

K E S A T U A N   K A J I B U M I   M A L A Y S I A  
GEOLOGICAL SOCIETY OF MALAYSIA

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N E W S L E T T E R

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Reminder: AGM and Discussion Meeting, 31 Jan. 67;  
STREMS, 1-4 Feb. 67.

## TECHNICAL CONFERENCE ON TIN

The International Tin Council is holding a Technical Conference on Tin in London on 14-17 March, 1967. This Conference will consider papers on technical problems of tin, with particular reference to an increase production of tin; it will also consider papers on the work and problems of the Mines Departments and Geological Surveys in the tin-producing countries, particularly with regard to the dissemination of technical information.

The summary programme and provisional list of papers show that the papers relate, on the one hand, to the treatment of tin ores (generally and in Malaysia and Nigeria specifically), to dredging practice, to the problems of primary tin deposits, to the geology of lode tin deposits and to new avenues for consumption and, on the other hand, to problems of mines departments and geological surveys in Thailand and Nigeria. There will also be discussion of the relationship of mines departments, geological surveys, the scientist and the tin industry.

Papers of interest to Malaysia include:

"A survey of recent trends in ore-dressing practice in Malaysian alluvial tin mines." W.K. Ng (Department of Mines, Malaysia)

"The prospecting and assessment of alluvial tin deposits." R.H.T. Garnett

"The geology of lode tin deposits." C.L. Sainsbury & J.C. Hamilton (U.S. Geological Survey)

"Some general aspects of tin minerals in Malaysia." D. Santokh Singh & J.H. Bean (Geological Survey, Ipoh)

"Tables for the microscopic identification of tin minerals." D. Santokh Singh

Visits to the Tin Research Institute and to the Cornish tin mining industry have been arranged. The fee for the Conference is £8.8.0. The papers of the Conference will be published as a volume of proceedings. Further information can be obtained from the Secretary, the International Tin Council, Haymarket House, 28, Haymarket, London S.W.1.

- Information provided by W. Fox, Secretary,  
Int. Tin Council

## A SCRUTINY OF THE ABSTRACT

The following appeared as a Geological Note in the Bulletin of the American Association of Petroleum Geologists, Vol.50, No.9 (September, 1966), page 1992. It is reprinted here by kind permission of the A.A.P.G.

A SCRUTINY OF THE ABSTRACT, II<sup>1</sup>Kenneth K. Landes<sup>2</sup>

Ann Arbor, Michigan

## ABSTRACT

A partial biography of the writer is given. The inadequate abstract is discussed. What should be covered by an abstract is considered. The importance of the abstract is described. Dictionary definitions of "abstract" are quoted. At the conclusion a revised abstract is presented.

For many years I have been annoyed by the inadequate abstract. This became acute while I was serving a term as editor of the Bulletin of The American Association of Petroleum Geologists. In addition to returning manuscripts to authors for rewriting of abstracts, I also took 30 minutes in which to lower my ire by writing "A Scrutiny of the Abstract."<sup>1</sup> This little squib has had a fantastic distribution. If only one of my scientific outpourings would do as well! Now the editorial board of the Association has requested a revision. This is it.

The inadequate abstract is illustrated at the top of the page. The passive voice is positively screaming at the reader! It is an outline, with each item in the outline expanded into a sentence. The reader is told what the paper is about, but not what it contributes. Such abstracts are merely overgrown titles. They are produced by writers who are either (1) beginners, (2) lazy, or (3) have not writtern the paper yet.

To many writers the preparation of an abstract is an unwanted chore required at the last minuted by an editor or insisted upon even before the paper has been written by a deadline-bedeveled program chairman. However, in terms of market reached, the abstract is the most important part of the paper. For every individual who reads or listens to your entire paper, from 10 to 500 will read the abstract.

If you are presenting a paper before a learned society, the abstract alone may appear in a pre-convention issue of the society journal as well as in the convention program; it may also be run by trade journals. The abstract which accompanies a published paper will most certainly reappear in abstract journals in various languages, and perhaps in company internal circulars as well. It is much better to please than to antagonize this great audience. Papers writtern for oral presentation should be completed prior to the deadline for the abstract, so that the abstract can be prepared from the written paper and not from raw ideas gestating in the writer's mind.

