

P E R S A T U A N G E O L O G I M A L A Y S I A

WAR TA G E O L O G I

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PERSATUAN GEOLOGI MALAYSIA
(Geological Society of Malaysia)

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Tujuan Persatuan Geologi Malaysia adalah untuk memajukan sains bumi, terutamanya di-Malaysia dan tempat-tempat berhampiran. Sesiapa yang ingin menjadi ahli Persatuan sila dapat borang-borang daripada Setiausaha Kehormat.

The aim of the Geological Society of Malaysia is to promote the advancement of geological sciences particularly in Malaysia and nearby areas. Anyone interested in becoming a member of the Society should obtain the necessary forms from the Hon. Secretary.

Some Bahasa Malaysia (Malay) geographical terms

| | | | |
|----------------|----------------|---------------|------------------|
| Bukit (Bt) | - Hill | Kuala (K.) | - Mouth of river |
| Genting (Gtg.) | - Pass | Pulau (P.) | - Island |
| Gunung (G.) | - Mountain | Sungai (S.) | - River |
| Jalan (Jln.) | - Road, Street | Tanjung (Tg.) | - Cape |
| Kampung (Kg.) | - Village | Teluk (T.) | - Bay |

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G E O L O G I C A L N O T E

Radiometric ages of ignimbrites of Toba, Sumatra

H.D. Tjia, Universiti Kebangsaan Malaysia, Kuala Lumpur

The Toba phenomenon, that includes the depression and volcanic products of Sumatra is of interest to Peninsular Malaysian geology in that Recent ash layers of the peninsula are believed to have originated from the area of the present Lake Toba. Ninkovich et al. (1971) determined the radiometric age of one ignimbrite sample at $73,000 \pm 12,000$ y. Later Ninkovich (1975) made premature inferences of the tectonic history of Sumatra based on this age. It should be realized that the dated sample originated from a collection of the late Th. H.F. Klompe deposited at the Department of Geology, Institut Teknologi Bandung, Bandung, Indonesia. This particular sample was simply indicated as an ignimbrite from Toba without details on its exact locality. Verstappen (1961, 1973) indicated that at least four ignimbrite banks intercalated with less competent volcanic beds are present in the Toba area. The volcanic packet including the top and lowest ignimbrite bands is 500 m thick.

Students of this university collected ignimbrite samples from the eastern shoreline of the Samosir peninsular in Lake Toba. The samples came from an outcrop at lake level. At this locality other competent bands have been observed above the outcrop in the 700-metre high fault scarp. Biotite from one of the samples show K-Ar percentage indicative of 1.9 ± 0.4 my.

It is probable that the Samosir ignimbrite represents the earliest Katmaian eruption while Klompe's sample indicates the latest event. Bracketed between them are two intermediate explosions as the four ignimbrite bands seem to suggest. The present interpretation does not rule out (age-wise) the speculation that tektites of Southeast Asia are related to a Toba-eruption (Kaysing, 1970). These tektites are generally considered as 700,000 y old.

References

- Kaysing, C.W., 1970. Tektites tracked to Toba. *Nature*, 226 (5247), p. 781.
- Ninkovich, D., 1975. Late Cenozoic clockwise rotation of Sumatra. *EOS*, 56, p. 912.
- Ninkovich, D, Hays, J.D., and Abdel-Monem, A.A., 1971. Late Cenozoic volcanism and tectonics of Sumatra. *Geol. Soc. Am. Abstr. w. Prog.* 3, p. 661.
- Taylor S.R., 1970. Lake Toba, Sumatra and the origin of tektites. *Nature*, 227 (5263), p. 1125.
- Verstappen, H.Th., 1961. Some 'volcanic-tectonic' depressions of Sumatra, their origin and mode of development. *Kon. Ned. Akad. Wet. Amsterdam, Proc. Ser. B.64* (3), 428-443.

Verstappen, H. Th., 1973. A geomorphological reconnaissance of Sumatra and adjacent islands (Indonesia). Verh. Kon. Ned. Aardr. Gen., 1, 122-146.

