight village clusters with a total population of about 900. We, my two Lun Bawang assistants and myself, conducted a total of 166 interviews and gathered information on approximately 1600 people. While most of this information still needs to be processed, some

* I would like to express my gratitude for the Fulbright-Hays Fellowship, to the Wenner-Gren Foundation, and the Department of Anthropology, University of Washington for funding my field work.

** The Borneo Evangelical Mission had previously worked out the Lun Bawang orthography, for which I was thankful, for publishing biblical materials in Lun Bawang. Two of their members have also published a phonemic analysis in the Sarawak Museum Journal.

things are readily apparent. First, the bulk of our interviewees (more than 80 percent) were either first or second generation migrants, principally from Kalimantan (Indonesian Borneo). This indicated that Lun Bawang presence in the valley is of a relatively recent date--a fact confirmed by the genealogies of the landholders and the agricultural pattern of the valley. The reasons for migrating out of the other areas is somewhat obscure, but is probably in part a result of pressure on the land. The Lawas Dammit Basin, on the other hand, is relatively lightly farmed. Another interesting observation that can be made is the relative stability of village association, while the building sites and structures are quite mobile indeed. While this may reflect current government policy, it probably also represents Lun Bawang tradition.

Oral Literature. There are many types of Lun Bawang oral literature, and I have divided them into four somewhat arbitrary categories, each composed of several more or less related types. With the exception of a very few of which I am aware, I have gotten extensive examples of all the types (or genre) of Lun Bawang oral literature; in some instances I have many examples. In total, I have accumulated perhaps fifty hours on tape, of which we have already transcribed perhaps fifteen hours. Adequate translation of these will require considerable time in the future. I have already sent for publication (to the Sarawak Museum Journal) an article on spirit chants which contains five Lun Bawang chants and their translation. I have also spent a great amount of time on comprehending the MUMUH--these are Lun Bawang mythological histories which take eight or more hours to tell and the telling is usually spread over three or more days. It is my wish to publish these with a translation and analysis sometime in the future. I have already arranged with the Borneo Literature Bureau to publish some LABA', or folk tales, and their translations sometime this year, if possible.

Ethnography. As most anthropologists, I tried to gather as much information as I could about all aspects of Lun Bawang society and culture. I was particularly interested in Lun Bawang cosmology and religious practices both before and after 1890. After further analysis of the oral literature, it is my intention to do a comparative analysis of early Lun Bawang beliefs and their conversion to Christianity. I have gathered extensive information on kinship terminology and genealogy using a system developed by Professor John Atkins of the University of Washington. It is my hope to publish this data sometime this year or next. I investigated the various economic activities, particularly agriculture and the relationship of economics to the socio-political networks among the Lun Bawang. This data will be the basis for my dissertation which will be concerned with analyzing changes in the social and political areas of Lun Bawang life which have occurred during the past 100 years.

SABAH TIMBER EXPORTS: 1950-1968*

LOH Chee-Seng

Part I consists of an introduction to Sabah's timber exports--both saw-logs and sawn timber. In it the initial development of the timber industry is briefly traced to 1949.

In Part II, the patterns of growth in timber exports are presented with deeper analysis. In Chapter 1, we show how the distribution of timber exports changes from a Western geographic concentration in the 1950's towards an Asian market in the 1960's. For example, there was a rise in the coefficient of geographic concentration of timber exports to Japan from 32.8% in the 1950-59 period to 76.8% in 1960-68, whereas the coefficients for Australia, South Africa, the United Kingdom and United States have declined considerably. We also discuss the role of timber exports in Sabah's economy, indicating the progressive coefficient of the commodity concentration in Sabah external trade. A computation shows the trend: 7.1% in 1950 to 20.6% in 1955, 40.8% in 1960, 60.5% in 1965 and 77.3% in 1967/68. In addition, we compute the "competitive effect" of this commodity exports' performances, which indicate a declining ratio-effect, for instance, of 66.18% and 47.12% in the boom years of 1959 and 1960 down to 21.00% and 4.16% in 1967 and 1968, respectively.

In Chapter 2, we probe the issue of labor allocation and discover the slow growth rate in the agricultural sector compared to the commercial sector. We also point to the close correlation between increases in timber exports and the rise in timber workers' wages. Further, we obtain a finding that the average labor productivity is higher in the timber industry than in the rubber industry during the 1960-66 period using 1951 as base year in calculation.

In Chapter 3, we lay out the problems of a timber industry in a developing economy: the increasing indigenous ownership of saw-mills and the control of timber concessions at pace with economic nationalism; the tariff-barriers to manufactured wood products; the lack of wood-processing industries; and the constraints of a less-developed infrastructure. We also point out that the increasing freight rates have an anti-trade bias that divert market preferences. We even try to assess the ratio of value added in the timber industry, with a result of 0.34% - 0.40% value/capital ratio in 1963, comparable to a similar developing industry as in the Philippines which scored at 0.7%.

In Chapter 4, we take an excursion reviewing the patterns and trends of timber consumption in various regions to appraise the potential demand for timber.

* This is a summary of Mr. Loh's M.A. thesis for the University of London.

Lastly, in Part III, we look at the prospects for timber exports in Malaysia and compute a projection of the growth path of Sabah timber exports. The computation indicates that with a low growth rate Sabah will assume a decreasing share in Malaysian timber exports, from 48% in 1968 down to 45% in 1975, though the value of timber exports will increase from M\$334.6 million in 1968 to projected value of M\$925 million in 1975. With a higher growth rate Sabah will become a major contributor, assuming 60% of Malaysian timber exports with a projected value of M\$1,245 million by 1975. The trend indicates a dynamic growth path in future Sabah timber exports.

SYSTEMS OF LAND TENURE IN BORNEO: A PROBLEM

IN ECOLOGICAL DETERMINISM

G. N. Appell
Brandeis University

In comparing the indigenous systems of land tenure of the Baleh Iban and the Bidayuh Land Dayak of Sarawak with the system of land tenure practiced by the Rungus of Sabah, I was struck by the possibility that the differences in these systems might be explainable in large part by differences in ecological factors. The hypothesis that I present here, however, is only tentative, and the problem it presents for ecological explanations of cultural phenomena is one that will have to be further investigated by agricultural scientists who can provide the basic ecological data.

First of all, residual rights over land in all three societies are held by the village as a jural entity. That is, only resident members of the village have the right to use village territory for the cultivation of their swiddens (i.e. their slash-and-burn fields). Nonresidents, thus, may not cut forest for swiddens without the permission of the village headman. Furthermore, in the indigenous systems of these three societies, land for cultivation was not particularly scarce.

The basic difference that exists between these three systems is that between permanent tenure and tenure of limited duration. In both the Baleh Iban and the Bidayuh Land Dayak, permanent use rights over land may be established by the clearing of primary forest. Among the Rungus, however, use rights are of limited duration. Thus, each year a Rungus domestic family cuts a new area of forest for its swidden, where it plants rice, maize, and frequently manioc as well as a variety of vegetables. In cutting this forest, however, the domestic family does not establish permanent use rights over the area but instead only uses that tract of land until the last of its crops are harvested. Where manioc has been planted, this may take several years. The area then reverts to jungle, and when the forest has grown to sufficient height, any resident family may recut the forest on that particular tract of land for its swidden. This ideally would be after ten or more years, but with the present

population pressures on the land the cycle is down in some places to seven years. Thus, after each agricultural season, the land within the Rungus village territory is redistributed among the resident domestic families for their use in the coming season. No domestic family because of earlier settlement in the community or for any other reasons has favored access to land for agricultural purposes.