My dictionary describes an abstract as "a summary of a statement, document, speech, etc. . ." and that which concentrates in itself the essential information of a paper or article. The definition I prefer has been set in italics here underline . May all writers learn the art (it is not easy) of preparing an abstract containing the essential information in their compositions. With this goal in mind, I append an abstract that should be an improvement over the one appearing at the beginning of this discussion.

#### ABSTRACT

The abstract is of utmost importance, for it is read by 10 to 500 times more people than hear or read the entire article. It should not be a mere recital of the subjects covered. Expressions such as "is discussed" and "is described" should never be included! The abstract should be a condensation and concentration of the essential information in the paper.

<sup>1</sup>Revised from K.K. Landes' "A Scrutiny of the Abstract," first published in the Bulletin in 1951 (vol.35, No.7, p.1,660). Manuscript received June 3, 1966; accepted June 10, 1966.

<sup>2</sup>Professor of geology and mineralogy, University of Michigan. Past editor of the Bulletin.

We commend Dr. Landes remarks to all those involved in writing abstracts, and thank him on behalf of all of us who have to read abstracts.

## RECENT MALAYSIAN BORNEO GEOLOGICAL PUBLICATIONS

A review by F.H. Fitch, London

As a former Director of the British Borneo Geological Survey before Sarawak and Sabah attained their independence, your present reviewer is bound to be accused of prejudice in reviewing some of the publications issued since he retired but, after careful study, he has been unable to find anything substantial to criticise. Indeed the maintenance of standard and continuation of the old format, so that a collection of these publications on the library shelf becomes ever more impressive, are entirely admirable and most gratifying.

The 1965 Annual Report, with its content of sections on mineral resources, engineering and regional geology, progress and special reports and papers, and on administration, provides a well-presented record of another year of real achievement, crowned by the discovery of the Mamut Copper Prospect on the flanks of Mount Kinabalu and the beginning of the more detailed investigation that has proved this prospect to be worthy of international attention as potentially one of the world's great porphyry copper occurrences.

The Borneo Geological Survey has maintained for many years that the discovery of economic mineral deposits in these jungle-clad and sparsely populated countries could, except for pure chance, come only from systematic mapping, followed by the application of modern prospecting methods in selected areas. Fortunately a succession of Governments has found this contention convincing, and now at last their patience looks like being rewarded, as this is precisely the way in which the Mamut copper has been found.

Much of the remainder of the Survey's work in 1965 was necessarily less glamorous, but the excellent work of C.H. Kho in the Bintulu Coalfield must not pass without mention, even though it resulted in the disappointing conclusion that the prospects for coal mining in the area are poor. The southward extension by A.C. Pimm of the investigation of the Bau Goldmining Area is also worthy of note. Despite the unencouraging results of drilling at Bau, your reviewer still finds difficulty in believing that all the mineralisation in the Bau are outcrops and so has been found; this would be altogether too great a coincidence, and continuing investigation to obtain greater understanding of the mineralisation, and hence of the places where the search for more ore should be continued, is undoubtedly justified.

The way in which the Survey is passing from the necessarily almost exclusively academic bias of its early years

to work of direct economic significance is well shown by the fact that more than half the 1965 report is devoted to economic investigations. However, the collection of basic geological information very properly continues.

The series of 17 memoirs describing the regional geology is now complete, so that Sarawak and Sabah are now better known geologically than almost any other countries in a comparable stage of development, and a start has been made on the more detailed examination of areas shown by the reconnaissance to be of special interest. Already three reports of a high degree of academic excellence on areas in West Sarawak have been published, and two other areas are being mapped, one again in West Sarawak and the other in Sabah.