M E E T I N G S O F T H E S O C I E T Y

Annual General Meeting

The AGM was held at 5.30 p.m. on 26 March 1976 in the Lecture Hall, Department of Geology, University of Malaya. About 30 members were present.

The President chaired the meeting and it was reported that the Society was quite active during the past year. The Society hosted the IGCP Circum-Pacific Plutonism Project 5th Meeting and held 8 talks. An Annual Dinner was held after a lapse of several years.

The Treasurer's report as usual attracted a lot of attention. Some members queried about the Society's funds used to subsidize the Annual Dinner. The Treasurer explained that it was necessary to subsidize the Annual Dinner because 40 guests were invited. The invited guests were:

- (a) 20 overseas participants (including 4 wives) of the plutonism conference and
- (b) 20 local friends and benefactors of the Society.

It was felt justified to invite the overseas participants because they were the officially invited project participants and the Society did not have to spend a single cent in organizing and hosting the conference and field trips. About US\$1500 were spent from the Project funds and the main beneficiaries were our Society's members who did not have to pay any registration fees for participating. Furthermore, the overseas participants agreed to contribute their papers towards Bulletin 9 which is expected to sell well and five of them gave donations to the Society as well.

It was also felt justified to invite local friends and benefactors of the Society in appreciation for their help and cooperation since the establishment of our Society.

The Treasurer also pointed out that a few hundred dollars were collected from participants of the Annual Dinner after the close of the financial year and therefore the subsidy is apparently not so "enormous".

Other items in the Treasurer's report which caught the attention of members were the slow repayment of loans from the Student Loan Fund and the small sum of money unaccounted for in the previous Treasurer's report. The AGM decided to write-off the money.

It was also suggested by some members that Associate Editors be appointed at various centres to help the Editor in soliciting papers for the Bulletin and the Warta Geologi. The Editor and all the members present believed that this is a very good suggestion.

The meeting was adjourned at about 6.30 p.m.

Regional Meeting on "Mineral Resources and Environment: The Role of Science Teaching"

The meeting which was jointly sponsored by our Society, the Malaysian Scientific Association (MSA), the University of Malaya, the Committee on Science and Technology in Developing Countries (Costed), the Committee on Teaching of Science (CTS), the Scientific Committee on the Problems of the Environment (SCOPE) and the International Union of Geodesy and Geophysics (IUGG) was held in Hotel Merlin, Kuala Lumpur from 12-15 April 1976. Approximately 75 scientists participated. About 25 of the scientists who participated are earth scientists; the rest are chemists, physicists, educationists, biologists, and biochemists. Among the 8 earth scientists from overseas was Prof. E. Sherbon Hills from Australia. Members of our Society who have all been invited to participate evidently did not turn up in full force.

The meeting was planned to be opened by the Hon. Minister of Science, Technology and Environment, Tan Sri Ong Kee Hui. However, the Hon. Minister was unfortunately taken ill and hospitalized a few days before the opening day of the meeting. So the meeting was opened and addressed by the Secretary-General of the Ministry. Datuk Prof. Mohd. Ghazali, Vice-President of the MSA welcome the participants on behalf of the MSA, the Geological Society of Malaysia and the University of Malaya, the local sponsors.

Sixteen papers were presented at the meeting. They are:

1. Dr A.I. McCutchan: National resources: policies and programmes
2. Dr A.V. Baez: Science education in developing countries
3. Dr H. Narian: Natural resources in developing countries
4. Dr S. Balakrishna: Geophysical techniques in exploration
5. Dato Mohd. Salleh & Encik D. Santokh Singh: Review of mineral resources development in Malaysia
6. Prof. K.F.G. Hosking: The local effect of mining on the environment of Peninsular Malaysia
7. Dr H.H. Huang: Petroleum resources and air pollution: the Singapore experience
8. Dr S.P. Pradhan: Balancing resources development and environmental protection: a difficult option for less developed countries
9. Dr A.V. Baez: Teaching Methods in relation to natural resources
10. Prof. N.S. Haile: Geology courses content - basic or applied, specialized or general, techniques or principles?