The Baleh Iban, studied by Freeman (1955), however, use a different method of cultivation. They normally use a swidden for planting rice for two years in succession. In fact Freeman points out that a tract of land cleared of virgin forest may be cultivated three times in the first five or seven years following its initial clearing. And at a later period, when the forest has finally regenerated sufficiently, the land will again be put into a similar period of intensive cultivation.

However, in contrast to the Rungus, among the Baleh Iban permanent use rights for swiddens over a tract of land may be established by that domestic family (bilek family) which first clears the primary forest from it. These rights are held at least in theory in perpetuity by the domestic family, or until such time as it leaves the village community. Unlike the Rungus domestic family, the Iban bilek family is a jural entity that has an unlimited life. Among the Rungus, the domestic family has a limited jural existence that extends from its foundation by a newly married couple until they can no longer engage in agricultural activities, at which point they join the domestic family of one of their children. The Iban bilek family exists jurally in perpetuity through the process of incorporation of at least one child of the family and his or her spouse into the bilek family in each generation.

The Bidayuh Land Dayak, studied by Geddes (1954), are in many ways similar to the Iban. Permanent use rights are established over a tract of land by the act of clearing it of its primary forest. But these use rights are then inherited in severalty by all the descendents, both male and female, of the original cultivator. However, Geddes does not provide any data on the frequency of reuse of swidden areas after their initial clearing, although there is some indication that the Bidayuh domestic family cuts a swidden in a new area each year.

The critical factors in swidden cultivation, Freeman points out, are a good burning of the slash and the control of weed growth. In the Iban area, slash from virgin jungle is much less likely to produce a good burn, particularly under adverse weather conditions, while the slash from land in its second year of cultivation requires only the briefest period of dry weather for it to burn well. This factor of rainfall in swidden cultivation among the Iban, the Land Dayak and the Rungus is illustrated by Table One.

Table One: Rainfall Statistics

	<u>Rungus</u>	<u>Iban</u>	<u>Land Dayak</u>		<u>Rungus</u>	<u>Iban</u>	<u>Land Dayak</u>
Jan.	16.20	16.87	15.45	July	3.92	8.94	8.61
Feb.	7.80	12.07	12.83	Aug.	4.25	9.57	7.30
March	7.54	13.28	12.08	Sept.	4.79	11.83	11.86
April	5.31	12.54	12.86	Oct.	6.61	13.64	12.79
May	5.80	13.40	8.49	Nov.	6.99	11.72	12.55
June	5.69	8.36	7.17	Dec.	16.15	13.36	10.61
Total:					90.05	145.58	132.60

Stations: Rungus: Langkon Estate; Iban: Kapit; Land Dayak: Tabakang.

Thus, the similarity in rainfall between the Iban region and the Land Dayak region suggests that the Land Dayak, like the Iban, would also have difficulty in achieving a good burn of slash from primary forest and might therefore also find value in land growing back into secondary forest.

But in addition to the climatic factor there is also the edaphic factor. Unfortunately, I have no data available on the comparative fertility of the soils of these three regions, but from the geological information available, it would appear that the Rungus area is characterized by more sandy soil than either the Iban or the Land Dayak areas. This certainly needs further research by agricultural scientists. However, at present, I would hypothesize that the increased rainfall in the Sarawak areas in conjunction with more productive soil tends to encourage the regeneration of tree species in a swidden and discourage the growth of weeds in comparison to the Rungus area. Thus, because of fewer weeds invading the swidden after the first year's harvest; and because young forest has a better chance for a good burn than primary forest in the Iban and Land Dayak areas, there is greater economic value in secondary forest which results in the development of permanent use rights over swidden areas.

Among the Rungus, on the other hand, the problem of achieving a good burn is not as great with the amount of rainfall in their area. In fact, they are concerned with the problem of escaping swidden fires and the destruction that they cause. Also, I suspect that the poorer soils and less rainfall result in more weeds after the initial cultivation of a tract of land and result in a longer period of time for the forest to regenerate sufficiently to make it worthwhile to recultivate any given area. There would thus appear to be much less economic benefit in returning to a tract of land formerly cleared until a considerable time had elapsed. Thus, the development of permanent use rights over land might be inhibited by this extended

period between profitable recultivation, and the Rungus method of redistribution of land after each agricultural season among the resident domestic families may instead have had an adaptive advantage in their drier and less fertile environment.

Finally, while I have posed this problem as one of ecological determination for the organization of data and research interest, I would like to make it clear that my own view is that ecological factors can only set limits within which cultural phenomena may develop. Each society then develops its own solution to the problems posed by the environment within these limits. Thus, in response to the problem posed by the immediate economic value of secondary forest arising from conditions of soil and climate in the Sarawak region, the Land Dayak developed the solution of devolving use rights on all descendants of the original cultivator; while the Iban developed the solution of corporate, perpetual social groupings of the domestic family.

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B R I E F C O M M U N I C A T I O N S

RESPONSIBILITY IN BIOLOGICAL FIELD WORK*

As many nations have begun to show concern for their biotas, they have been stimulated to establish stringent restrictions on

* At a recent meeting of Directors of Systematic Collections (a group of U.S. and Canadian scientists) responsibilities in biological field work were discussed and guidelines drawn up. In the hope that this would be of interest to the BRB readers, the Editor asked Dr. Hairston, Director, Museum of Zoology, University of Michigan, for permission to publish the results of this meeting. In passing I would like to note that the increasing international concern in both the social and biological sciences over the ethics of scientific inquiry and the responsibilities of investigators seems to me to presage a new era of vigorous and productive scientific inquiry on the basis of international cooperation and to the benefit of all countries. I would welcome further discussions on these matters.

collecting. Much of the stimulus has come from a few collectors, most of whom are taking specimens commercially or for personal collections. In order to counteract the impression that most field scientists are irresponsible, the following Guidelines for Biological Field Studies have been prepared. Up to the present, the guidelines have been signed by the responsible officers of 29 institutions. We hope that this voluntary statement will reassure the authorities of all countries that representatives of our institutions will conduct themselves according to the highest standards of responsible scientific behavior while making collections and carrying out field studies. Other institutions with systematic collections are urged to endorse the guidelines. Copies may be obtained from Dr. Nelson G. Hairston, Museum of Zoology, The University of Michigan, Ann Arbor, Michigan 48104, who has custody of the signed copies.

Guidelines for Biological Field Studies

PREAMBLE: Organisms, habitat types, climate, and biological principles are not limited by political boundaries. Many systematic and environmental biological research programs, of necessity, become international, cooperative undertakings. The following guidelines are intended to foster this cooperation. Anthropological and archaeological studies, which may require other and different guidelines, are specifically excluded.

Section I. Each signatory institution shall:

1. accept responsibility for the professional actions related to these guidelines of those who engage in field research under its sponsorship.
2. accept the responsibility to protect and preserve scientifically valuable collections and other data deposited with it.
3. make collections and data deposited with it accessible to all qualified scientists, subject to normal restrictions required for the protection and scientific use of the collections.