The report series follows the memoirs in general style, but is far more detailed, including virtually everything known about the geology, with numerous references to specimens in the registered collections at the Survey's offices and illustrations of individual outcrops. The result is that these publications form a new starting point for any further investigation of the whole or part of the area described and obviate the need for any later workers to delve down into old reports, maps, and field notebooks. This is especially valuable where the work has been done by geologists who may have left the area or are expected to do so, as so many of their personal records would undoubtedly be difficult for anyone else to understand, full or private abbreviations and notations, of half-digested ideas that later were discarded, and so forth. The discipline imposed by the need periodically to tidy everything up and prepare it for publication guarantees that full value is obtained from the money and effort expended. Long may this discipline make itself felt in the Borneo Region Geological Survey, and long may the Governments of the Region continue to appreciate the role of publication in ensuring that they reap the benefits of their wise policy of encouragement for the Survey's work!

Note: The Borneo Survey's Annual Report for 1965 was also discussed in Newsletter 3 (November 1966). The three Reports mentioned by Dr. Fitch are:

- Report 1: Sematan and Lundu Area, West Sarawak.  
by E.B. Wolfenden and M.S. Faile, 1963
- Report 2: Penrissen Area, West Sarawak, Malaysia.  
by G.E. Wilford and C.H. Kho, 1965.
- Report 3: Serian Area, West Sarawak, Malaysia.  
by A.C. Pimm, 1965

## UNIVERSITY OF MALAYA COMPUTER CENTER

Recently, the University of Malaya has announced the establishment of a computer center in the Department of Mathematics. Indeed this is good news to many of us who have been longing for such an establishment. The primary objectives of the computer center, as Professor D.F. Daykin has pointed out, are to provide facilities for teaching and research in computer science and technology, and to act as a center of discussion and activity for persons concerned with computers and their applications.

The computer to be installed in the University is the IBM 1130 System. Basically this consists of a CPU (Central Processing Unit), a Card Read-Punch, a Paper Tape Reader, and a Paper Tape Punch. In addition the system also possesses a disc storage unit, an additional core storage, a graphic plotter, and a line printer. Computer programs can be written in two different types of language, namely the FORTRAN language and the assembler language.

At present a course on FORTRAN programming is being offered to people who have previous programming experience. Beginning from next academic year (1967-68) undergraduate courses in computer techniques will be taught in the Department of Mathematics. The University is also arranging a seminar on Computers and Human Development to be held in August 1967.

The use of electronic computers in the study of geologic problems is becoming increasingly important within recent years. Examples of application in geology are too numerous to mention all of them; the following are just a few of the various applications. In the University of North Carolina a computer is utilized to perform the tedious calculations involved in the X-ray diffraction method of mineral identification. It is found that in just two minutes the computer can solve the complex equations that would require more than four hours using conventional methods. Other computer applications to geology are statistical analysis in geochemical and petrological research, classification of geologic objects, trend surface analysis, evaluation of regional geologic data in mineral exploration, and many others.

Before concluding this item I would like to draw attention to a recent publication on computer techniques in the mineral industry:

Proceedings of the International Symposium on Statistics, Operations Research, and Computers in the Mineral Industry. Colorado School of Mines Quarterly, v.59, No.4 (October 1964). This publication is available

from the Department of Publications, Colorado School of Mines, Golden, Colorado, U.S.A. The price is \$15.00 (U.S.).

- S.H.C.

## TECTONIC MAP OF EURASIA (Part I)

Through the good offices of Professor G.B. Udintzev, the Department of Geology, University of Malaya, has acquired a copy of the spectacular Tectonic Map of Eurasia, 1966, scale 1:5,000,000, prepared by the U.S.S.R. Academy of Sciences, under the General Editorship of Academician A.L. Yanshin. The map, in 12 sheets, when mounted measures 2.4 by 2.3 meters, and is a major scientific and aesthetic tour de force. The colours are bright, clear and beautiful, and the legend is in Russian and English. Although 152 different colour shades or patterns are used, these are skilfully chosen to bring out major relationships: thus regions of alpine folding are shown in shades of orange, and the alpine belt, from Gibraltar to Burma shows as a unit, although many different tectonic sub-units are distinguished within it.

The following major regions are distinguished on the map:

Regions of Pre-Riplean folding of old platforms:  
these are the Pre-Cambrian shields of the Baltic, India and Angura.

Regions of Baikalian Folding: in North China, Korea, and Arabia.