11. Dr P. Nutalaya: Developing a geoscience programme in Thailand
12. Dr K. Guenero & D.C. Salita: Mineral resources - impact of exploitation on environment in the Philippines
13. Dr Noramly Muslim: Science education in environmental studies (mineral resources and environment)
14. Prof. E. Sherbon Hills: Support for research and post-graduate schools in developing countries
15. Dr Surendra Singh: Research and teaching in geophysics at the University of Science of Malaysia, Penang
16. Prof. M.A. Latif: Water resources of Bangladesh.

Quite a number of papers presented were good and informative. However a few of the papers presented were mediocre with nothing really important, relevant or interesting. Papers and abstracts presented at the meeting are available in our Society's Library.

There were workshop sessions on:

- (a) Mineral resources and geophysical techniques for exploration and
- (b) Teaching methods in relation to natural resources.

Strangely in this meeting prominence was not duly given to geochemical methods of exploration which have been found to be successful in the location of mineral deposits in developing countries of the tropical belt. A case in point is the discovery of the Mamut copper deposit in Sabah.

About 10 resolutions and recommendations were passed by the workshop sessions. Some of the recommendations were good and noteworthy. For example it was stressed that field courses are essential in the training of earth scientists and should be adequately funded by the authorities concerned. It was also noted that there is a shortage of suitably trained local earth scientists in educational establishments of developing countries and it was considered desirable that this situation should be remedied. Several recommendations appear to be unnecessary. The recommendations on mineral explorations were nothing new.

The Society and the Institute of Mineral Engineering jointly hosted a satay party for the participants and distinguished local guests. About 50 people attended the party.

The Society also organized a morning excursion to the Sungei Besi Mines, Kuala Lumpur. Thirteen interested participants visited the mines. Among the visitors were geologists from Nepal, Bangladesh, Thailand, Philippines, Indonesia and Prof. Sherbon Hills. Encik M.K. Choo and mining engineers of the Sungei Besi Mines ably shown the visitors various parts of the mines. After the visit, the management of the mines entertained the visitors to a sumptuous lunch. The Society is indeed grateful to the Sungei Besi Mines for such kindness and cooperation.

TTK

N E W S O F T H E S O C I E T Y

Council 1976/1977

The new Council which assumed office after the AGM has coopted Encik S.P. Sivam to be the new Hon. Secretary, Encik L.S. Chin to serve as Councillor for 1 year and Encik Wan Fuad to serve as Councillor for 2 years. The composition of the new Council will be 4 members from industries, 6 members from universities and 5 members from government departments.

Ten of the Council members have served in the previous Council. The new faces are:

- (a) Encik S.P. Sivam, a lecturer in the Department of Geology, University of Malaya
- (b) Encik L.S. Chin, an executive with a tin smelting company
- (c) Encik J.K. Raj, a lecturer in the Department of Geology, University of Malaya
- (d) Encik Wan Fuad, a lecturer in the Department of Geology, National University of Malaya
- (e) Encik S.C. Chan, a geologist with Associated Mines Malaysia.

Subcommittees and Representatives

(a) Stratigraphy subcommittee

The Council has decided to appoint someone to replace Dr T.E. Yancey, who has left Malaysia and has taken up a teaching position in USA, as Chairman of the subcommittee. The composition of the subcommittee will be announced in due course.

(b) IMA subcommittee

The Council has re-appointed Dr C.S. Hutchison as Chairman of this subcommittee and noted that Dr Hutchison has served excellently in the subcommittee during the past year.

(c) Mineral Engineers Act subcommittee

This subcommittee was not functioning since 1975. However, the Immediate Past President, Encik Santokh Singh, who is serving in the committee appointed to consider the drafting of this Act, effectively looked after the interests of our members concerning this Act in the past year. The Council hoped that our Immediate Past President will continue his excellent work for our Society's members concerning this Act.