Section II. Guest scientists will:

1. correspond with the appropriate scientific and other authorities in the host country, informing them of the proposed research and personnel involved in ample time to permit the development of effective cooperation.
2. include in their programs the training of qualified students and young scientists of the host country when practical and mutually desirable.
3. respect the laws and regulations of the host country, and make an effort to be knowledgeable concerning these laws and regulations.

4. collect only enough specimens to satisfy reasonable scientific requirements, including limited distribution to other systematic centers, but never for commercial purposes.

5. notify host scientists and/or other authorities in the host country of results of the expeditions or investigations by means of reports, copies of publications, and any other appropriate scientific information as soon as is practical.

6. share with scientists of the host country the results of the cooperative field studies by division of collections and by publication of research results in media accessible to scientists of both countries.

7. deposit types in accordance with the International Codes of Botanical and Zoological Nomenclature.

Section III. Host countries are encouraged to:

1. enforce and extend conservation laws, particularly those relevant to protection of rare and endangered species.

2. provide adequate mechanisms by which scientists can obtain permission to conduct studies and collect specimens.

3. make information on pertinent legislation available to guest scientists.

4. extend all appropriate assistance and cooperation to scientists representing the signatory institutions.

THEREFORE, in order to advance man's knowledge of his environment, and in the spirit of the true sharing in the tasks of study and documentation of the natural history of the world, I (responsible officer), signify the intent of (institution) to adhere to the foregoing principles and guidelines.

Partial List of Institutions Ascribing to Guidelines for Biological Field Studies. The Museum, Michigan State University; University Herbarium, University of California, Berkeley; National Museum of Natural History, Smithsonian Institution; Peabody Museum of Natural History, Yale University; Bernice P. Bishop Museum; Museum of Zoology, The University of Michigan; Arnold Arboretum, Harvard University; California Academy of Sciences; Museum of Comparative Zoology, Harvard University; Mammal Research Unit, University of Pretoria; Smithsonian Tropical Research Institute; Carnegie Museum; The American Museum of Natural History; Museum of Vertebrate Zoology, University of California, Berkeley; The Academy of Natural Sciences of Philadelphia; Gray Herbarium, Harvard University; The New York Botanical Garden; Field Museum of Natural History; Royal Botanical Gardens, Surrey, England; Plant Research Institute, Canada Department of Agriculture; and Ecology Division, New Zealand Department of Scientific and Industrial Research.

DEVELOPMENTS IN SECTION CT: CONSERVATION--INTERNATIONAL

BIOLOGICAL PROGRAMME*

When the International Biological Programme was originally designed, it was felt that it should include provision for a major effort to provide effective scientific guidance and support to those who were endeavoring throughout the world to insure the safeguarding of an adequate range of sites for future biological field studies. With this in view, a Conservation Section was constituted to concentrate on improving the scientific basis for selecting, establishing, managing and defending a comprehensive range of sites of faunistic, floristic and ecological importance. For this, a main tool of study has been developed and a questionnaire called the "Check Sheet" designed to feed information into the Section's data bank by the use of modern computer methods.

A report on the progress of the Conservation Section to date can be found in Nicholson, E. M. and G. L. Douglas, 1971, IBP/CT: Progress Report 1971, London, International Biological Programme. This Report includes the following: progress report on Check Sheet returns; problems at survey level; outline of processing methods; further development of the Check Sheet; results of initial sample of completed Check Sheets; report on field trials in Tunisia; survey of oceanic islands; development of a soils classification for IBP/CT use; geographical aspects of the CT Programme; ecological field stations; ecological classification of vegetation for IBP use.

In addition, this Report summarizes the development of Project Telma. Project Telma is concerned with international cooperation in the conservation of peatlands for scientific research and education and for the protection of their wildlife. One aspect of Project Telma is to prepare a handbook on conservation of peatland sites. This will review the importance of peatlands and related areas, threats to them, and indicate the urgency of promoting international as well as national conservation programmes. A key section will be devoted to a list of peatland sites of international importance for science.

The Progress Report in addition covers Project Aqua which is an attempt to register those aquatic sites throughout the world which, in the interest of science and of posterity, should be given some kind of conservation status comparable with national parks, nature reserves or equivalent areas of land. The ultimate aim is international recognition of an agreed list and national action in conservation.

* This communication is based on information abstracted from Nicholson, E. M. and G. L. Douglas, 1971, IBP/CT: Progress Report 1971, London, International Biological Programme; from Newsletter No. 4 of Section CT: Conservation, IBP; and from correspondence with G. L. Radford.

The geographical distribution of the Check Sheet returns (IBP areas) are as follows: Europe, 129; Africa, 83; South America, 13; Central America and Caribbean, 6; Australasia, 91; Pacific Ocean, 3; Indian Ocean, 16; North America, 220; Asia (excluding Southeast Asia), 22; Southeast Asia, 4 (including one from Sabah and three from Singapore).

The task of the IBP/CT was originally outlined as "the examination of the range of ecosystems over the world and the assessment of the extent to which scientifically adequate samples of all the main types and their significant variables are already protected." It was realized that in order to meet these goals some acceptable standard procedure for collecting and processing of relevant data would be required. Therefore, much time and effort was devoted to developing a Check Sheet to enable this information to be readily gathered in the field, to be economically and accurately processed, and to provide significant and reliable results.

The Nature Conservancy offered the facilities of the Biological Records Centre at Monks Wood Experimental Station, England, for handling of Check Sheet data, with advice from the Smithsonian Institution in Washington. In 1967 there was published a Guide to the Check Sheet for IBP areas (IBP Handbook No. 4), and in 1968, a Handbook to the CT Section. As the result of the experience with these Check Sheets, this Section has developed a reduced version of the Check Sheet Questions on vegetations and soil.

There also exists the problem of synthesizing data from groups of IBP Areas into national and regional reviews. It should then be possible to evaluate the extent to which the major habitats defined in terms of plant formations are being safeguarded. This operation is basic to a World Conservation Review. A Country Check Sheet has been designed to fill this role of condensing all available information on the country level, as well as that of checking on progress of the survey as a whole. This Country Check Sheet is the first step towards assessing the degree of ecosystem protection at national level. It also helps to define the range of ecological types which have been included in the Check Sheet Survey returns for any one country.

In order to increase the flow of completed Check Sheets, at a recent meeting of the Conservation Section it was decided to concentrate on obtaining a large number of completed Check Sheets for a particular biome. It was decided that the tropical rain forest areas would benefit most from such a project, and it is hoped that the organization of this for the Southeast Asia area can proceed shortly.

Further information on the Check Sheet Survey can be obtained from G. L. Radford, the Check Sheet Survey Organizer, IBP/CT Survey, Biological Records Centre, Monks Wood Experimental Station, Abbots Ripton, Huntingdon, England.

AN ANALYSIS OF DEVELOPMENTAL CHANGE AMONG THE IBAN

From Peter D. Weldon
University of Singapore

Richard L. Schwenk returned in July to Sarawak from Cornell where he completed his M.S. in Extension Education. His thesis, "A Macro-Structural Approach to Planning Programs of Developmental Change Using a Case Study of Iban Longhouses," is an effort to adapt a theoretical framework which aims at explaining the likelihood of development to a more practical instrument for applied development. He has developed a number of sophisticated Guttman scales, dealing with such areas as recreation, traditional occupations, modern occupations, non-traditional religion, the adoption of innovations, differentiation, solidarity and relative central. He combined these scales using factor analysis and then applied both stepwise and multiple regression analysis to determine which of the scales were most highly correlated with his main dependent variable, adoption of innovations. His unit of analysis was the longhouse. The thesis would seem to introduce new techniques to the study of development problems in Sarawak generally and particularly among the Ibans. An article based on the thesis is forthcoming in Practical Anthropology and other articles are in preparation. Mr. Schwenk's address is c/o Methodist Agricultural Training Centre in Kapit where he was for four years before going to Cornell. Those interested in his research should contact him directly.