Regions of early Caledonian Folding.

Regions of late Caledonian Folding.

Regions of Hercynian Folding.

Regions of Mesozoic Folding.

Regions of Alpine (Mediterranean) Folding.

Regions of Cenozoic (Kamchatka) Tectogenesis.

Each of these regions is shown in a dominant colour, and as many as 16 subdivisions are shown in different shades. Moreover, depth to basement figures of the cover of various platforms is shown by graded shades and isopach lines.

"Granitoids" are shown by a symbol imposed on the regional colour but some other igneous rocks are shown in a separate colour. The ultrabasic rocks of the alpine belt, and of the Indonesian Archipelago, show up strikingly.



Besides selected isopach lines, a number of structure contours (whose selection was probably dictated by availability rather than regional significance) are shown: "Plicative dislocations" include fold axes and salt domes; under "Disjunctive dislocations" various types of faults are shown. For good measure, zones of superimposed metamorphism, volcanoes, and various other features, such as outlines of neotectonic basins, are shown.

One of the most valuable features of the map is its extension on to areas covered by sea. Isobaths are shown over all marine areas, and 12 different tectonic types of sea floor distinguished and separately coloured as listed below:

1. Regions of Epi-Mesozoic and older platforms.
2. Folded and geosynclinal systems.
3. Regions of pre-Neogenic folding.
4. Deep basins without granitic layer.
5. Deep oceanic trenches.
6. Deep trenches of inland seas.
7. Arched oceanic elevations of the basaltic crust (swells).
8. Marginal swells of oceanic platforms and Philippines basin.
9. Oceanic ridges of block structure.
10. Mid-oceanic ridges and structures of the Bay of Aden and Red Sea grabens.
11. Old oceanic plates between zones of elevations.
12. Oceanic plates without granitic layer originated in the Paleozoic and Mesozoic.

Various types of feature such as volcanic ridges, sea-mounts and guyots, rift valleys, faults, fracture zones, trend lines, atolls, and the edge of the continental shelf, are shown by special symbols. At a number of rather widely scattered points in the oceans, the thickness of unconsolidated sediments and the total thickness of the crust are shown. Much of these data must have been gathered in the last year or two, and the effort of compilation, let alone interpretation, is immense.

Undoubtedly, when each region is examined, the map will be opened to criticism in detail and in interpretation. Such a sophisticated piece of work undoubtedly will be controversial, and, indeed, to stimulate controversy will probably be one of its most valuable functions. The signi-

ficance for example, of "Baikalian Folding" in the Arabian peninsula is probably debatable, and "Caledonian Folding" shown in south-east Asia probably represents only a vague time equivalence to, rather than a genetic relationship with, Caledonian Folding of Europe.

The second part of this review will deal with the tectonics of the Malaysian region, as shown on the map.

- N.S.H.

#### CONVENTION-SYMPOSIUM ON MINERAL RESOURCES, MANILA

The "Second Geological Convention and First Symposium of the Mineral Resources of the Philippines and Neighbouring Countries" was held in Manila on January 11-14 under the auspices of the Geological Society of the Philippines. In line with the policy of the Philippine Government to promote the development of the mineral resources of the country, the Convention-Symposium was declared 'official' by the Philippine Government. This meant that all departments, bureaus and offices, including government-owned or controlled corporations employing geologists were authorized to send up to three persons to the Convention-Symposium on official time with expenses and subsistence allowance.

Australia, Japan, Taiwan, Malaysia and Thailand were also represented at this Convention-Symposium.

After the opening ceremony which included an address by the Assistant Executive Secretary to the Office of the President of the Philippines, scientific papers were presented under the following sections:

- Section I Regional Geology (5 papers)
- Section II Iron and Ferro-alloy metals (11 papers)
- Section III Precious and base metals (8 papers)
- Section IV Non-metals (10 papers)
- Section V Fuels (5 papers)

A special section (Section VI - Supplementary Topics) was also organised during which foreign delegates presented their papers which included the following:

- "Gravity survey in Taiwan." by C.Y. Meng, President, Chinese Petroleum Association
- "Some geological aspects of Thailand." by K. Pitakpaiwan, Chief, Geological Survey of Thailand
- "Recent development in quantitative ore microscopy." by J.H. Leow, Dept. of Geology, University of Malaya

"Recent developments in the mineral industry of Northern Australia." by L.T. MacAlister, Senior Geologist, Kennecott Explorations (Australia)

"The role of geology in the economic development of Asian countries." by L.W. Stach, Chief, Mineral Resources Development Section, United Nations ECAFE.