(d) Representative in SIM

The Council re-appointed Mr Yeow Yew Heng to serve in the Standards Institute of Malaysia's committee on rocks and clay minerals.

Society's Funds

From the Treasurer's Report, it can be noted that the Society's funds have accumulated to quite a handsome sum of about 30,000 ringgit. This sum of money is accumulated as a result of generous donations, increase in membership, publication sales (especially Bulletin 6), use of rent-free premises and facilities in Department of Geology, University of Malaya, etc.

What shall we do with the money other than letting it earn good interests? Several Council members are of the opinion that the Society needs its own premises as the activities and properties of the Society have increased significantly compared to a decade ago and it is also felt that the Department of Geology, University of Malaya is becoming increasingly uncomfortable to accommodate the Society. The Council would like to hear from members on how the money should be used before coming to a decision. Send your suggestions to the Hon. Secretary.

Outdoor Program

It has been suggested by some members that the Society should organise some excursions to places of interest. However, most excursions organized previously by the Society were poorly attended. It is believed that the attendance may be more encouraging if the places visited are more interesting e.g. Phuket, Lake Toba, and Chiangmai. Members are invited to suggest places worth visiting. Send your suggestions to Dr T.T. Khoo, the field trips organiser.

Affiliation to AGID

The Council has decided to join AGID as an institutional member. There are several advantages to join AGID. We can get AGID's publications, potential help in getting funds for projects of common interest, etc.

 N E W S O F M E M B E R S

New addresses

F.T. Barr
 Houston Oil and Minerals
 The Main Building
 1212 Main St.
 Houston, Texas 77002
 U.S.A.

W.J. Howell
 BHP Expl. Dept.
 GPO Box 86A
 Melbourne, Vic. 3001
 Australia

R.S.S. Koe
 P.O. Box 857
 Kuala Lumpur

W.H. Nelson
 US Geological Survey
 345 Middlefield Rd.
 Menlo Park, Ca 94025
 U.S.A.

R.B. Tate
 Antrobus Cottage
 Hatton, Warrington
 Cheshire, England

Chin Lik Suan
 34, Road 29
 Overseas Union Garden
 5th mile, Jalan Kelang
 Kuala Lumpur

Kamarul Abdullah
 Herney & Steedman
 P.O. Box 41
 Ipoh, Perak

Lai Kok Hoong
 Pejabat Penyiasatan Kajibumi
 Johor Baru, Johore

S.S. Ong
 Digicon Nederland B.V.
 5th Floor, Union Textile Bldg.
 37-E Jalan Pemimpin
 Singapore 20

G.H. Teh
 Mineralogisch-Petrologisch Inst.
 der Universitat Heidelberg
 Postfach 104040
 Im Neuenheimer Feld 236
 D-69 Heidelberg, W. Germany

O T H E R N E W S

Theses from Local UniversitiesUniversiti Kebangsaan MalaysiaB.Sc. (Honours) 1975/76

- Hamzah Mohammad, 1976. Kajibumi kawasan Kuala Paka, Trengganu (Geology of the Kuala Paka area, Trengganu)
- Hamzah Yunus, 1976. Kajibumi kawasan Maran, Pahang, Malaysia (Geology of the Maran area, Pahang, Malaysia)
- Ibrahim Komoo, 1976. Kajibumi kawasan Kuantan, Pahang, Malaysia Barat (Geology of the Kuantan area, Pahang, West Malaysia)
- Kassim Buhiran, 1976. Kajibumi kawasan Chukai-Kijal (Telok Kalong), Trengganu, Malaysia Barat (Geology of the Chukai-Kijal (Telok Kalong) area, Trengganu, West Malaysia)