INSTITUTE OF SOUTH-EAST ASIAN BIOLOGY,
UNIVERSITY OF ABERDEEN, SCOTLAND--U.K.

From A. G. Marshall

This Institute, which was inaugurated two years ago, arose from the established relationship between the Universities of Aberdeen and Malaya and the appointment to Aberdeen of three Lecturers in South-east Asian Biology. One major aim has been to further research at Aberdeen in tropical biology by encouraging an exchange of scientists for research purposes between Aberdeen and South-east Asia; this so far has largely involved the fields of Agriculture, Botany, Forestry, Soil Science, and Zoology. Current research at Aberdeen on South-east Asian topics includes studies on water and nutrient cycling in the rainforest, the cytology, taxonomy and ecology of rainforest trees, tropical orchid mycorrhiza, and the ecology of bats and their ectoparasites. Furthermore, a major research programme on the population genetics of Malaysian rainforest trees is currently being formulated which will involve botanists, foresters, geneticists and zoologists both in Scotland and Malaysia.

Another important purpose of the Institute is to further the collaboration between the Universities of Aberdeen and Malaya. This collaboration embraces the entire Science Faculties of both universities, but the Institute is well placed to collect and disseminate

information and to organize meetings in order to strengthen the bond between the two universities. To these ends twice termly informal talks are organized, collection of books, photographs and maps relevant to South-east Asia have been initiated, and an information bulletin is circulated throughout the scientific community in Aberdeen.

The Institute has also encouraged the teaching of tropical biology to undergraduates, and is actively encouraging suitable students to take up postgraduate research on South-east Asian problems. An important event during the past year was the First Aberdeen - Hull Symposium on Malesian Ecology organized jointly by the Institute and the Centre for South-east Asian Studies and Department of Geography, University of Hull. This symposium on "Water Relations in Malesian Forests" was held at Hull in July, 1970, and attracted participants from several institutions and countries including Malaysia, Indonesia and Germany. The proceedings were to be published early in 1971. The Second Symposium, on "The Quaternary Era in Malesia," was held at Aberdeen in May, 1971.

Further information about the Institute may be obtained from Dr. A. G. Marshall, Department of Zoology, University of Aberdeen, Aberdeen AB9 2TN, Scotland--U.K.

BORNEO STUDIES AT THE UNIVERSITY OF HULL

From M. A. Jaspan

The following members of the Centre for South-East Asian Studies at Hull have an active interest in Borneo.

PROFESSOR M. A. JASPAN visited the Ngadju in South Central Kalimantan in 1957 and spent five weeks in Sarawak in 1965, as a guest of the Sarawak Museum.

DR. J. C. JACKSON, Fellow in South-East Asian Geography, made a field study in Sarawak in 1966. His publications include: Sarawak: A Geographical Survey of a Developing State, University of London Press, 1968, and Chinese in the West Borneo Goldfields: A Study in Cultural Geography, University of Hull Occasional Papers in Geography, No. 15, Hull, 1970.

DR. D. K. BASSETT, Senior Fellow in South-East Asian History, has worked on aspects of Brunei, Sabah and Sarawak history in the 18th and 19th centuries.

MR. PAUL BEAVITT, Fellow in South-East Asian Sociology, spent two years (1968-71) among the Iban of Sarawak studying problems of social structure and economic development.

DR. M. LEIFER, until recently Fellow in South-East Asian Politics, has published: "The Philippines and Sabah Irredenta," in The World Today, Oct. 1968: 421-428 (also in Hull Staff Reprints on South-East Asia, Second Series, No. 9) and The Philippine Claim to Sabah, Hull Monographs on South-East Asia, No. 1, 1968.

DR. GEORGE R. ELLISTON, formerly Fellow in South-East Asian Geography, and now Lecturer in Geography at the University of Malaya, Kuala Lumpur, has made a study of sea fisheries in Sarawak. Part of the results of this study are published in The Marine Fishing Industry of Sarawak, Department of Geography, University of Hull, Miscellaneous Series in Geography, No. 4, 1967.

MR. P. EATON, a research student in South-East Asian Geography, began work in 1968 on a M.A. thesis entitled "The Improvement of Indigenous Agriculture in Sarawak."

MR. D. JOHN, a Ph.D. candidate in South-East Asian Geography is completing a thesis on "Development in British North Borneo."

MR. ZAINAL KLING, A Hull-Malaya Postgraduate Scholar in South-East Asian Studies, began work in 1970 on a study of Social Organization and Economic Change Among the Malays of Saribas, and is presently spending 15 months in Sarawak.

REQUEST FOR INFORMATION ON TUMBAGA, A GOLD-COPPER ALLOY

In a recent article in Science (Vol. 68:116-118, 1970) reference was made to the use of a gold-copper alloy in preColumbian British Honduras and Panama. The author of the note referred to this gold-copper alloy as "tumbaga." Among the Rungus of the Kudat District, Sabah, the term "tumbaga" is used to refer to any light copper-colored object such as "tumbaga lansat" as well as to light copper-colored metal. Does anyone have any information on the origin of this word and why it is used in such widely scattered parts of the world for essentially the same meaning? If so, please write the editor, Borneo Research Bulletin.

MAJOR INVESTMENTS BY SHELL AND WEYERHAEUSER IN BORNEO

The Sarawak Shell Co., a member of the Royal Dutch-Shell Group, plans to spend about US\$1 billion to develop liquefied natural gas (LNG) from gas fields recently discovered off Sarawak according to The Wall Street Journal (August 6, 1971). Several sites for an LNG plant, including offshore ones, are being studied to increase current facilities, and the capital investment for the plant will amount

to US\$333 million. The rest of the investment is to go toward developing several recently discovered large fields of natural gas off Sarawak. It is reported that the Sarawak plant will begin marketing in 1977.

Weyerhaeuser Co. has tripled the size of its Far East timber holdings by acquiring a majority interest in International Timber Corp., Indonesia, according to The Wall Street Journal (July 1, 1971). International Timber holds timber cutting rights on 1.5 million acres of tropical hardwood forest land in Kalimantan. It is reported that merchantable timber totals more than 10 billion board feet, and capital investments exceeding US\$30 million are planned for a ten-year development period.

NOTES AND COMMENTS FROM BRB READERS*

"This [BRB] will be of the greatest value to all concerned with the social and biological sciences in Borneo." - R.O.W. (Hong Kong). "The copy of the BRB you sent me is a veritable gold mine of precisely those materials which will help me in my research and I am acting to obtain copies of a number of the articles listed." - J.K.R. (U. of Wisconsin). "You have my heartiest appreciation to the formation of the Borneo Research Committee and the publication of its Bulletin." - M.J.A.S. (Dewan Pahasa dan Pustaka, Brunei). "We would be most grateful... to receive the BRB regularly so that abstracts from articles in it may be prepared and published in our quarterly journals Herbage Abstracts and Field Crop Abstracts." - B.F.B. (Commonwealth Bureau of Pastures and Field Crops). "What a blessing to have, at last, a paper coordinating news on who's doing what, and where in Borneo." - A.G. (U. of Hawaii). "I am looking forward to future issues and hope that we can have a closer contact through them" - M.T.O. (U. of Malaya). "It was really a good idea to finally organize knowledge and plans of scientific work on Borneo." - W.M. (Antioch College). "I am impressed by the BRB. The amount of work you have put into it must have been immense, and clearly it is going to be most valuable." - H.S.M. (L.S.E.).