During this Convention-Symposium, one cannot fail to notice the tremendous interest shown by the Philippines towards exploration geology and the mining of the country's mineral wealth. The papers presented were of a good standard and the discussions that followed, in particular the comparing and contrasting of the geology and mineral resources of the neighbouring countries in Asia, has contributed in no small way to the understanding of the geology and its associated problems in this region.

This four-day Convention-Symposium was a great success, and one must congratulate the Geological Society of the Philippines for the high standard of organization of the meeting. Finally, the unsparing hospitality of the hosts should also be recorded here.

- J.H.L.

#### NEWS OF THE SOCIETY

##### Ordinary Meeting - 18 November 1966:

At a meeting of the Society on 18 November 1966, H.J.C. Kirk spoke on "Prospecting a copper porphyry deposit." After outlining the geology of Sabah, Dr. Kirk explained that a geochemical survey of central Sabah was started in 1957. High geochemical anomalies for copper on the west side of the Labuk Valley seemed to be of economic importance, and during the last 10 months he had directed a programme of shallow drilling and pitting to plot the area of mineralization, estimate its grade, and discover what minerals were present.

The Labuk Valley lies east of Mt. Kinabalu, 4000-5000 ft. above sea level and is accessible from Ranau. The mineralization occurs within a granite porphyry similar to the Kinabalu granite. The outcrop of this porphyry is hour-glass shaped, and the ore body in the northern lobe of the outcrop. Two "Winkie" drills were used to reach depths of 120-180 ft., and pits were dug to bedrock at spacings of 200 ft. Samples from the walls of the pits

when tested colorimetrically showed 0.1% Cu in the soil at 2-4 ft. from the surface. The wall rock of the porphyry had undergone pyritization and kaolinization but contained less than 0.2% Cu. It was found that in the ore body a zone of secondary enrichment was absent but also that the leached, barren zone was relatively narrow, about 70 ft. The northern part of the porphyry outcrop is a breccia where several faults coverage but the southern part is a quartz-veined massive porphyry with chalcopyrite. The grade of the ore (primary chalcopyrite) varied from 0.4% to 1.15%, the average being 0.7% Cu. Other minerals included molybdenite and the gold content was higher than normal for this type of copper-bearing porphyry, averaging 0.5 dwts. The character of the ore body below 200 ft. from the surface remains unknown, but the copper was evenly distributed vertically in the prospected part. Mapping of the ore suggested that it was at least 250 ft. thick and probably greater than 750 ft.

The talk was concluded by colour slides of Kinabalu and of the Winkie drill in action in the jungle.

After a lively discussion the meeting ended at 6.45 PM. About 35 members were present.

- D.J.G.

#### Ordinary meeting - 8 December 1966:

The meeting was held in the Botany Department's lecture room, University of Malaya, at 5.15 PM.

Professor Susumu Matsushita, Emeritus Professor at Kyoto University, Japan, gave an "Outline of the geology of the Japanese Islands."

The President welcomed Prof. Matsushita and also three other Japanese geologists, Dr. M. Kato, Dr. Y. Nogami, and Dr. K. Ishii, at present doing field work in Malaya. Dr. Kato then introduced the speaker and explained that Professor Matsushita had worked for many years on the structure and Palaeozoic stratigraphy of Japan, north-eastern China, and northern Korea. He also led the Kyoto University Expedition to the Hindu Kush.