"This I found to be of considerable interest and it is being circulated among senior members of my staff." - A.R.G. (Harrisons and Crosfield). "I found [the BRB] most interesting and helpful. I am enclosing a contribution... towards your publication costs." - J.G. (Hawthorn Press). "We believe that this will be a useful addition to our collection and look forward to receiving future issues... ." - A.Z. (The Library, American Museum of Natural History). "This Bulletin is a valuable addition to our periodical holdings. Its issues will... be made available to the faculty and students in our Department of Asian Studies." - N.T.K. (The Library, U. of British Columbia). "I can assure you that your Borneo Research Committee is receiving our hearty support." - C.C.H.

* Continued from BRB 2:49-50, 1970.

(Medical Services, Sarawak). "We found the contents are of very much interest to us." - H.O. (The British Council, Sarawak). "The formation of the BRC has been noted with interest here. Since we are particularly concerned with the social and economic development of Sabah, we would hope that this might lead to the initiation of more research on problems of contemporary significance in Sabah in particular." - A.C.R.W. (Ministry of Finance, Sabah). "I have just received your announcement concerning the [BRB] and wish to express my congratulations to your Committee on this move." - J.E.D.F. (Forest Department, Sabah). "I would like to congratulate you on a finely conceived and finely produced Bulletin." - J.G. (Canberra, Australia). "The current issue... is excellent and most interesting. It really does fill a long felt need. I retain my interest in Borneo, as does my wife, and we have found it hard to keep up." - A.M. (Canberra, Australia). "I have found the BRB to be very helpful. I hope to see it grow into a semi-annual or a quarterly journal." - E.L. (California). "My warmest congratulations on the success of the BRB in general, and for the December, 1970, issue in particular. I am greatly impressed by the wide flung interest in Borneo." - C.D. (Harvard U.). "My congratulations to you on the most recent issue of the Bulletin, which provides more information than any other preceding ones. Please keep up the good work." - D.M.T. (U. of Hawaii). "There is much information of interest for me in this issue of the BRB." - J.R. (Sarawak).

A N N O U N C E M E N T S

TERRA AUSTRALIS: A SERIES OF MONOGRAPHS ON AUSTRALASIAN PREHISTORY

Terra Australis aims to make available basic data on the prehistory of the peoples of the Australasian region provided primarily by the researches of staff and student members of the Department of Prehistory, Research School of Pacific Studies, The Australian National University, Canberra, Australia.

The area of the Department's archaeological work--Australia, New Guinea, the Malay Archipelago and the islands of the Southwest Pacific--is culturally so rich and remarkable that it has been a focus of continuing interest to every school of ethnography since anthropological studies began. By contrast and partly in consequence archaeological studies have remained undeveloped until recent years. Now that they have begun, their strategy can benefit from the existence of ethnographic records as well as from the persistence of traditional life itself over large areas.

Though archaeological work is recent and thinly spread over the region as a whole, its early results have been more than normally subversive of established notions and, moreover, revolutionary in their implications for our view of the early history of man in the archaeologically ill-known Southeast Asian region to the north

and west. Some of these results are now becoming known through journal articles, but publication of the basic data to support them has lagged. Terra Australis has been established to provide such data.

Volume 1 is now available at a cost of A\$4.00 + 30¢ postage. Burrill Lake and Currarong: Coastal Sites in Southern New South Wales by R. J. Lampert, Archaeological Field Officer in the Prehistory Department.

Volume 2, in an advanced state of preparation, is: Archaeological Excavations in the Eastern Central Highlands, Territory of Papua and New Guinea by J. Peter White, Lecturer in Prehistory, University of Sydney.

Further volumes are in preparation reporting archaeological work on Buka (northern Solomons), in Tonga (western Polynesia), and in northern Australia.

All enquiries should be addressed to Terra Australis, c/o Department of Prehistory, Research School of Pacific Studies, the Australian National University, Box 4, P. O., Canberra A.C.T., Australia 2600.

PUBLICATIONS OF SOUTHERN ASIAN INSTITUTE, COLUMBIA UNIVERSITY

The Southern Asian Institute, Columbia University, New York, has begun publications of a series of Occasional Bibliographical Papers, which will deal with South and Southeast Asian materials, with special reference to holdings in the New York area. The first, by Margaret Roff, Official Publications of Malaysia, Singapore, and Brunei in New York Libraries (45 pages, photo-offset), lists all publications from the nineteenth century to the present, and contains more than 700 entries. It is available for \$1.50, postpaid, prepayment preferred. Orders should be sent to Mr. Alfred Lane, Office of Gifts and Exchanges, Room 103, Butler Library, Columbia University, New York, N. Y. 10027.

REQUEST FOR INFORMATION ON THE MEDICAL

AND SYMBOLIC USES OF DURIAN

JAY B. CRAIN, Department of Anthropology, Sacramento State College, 6000 Jay Street, Sacramento, California 95819, U.S.A., is interested in corresponding with anyone who has bibliographic information or field data on the medical uses or symbolic references to the durian in Borneo. He is currently working on a paper dealing with the symbolic significance of durian.

BIBLIOGRAPHIC NOTES BY FRANK SHULMAN

FRANK J. SHULMAN, Center for Japanese Studies, The University of Michigan, Ann Arbor, Michigan 48104, periodically prepares and distributes a Bulletin containing bibliographic notes on Asia. Recent Bulletins include a list of Newsletters dealing with Asia and bibliographic notes on Asia compiled from the Newsletter of the American Historical Association.

SOUTHEAST ASIA, AN INTERNATIONAL QUARTERLY

Southeast Asia, An International Quarterly, has been established to provide a multi-disciplinary journal for scholars of all nationalities interested in the region.

Its editorial policy is to present a broad spectrum of articles and views, while avoiding commitment to particular political or ideological positions and eschewing polemic. It is intended to appeal to scholars and students whose interests lie somewhat beyond the traditional parameters of their formal disciplines and whose channels of communication are therefore often found outside the conventional journals. At the same time, it is hoped that the strong scholarly focus will be leavened by the attraction of good writing and broad interest and will thus facilitate the development of a readership among statemen, journalists, and well informed laymen as well.

Articles scheduled for early publication include: Charles A. Fischer "A View of Southeast Asia"; Hoang Xuan Han "Reflections on the Calendar of the Lê Dynasty"; Paul Mus "Buddhism in Vietnamese History and Society"; Michael Leifer "Peace and War in Cambodia"; Frank Darling "Political Development in Thailand and the Philippines: A Comparative Analysis"; Jay S. Salkin "Land Size and Patterns of Resource Productivity in Rice Production"; and Fred R. von der Mehden "The Rise and Fall of the Religious State in Burma."

The editor of Southeast Asia is Wesley R. Fishel, Southern Illinois University, Carbondale, Illinois 60901, U.S.A. The subscription rates are: regular subscriptions \$8.00; students \$5.00; libraries \$15.00. Subscriptions may be obtained from the Subscription Department, Southeast Asia, Southern Illinois University, Carbondale, Illinois 62901, U.S.A.

THE ASSOCIATION OF SOUTHEAST ASIAN INSTITUTIONS OF HIGHER LEARNING

The Association of Southeast Asian Institutions of Higher Learning, a nongovernment organization, was founded in 1956 at a meeting in Bangkok of the Heads of eight State Universities in Southeast Asia. Its purpose is to assist member institutions to strengthen themselves

through mutual self-help. The Association publishes a Newsletter and various Reports. The Newsletter costs US\$2.00 per copy and may be obtained from Prachoom Chomchai, Executive Secretary, Ratasastra Building, Chulalongkorn University, Henri Dunant Road, Bangkok, Thailand.

JOURNAL OF SOUTHEAST ASIAN STUDIES

The Journal of Southeast Asian History has been reorganized under a new format as the Journal of Southeast Asian Studies to provide comprehensive coverage to specialist contributions from all the social sciences. The University of Singapore is now responsible for all its editorial policy and publishes the Journal in conjunction with McGraw-Hill Far Eastern Publishers (S) Ltd., Jalan Boon Lay, Jurong, Singapore 22, which is also the distributing agent. The Editor of the Journal is Dr. R. Suntharalingam, University of Singapore. Two issues a year are envisioned at S\$8.50 per issue.

ETHNIC GROUPS OF INSULAR SOUTHEAST ASIA TO BE PUBLISHED

Ethnic Groups of Insular Southeast Asia (in two volumes) by Frank M. LeBar, Editor and Compiler, is to be published soon. Volume 1, on Indonesia, the Andamans and Nicobar, and Madagascar is now in production. Volume 2, on the Philippines and Aboriginal Formosa, will shortly follow. Each volume will be approximately 240 pages and will cost \$14. Ethnic Groups of Insular Southeast Asia is a companion set to Ethnic Groups of Mainland Southeast Asia, by Frank M. LeBar, Gerald C. Hickey, and John K. Musgrave, Compilers, in coverage and format.

The contributors and their entries for Borneo are: D. J. Prentice on the Idahan Murut; R. Peranio on the Bisaya; C. A. Sather on the Bajau, Tidong and Illanun; G. N. Appell on the Rungus; R. Needham on the Penan; J. B. Avé on the Ot Danum and southern Kalimantan Dayaks in general; and D. J. Miles on the Mentaya River Dayak. F. LeBar, himself, is doing the entries for the Kenyah-Kayan, Kelabitic Murut, Malanau, Kedayan, Iban, Land Dayak, Maanjan, Coastal Malays and Chinese.

These volumes may be obtained from the Human Relations Area Files, P. O. Box 2054 Yale Station, New Haven, Connecticut 06520.

ASIE DU SUD-EST ET MONDE INDONÉSIEN

The Centre de Documentation et de Recherches sur l'Asie du Sud-Est et le Monde Indonésien, 43, Rue Cuvier, Paris 5^e, France (École

Pratique des Hautes Études, VI^e Section), has begun the publication of a bulletin entitled Asie du Sud-Est et Monde Indonésien. The Bulletin carries information on the activities of the Centre, brief research notes, a summary of research in progress, research completed during the past few years, and dissertations in progress.

BOOKLETS ON THE STAMPS OF BORNEO

The Hawthorn Press, 601 Little Bourke Street, Melbourne, Victoria, Australia 3000, has recently published two booklets on the stamps of Borneo. These are: L. H. Shipman, 1970, North Borneo: The Fiftieth Anniversary Issue of the North Borneo (Chartered) Company, 1 January 1931 (24 pp. with plates); and L. H. Shipman, n.d., Sarawak: The De La Rue Issues of 1918 to 1928 and the Associated Provisionals (23 pp. with plates).

B O R N E O N E W S

Regional News

ENYA P. FLORES-MEISER is in the process of writing an article on marriage among the Sibutu Samals for Mario Zamora's barrio anthology. She has returned to the field in the Philippines but not to Sulu, although she may make a trip to Ungus Matata and Sibutu.

ERIC S. CASINO is currently finishing his dissertation in the Department of Anthropology, University of Sydney, Sydney, Australia, and plans to return to the Philippines in September where he will be running the Division of Anthropology in the National Museum, Manila.

R. O. WHYTE writes that he is presently engaged in drafting for Asian Perspectives an article entitled "The Gramineae, Wild and Cultivated, of Southeast Asia." The article will cover geobotanical history, archaeology, primitive cultivation and domestication, anthropology, taxonomic geography and so on.

BARBARA HARRISSON writes that her paper, "Conservation of Primates," is due out in a monograph, Primates in Medicine, Vol. 5 (New York, Karger, Basel), 1971. She also has completed a new paper on the ceramic collections of the Brunei Museum for the next volume of the Brunei Museum Journal. During the spring term at Cornell, Mrs. Harrisson was teaching a course on primates. During the fall term of the academic year 1971-72, she will be working on a project largely on primate conservation for the I.U.C.N. During this time,

she will be working in Europe, primarily based in Switzerland. During the spring term of 1972 she will be teaching two seminars at Cornell, one on primate evolution, ecology, and conservation; and the other on evolution of maritime trade in Southeast Asia with special reference to Far Eastern trade ceramics. Mrs. Harrisson writes that she is interested in corresponding with anyone interested in these two aspects of her research.

PETER G. GOWING, South East Asia Graduate School of Theology, 6-e Mt. Sophia, Singapore 9, writes that he has made two research trips to Sabah, Brunei and Sarawak in 1968 and 1970. The focus of his research is on the character of Islam in Southeast Asia.

Brunei News

DONALD E. BROWN'S Ph.D. dissertation, Socio-political History of Brunei, A Bornean Malay Sultanate, has been published by the Brunei Museum.

Sarawak News

DONALD M. TOPPING, Director, Pacific and Asian Linguistics Institute, University of Hawaii, writes that ROBERT A. BLUST is currently doing linguistic field work in the Baram District, Fourth Division, Sarawak. His purpose for being there is to collect lexical materials needed for his project in subgrouping the West Borneo languages and suggesting changes in reconstruction in some Proto-Austronesian morphemes.

A. J. N. RICHARDS writes that he has supplied an Iban word list for the Atlas Ethno-linguistique which is being compiled by the Ecole Pratique des Hautes Etudes (VI^e Section), Centre de Doc. et de Recherches sur l'Asie du Sud-Est et le Monde Indonésien, 43 Rue Cuvier, Paris 5^e, France.

PAUL BEAVITT left Sarawak in January 1971 and is now teaching at the Centre for South-East Asian Studies in Hull. He is also starting to write up his research on Iban social change. For this study of the role of the Iban in the social and economic development of Sarawak he has carried out research in the following areas: (a) relations between cash and subsistence sectors of Iban economic activity; (b) changes in religious beliefs and practices; (c) relations with Chinese; and (d) Brooke, Colonial and Malaysian Government development policy in relation to the Iban. Mr. Beavitt writes that he would be very pleased to hear from others who have done similar work.

GALE DIXON, Department of Geography, University of Oregon, Eugene Oregon, has been engaged in research on village morphology in the First Division of Sarawak.