Professor Matsushita's talk was based on his contribution to the Geology of Japan edited by Takai, Matsumoto and Toriyama (1963). He analysed the structure of the Japanese Islands into three island arcs paralleled on their outer side by deep submarine trenches. The Kurile arc extends southwards into Hokkaido and the Shichito-Mariana arc runs northwards to cut the Japan arc along the 'Fossa Magna.' Precambrian, Cambrian, and Ordovician

rocks were absent in Japan but the area had been the site of marine deposition and volcanic activity from Silurian times onward. The geology was highly complex because of several orogenies. The main orogenic movements were the Akiyoshi orogeny in Permian and Triassic times, the Sakawa orogeny in the Jurassic and Cretaceous and the Oyashima orogeny in the Tertiary. Middle and Upper Paleozoic submarine volcanic rocks are widespread in Japan and the mid-Tertiary volcanicity has continued to the present day.

Southwest of the Fossa Magna, a Median Dislocation divides Japan into inner and outer zones. The outer zone is divided by two strike faults into three terrains. The innermost, the Sambagawa Terrain, is composed of crystalline schists derived from Paleozoic sediments and pyroclastics. The central, Chichibu Terrain, is of unmetamorphosed Carboniferous and Permian rocks with rare Silurian inliers partly covered with Mesozoic sediments. The outermost, Shimanto Terrain, is covered with Neogene sediments.

The inner zone consists of Paleozoic and Mesozoic strata extensively intruded with acid plutonic rocks.

Tertiary coal-bearing strata and volcanics are extensive in Hokkaido and north Honshu and north Kyushu. Quaternary volcanoes are developed mainly along the Fossa Magna, in Hokkaido and in Kyushu.

Each of the major orogenies had an axial metamorphic zone. This zone in the Akiyoshi orogeny was of high temperature and was characterized by acid plutonic intrusions. The Sakawa orogeny axial zone developed the low temperature, high pressure schists of the Sambagawa zone.

Professor Matsushita explained that the above account was based on the opinions of Professor T. Kobayashi but that he did not have time to discuss the ideas of other authorities whose interpretations differ somewhat.

Mr. W.D. Procter gave a vote of thanks to the speaker and the meeting ended at 6.30 PM.

- D.J.G.

#### "Geology at the University of Malaya":

With this Newsletter, members will receive a copy of a brochure prepared by the staff of the Department of Geology of the University of Malaya and printed with the support of the Asian Foundation. This brochure, describing opportunities at the University in the field of geology, is intended both for secondary school students in Malaysia who are considering their career plans, and for potential research students and scholars anywhere.

The copies of the brochure were kindly donated to the Society by the Department of Geology.

New members:

At a meeting of the Pro-Tem Committee of the Society on 17 January 1967, the following were elected to membership in the GSM (A=Associate Member; S=Student Member; others are Full Members):

Aw, P.C.	Masion, L.P.
Beaven, P.J.	Miskin b. F.M.
Beh, C.A.	Newell, R.A.
Boyd, D.M.	Nogami, Y.
Chan, Y.K.	Richardson, J.A.
Chia, L.S.	Roberts, J.F.
Dalton-Brown, H.	Sargent, G.F.G.
Findlay, G.S.	Schweighauser, J.
Foo, P.Y.H.	Sundharavat, S.
Gopalapillai, S. (A)	Sweatman, T.R.
Grant, C.J.	Symes, W.V.
Kato, M.	Waugh, P.E.
Khoo, T.T. (S)	Williamson, D.R.
Lee, D.T.C.	Wilson, R.A.M.
Lim, C.T.	Yates, B.R.
MacAlister, L.T.	University Library
McLean, D.B.G.	Rangoon, Burma (A)

These latest additions bring the total membership in the Geological Society of Malaysia to over 130. This represents a very gratifying response to the original proposal to establish such an organization, and it is an expression of a degree of interest which allows the Society to enter its first AGM with every confidence of a long and useful future. The Society was granted official status by the Registrar of Societies on 10 January 1967. The number of the GSM is "116 Selangor."

Donations to the Society:

A number of donations have been received, for which the Society would like to express its gratitude. The money may be used to support publications. Donations so far:

from Anglo-Oriental Ltd.	\$ 1,600
from Associated Mines	1,000
from Shell Co.'s (Malaysia)	500
from Johan Tin Dredging	20
from G.W. Simms	20