Sabah News

B. D. NEUFELD is engaged in ethnomusicological research in Sabah. He is a Canadian University Service Overseas Volunteer attached to the Chief Minister's Department and is conducting his research under a grant given jointly by the British Columbia Teacher's Federation and the Canadian International Development Agency. Mr. Neufeld and his wife previously taught in Kudat. He writes that he is engaged in a two-pronged approach to Sabah's music. One aspect of his work is to preserve a rapidly-changing musical heritage by means of tape recordings and subsequent manuscripts giving musical notations. The other aspect is to make a study of this music as a behavioral phenomenon (i.e. how this music affects individuals, as well as the culture; how a changing culture is affecting changes in the music; and how the musical culture, and other aspects of the culture, are interrelated).

Upon completion of his work here, he writes, the tape recordings will be turned over to Radio Malaysia, Sabah, while copies of the musical manuscripts will be given to the Government for possible use by the Education Department and to the Sabah Museum for inclusion in its archives.

In the past two months he has completed two rather lengthy field trips. The first took him from Kudat to the upper reaches of the Bengkoka River along the following route: Kudat--Kg. Telaga--Kg. Kalumpang--Kg. Mandamai--Kg. Seniton Laut--Kg. Nanabungan Bahru--Kg. Bombong II--Kg. Samporita--Tandek. The second trip began in Bandau, went over the Crocker Mountain Range, and ended in Kota Belud, as follows: Bandau--Kg. Tagaroh--Kg. Bingkungan--Kg. Simpangon--Kg. Timbang Batu--Kg. Sunsui--Kg. Marak Parak--Kg. Podi--Kg. Tangkurus--Kota Belud. His wife accompanied him on the second trip.

Mr. Neufeld's address is P. O. Box 1645, Tanjong Aru, Kota Kinabalu, Sabah, Malaysia.

CLIFFORD A. SATHER has completed his dissertation entitled "Kinship and Domestic Relations Among the Bajau Laut of Northern Borneo" (360 pp.), and has received his Ph.D. from the Department of Anthropology, Harvard University.

PETER GOETHALS will be at the Cultural Learning Institute of the East-West Center, Hawaii, this coming academic year preparing his research material for publication and working on comparative Malayo-Polynesian linguistics.

GEORGE N. APPELL will be a Visiting Professor under the Fulbright-Hays Program at the Institute of Prehistoric Archaeology and Ethnography, University of Aarhus, Aarhus; Denmark, during the academic year of 1971-72. He will be lecturing on social anthropological theory, the ethics of anthropological inquiry, and the ethnography of Borneo as well as installing a Rungus Dusun collection of material culture that Dr. Sven Fogh originally made while he was District Medical Officer, Kudat.

Kalimantan News

WARREN CHASTAIN writes that his project of collecting material for a history of Christian missions in Kalimantan Barat will be delayed until he completes his research for his dissertation.

HERBERT AND PATRICIA WHITTIER are winding up their study of Kenyah social organization in Kalimantan with a short visit to the Kenyah on the Baram River, Sarawak. They plan to return to Michigan State University in November.

B I B L I O G R A P H Y

Agriculture

Nishida, T. and T. Torii (eds.), 1970, A Handbook of Field Methods for Research on Rice Stem-Borers and Their Natural Enemies. London, International Biological Programme Handbook No. 14. 144 pp.

Archaeology

Shutler, Richard, Jr., 1970, Book Review of Excavations of the Prehistoric Iron Industry in West Borneo. Volume One: Raw Materials and Industrial Waste. Volume Two: Associated Artifacts and Ideas. By Tom Harrisson and Stanley J. O'Connor. Southeast Asia Program Data Paper 72. Ithaca, N. Y., Cornell U. Dept of Asian Studies, 1969. American Anthropologist 72:1538-1539.

Art History

Adams, Marie Jeanne (Monni), 1970, Symbolic Scenes in Javanese Batik. Textile Museum J. 3:25-40.
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History

Reynolds, John Keith, 1970, Towards an Account of Sulu and Its Borneo Dependencies 1700-1878. M.A. Thesis (History), U. of Wisconsin. 124 pp., annotated bibliography and maps.

Linguistics

Court, Christopher, 1967, A Distinctive Feature Analysis of the Phonemes of Mentu Land Dayak. Phonetica 17:202-207.

___ 1967, Some Areal Features of Mentu Land Dayak. Oceanic Linguistics 4:46-50.

___ 1971, A Mentu Land Dayak Word List for Comparative Purposes. Sarawak Museum J. (forthcoming).

___ n.d., The Phonology of the Word in Mentu Land Dayak: A Descriptive and Typological Study. Unpublished M.A. Thesis (Anthropology), Sydney University.

Dournes, Jacques, 1970, Situation du Jörai Dans le Monde Austronésien (Mimeographed) 44 pp.

Scott, N.C., 1964, Nasal Consonants in Land Dayak (Bukar-Sadong). In D. Abercrombie et al. (eds.), In Honour of Daniel Jones. Papers Contributed on His Eightieth Birthday, 12 September 1961. London.

Primates

Harrisson, B. and W. J. Roth, 1970, Problems of Conservation of Laboratory Primates. IUCN Bulletin 2:120-121.

Social Anthropology

Avé, J. B., 1970, De Onbekende Bilang Kangan der Dajaks. Verre Naaste Naderbij 4:3-12. Leiden, Rijksmuseum voor Volkenkunde.

___ 1970, De Andere Dajakse Wichelschema's. Verre Naasten Naderbij 4:45-53. Leiden, Rijksmuseum voor Volkenkunde.

Court, Christopher, 1967, Pointing and Asking: A Note on Deixis in Mentu Land Dayak. Bijdragen tot de Taal-, Land- en Volkenkunde 123:520-523.

___ 1970, The Kinship Terms of Reference of the Mentu Land Dayaks, in Phonemic Notation. Bijdragen tot de Taal-, Land- en Volkenkunde 126:463-465.

Endicott, Kirk Michael, n.d., An Analysis of Malay Magic. New York, Oxford U. Press. \$7.25.

Miles, D., 1970, The Ngadju Dayaks of Central Kalimantan, With Special Reference to the Upper Mentaya. Behavior Science Notes 5:291-319.

___ n.d., Ngadju Kinship and Social Change on the Upper Mentaya. In L. Hiatt and C. Jayawardena (eds.), Anthropology in Oceania. Sydney, Angus & Robertson. (In press.)

Nimmo, H. Arlo, 1970, Bajau Sex and Reproduction. Ethnology 9:251-262.

BORNEO RESEARCH COUNCIL FELLOWS*

- Appell, Dr. G. N., Phillips, Maine 04966, U.S.A. (Social Anthropology; Borneo Ethnography and Linguistics).
- Audy, Dr. J. Ralph, Professor of Tropical Medicine and Human Ecology, G. W. Hooper Foundation, U. of California, San Francisco, California 94122, U.S.A. (Human Ecology and International Health).
- Avé, Drs. J. B. Rijksmuseum vo. Volkenkunde, P. B. 212, Leiden, Netherlands (Borneo; Cultural Anthropology).
- Beavitt, Paul, Centre for South-East Asian Studies, U. of Hull, Hull HU6 7RX, England (Sociology).
- Bedlington, Stanley S., c/o Institute of Southeast Asian Studies, Cluny Road, Singapore 10 (Political Science, Southeast Asia).
- Berwick, E. J. H., Fiji School of Agriculture, Koronivia, Fiji (Agriculture and Conservation).
- Black, Dr. Ian D., School of History, U. of New South Wales, P. O. Box 1, Kensington, N.S.W. 2033, Australia (History).
- Brooks, Dr. Richard, Anthropology Dept., U. of Nevada, Las Vegas, Nevada 89109, U.S.A. (Archaeology).
- Brooks, Dr. Sheilagh, address same as above (Physical Anthropology).
- Brown, Dr. Donald, Dept. of Anthropology, U. of California, Santa Barbara, California 93106, U.S.A. (Social Anthropology).
- Burrough, Dr. P. A., P. O. Box 133, Tuaran, Sabah, East Malaysia (Pedology; Ethnology).
- Burrough, J., address same as above (Geography).
- Casiño, Eric, Head, Muslim Studies, National Museum, Herran Street, Manila, Philippines.
- Charles, Mathew, 314 Ithaca Road, Ithaca, New York 14850, U.S.A. (General Linguistics; Indonesian Languages; Malayopolynesian Comparative Linguistics).
- Chastain, Warren, 2850 Forest Street, Denver, Colorado 80207, U.S.A. (History).
- Chastain, Mary E., address same as above (Linguistics).
- Chin, Lucas, Assistant Curator, Sarawak Museum, Kuching, Sarawak, Malaysia (Museology including Archaeology).
- Collier, William L., Visiting Professor, The Agricultural Development Council, P. O. Box 62, Bogor, Indonesia (Agricultural Economy).
- Comber, James Boughtwood, c/o Ciba-Geigy Agrochemicals, P. O. Box 259, Djakarta, Indonesia.
- Conley, William W., Associate Professor, Box 276, St. Bonifacius, Minnesota 55375, U.S.A. (Anthropology; Indonesia; Kalimantan).
- Corner, Prof. E. J. H., Botany School, Downing Street, Cambridge CB2 3EA, England (Botany).

* Fellowship in the Borneo Research Council consists of those who are engaged in research in Borneo. The names and addresses of Fellows are included here in order to facilitate communication among those interested in Borneo research. Fields of interest are indicated in parentheses.

- Cotter, Dr. Conrad P., Dept. of Political Science, Pensacola Junior College, Pensacola, Florida 32504, U.S.A. (Borneo Bibliography and Archives).
- Crain, Dr. Jay B., Dept. of Anthropology, Sacramento State College, Sacramento, California 95819, U.S.A. (Social Anthropology; Ethnology; Psychiatric Anthropology).
- Crain, Nancy Chenpweh, address same as above.
- Crisswell, Colin Neil, Flat 7, 4 Caldecott Road, Kowloon, Hong Kong (19th & 20th Century History of Britain's Relations with North Borneo, Brunei, and Sarawak).
- Deegan, James L., Box 221, Idaho State University, Pocatello, Idaho 83201, U.S.A. (Anthropology).
- De Silva, George Stanley, Forest Department, Sandakan, State of Sabah, Malaysia (Animal Ecology).
- Doering, Otto C., III, Dept. of Agricultural Economics, Cornell U., Ithaca, New York 14850, U.S.A. (Agricultural Economics).
- Dunn, Dr. Frederick L., Professor of Epidemiology and Anthropology, Dept. of International Health, U. of California, San Francisco, California 94122, U.S.A. (Medical Anthropology; Behavioral Epidemiology; S.E. Asia, especially Malaysia and Indonesia).
- Echols, Prof. John M., Southeast Asia Program, 108 Franklin Hall, Cornell U., Ithaca, New York 14850, U.S.A. (Linguistics).
- Eggan, Prof. Fred, Dept. of Anthropology, U. of Chicago, 1126 East 59th Street, Chicago, Illinois 60637, U.S.A. (Anthropology).
- Flores-Meiser, Dr. Enya P., Dept. of Anthropology, Ball State U., Muncie, Indiana 47401, U.S.A. (Philippines--Sulu and Tagalog; Dumagats).
- Galvin, Rt. Rev. Anthony D., P. O. Box 108, Miri, Sarawak, Malaysia (Anthropology).
- Geddes, Prof. William R., Dept. of Anthropology, U. of Sydney, N.S.W. 2006, Australia (Anthropology).
- Geoghegan, Dr. William H., Dept. of Anthropology, U. of California, Berkeley, California 94720, U.S.A. (Anthropology; Linguistic Anthropology; Social Organization; Southern Philippines, Muslim Peoples of Philippine Islands).
- Goethals, Dr. Peter R., East-West Center, U. of Hawaii, Honolulu, Hawaii 96822, U.S.A. (Anthropology and Linguistics).
- Golson, Prof. Jack, Dept. of Prehistory, Research School of Pacific Studies, Australian National U., Box 4 G.P.O., Canberra A.C.T. 2600, Australia (Prehistory).
- Grantham, George, 335 NW 79th Street, Seattle, Washington 98107, U.S.A. (Anthropology).
- Grossholtz, Dr. Jean, Dept. of Political Science, Mount Holyoke College, South Hadley, Massachusetts 01075, U.S.A. (Political Science).
- Han, Dr. Sin-Fong, Dept. of Geography, California State College at Los Angeles, Los Angeles, California 90032, U.S.A. (Geography; Southeast Asia and Overseas Chinese).
- Harrison, Dr. Robert, East-West Population Institute, The East-West Center, U. of Hawaii, Honolulu, Hawaii 96821, U.S.A. (Anthropology).
- Harrisson, Barbara, Senior Research Associate, Dept. of Asian Studies & Anthropology, Cornell U., Ithaca, New York 14850, U.S.A.
(1. Primate Evolution and Ecology, special reference to

- Conservation; 2. Protohistory and Recent Archaeology, esp. Early Trade Routes and Far Eastern Trade Ceramics).
- Horr, Dr. David A., Dept. of Anthropology, Brandeis U., Waltham, Massachusetts 02154, U.S.A.
- Hudson, Dr. Alfred B., Dept. of Anthropology, U. of Massachusetts, Amherst, Massachusetts 01002, U.S.A. (Anthropology; Linguistics).
- Hudson, Judith, address same as above.
- Inger, Dr. Robert F., Chairman, Scientific Programs, Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, Chicago, Illinois 60605, U.S.A. (Systematics; Zoogeography; and Ecology of Amphibians and Reptiles).
- Ingleson, John, c/o History Dept., Monash U., Clayton, Victoria 3168, Australia (History).
- Jaspan, Prof. M. A., Centre for South-East Asian Studies, The U. of Hull, Hull, England (Social Anthropology of S. E. Asia, especially Sumatra, Borneo, and Cambodia).
- Jensen, Dr. Erik, Office of the Director-General, United Nations, Geneva, Switzerland (Social Anthropology; especially Religion and Social Change; Iban Studies).
- Landgraf, Dr. John L., C.I.E.P., 2101 Constitution Avenue, N.W., Washington, D. C. 20418, U.S.A. (Anthropology).
- Leong Khee Meng, Geological Survey Office, Kota Kinabalu, Sabah, Malaysia (Geology).
- Lim Jock Seng, Assistant Curator, Brunei Museum, Brunei (Social Anthropology).
- Loh Chee-Seng, 124 Jalan Gasing, Petaling Jaya, West Malaysia (Economic Development).
- Mackin, Sharon, Box 750, State U. of New York, Binghamton, New York 13901, U.S.A. (Anthropology).
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