Universiti MalayaB.Sc. (Honours) 1975/76

- Ahmid Said, 1975. Geology of the Crocker Formation along the Kota Kinabalu-Tambunan road, Sabah, East Malaysia. 50p.
- A.E.C. Cheng, 1975. The geology of Pelepah Kanan area, Johore, with emphasis on in situ mineralisation there. 65p.
- Y.K. Foong, 1975. Geology of the Tanjung Rambutan area, Perak, with some aspects of geohydrology and geotechnics. 81 p.
- Y.L. Goh, 1975. Bedrock geology and mineralisation of the Seng Mines, Sungai Way, Selangor. 62 p.
- S.C. Hoh, 1975. Geology, mineralisation and some resistivity studies of the Kuchai-Puchong area, Selangor. 83 p.
- S.P. Lim, 1975. The geology of the Manek Urai area, Kelantan, with special emphasis on metamorphism. 118 p.
- M.K. Tang, 1975. The geology of Kudat Peninsula, Sabah, East Malaysia, 68p.
- K.T. Yap, 1975. Tertiary deposits in the Beluran-Lungmanis area, Sabah, East Malaysia. 92 p.

M.Sc. 1975

C.N. Ng, 1974. A comparative study of some epizonal and mesozonal granites in West Malaysia. 145 p.

Ph.D. 1976

Y.H. Yeow, 1975. Weathering of rocks in humid tropical conditions. 155 p.

IMA NewsApplied Mineralogy Group users school on quantitative colour

The school was previously announced to take place in London from 1st to 3rd April 1976. The delay in the production of the new Nelson-Lovibond microcolorimeter has necessitated a postponement till autumn.

New date: 30 September - 2 October 1976
Venue : Department of Geology, Imperial College, London

For further details please contact Dr N.F.M. Henry, Dept. of Mineralogy and Petrology, Downing Place, Cambridge CB2 3EW, England.

IMA Publications

Available from E. Schweizerbart'sche Verlagsbuchhandlung (Nagele & Obermiller), Johannesstrasse, 3A, D-70000, Stuttgart 1, West Germany.

1. Collected Abstracts, IMA 9th General Meeting, 178 titles, 206 p. Price DM 880.
2. Special volume of Fortschritte der Mineralogie, IMA 9th General Meeting. Contains 59 full papers, 278 Figs., 76 tables. 629 p. Price DM 168.

C.S. Hutchison
Chairman
IMA Subcommittee.

Mineralogy Exhibition

The American Museum of Natural History (Central Park West, 79th St., New York) will open its new Hall of Minerals and Gems on 21 May 1976.

Its most spectacular exhibits are: the 563 carat sapphire Star of India; 60,000 mineral specimens, 20,000 rock specimens and 4,500 meteorites.

For the first month only there will be an exhibition of 9 world-famous diamonds.

CSH

Mineralogy Course

The Mineralogical Society of America is sponsoring a short course on the mineralogy and petrology of rock-forming oxide minerals.

Date: 5-7 November 1976

Venue: Green Conference Center, Colorado School of Mines,
Golden, Colorado, USA

This will immediately precede the annual meeting of the Mineralogical Society of America.

For further information please contact Dr D. Rumble, Geophysical Laboratory, 2801 Upton St. N.W., Washington DC 20008, USA.

CSH

B O O K R E V I E W

Peristilahan Geologi dan ilmu yang berhubungan

Oleh: M.M. Purbo-Hadiwidjoyo

Kumpulan geologi dalam bahasa Indonesia ini merupakan edisi ketiga dan disusun oleh M.M. Purbo-Hadiwidjoyo, seorang pakar geologi yang sudah bersara dari Direktorat Geologi Indonesia. Pada kali ini ejaan sudah di-selaraskan dengan sistem yang dipersetujui bersama oleh Indonesia dan Malaysia dan mula diresmikan pada 1hb.Ogos 1972. Buku diterbitkan oleh Penerbit-universitas I.T.B. di Bandung, Indonesia, dan berjumlah seratus mukasurat. Bahagian pertama menjelaskan asas yang diikuti dalam pembentukan istilah. Bagian inilah yang sangat berguna bagi pencipta-pencipta istilah geologi di Malaysia. Perlu ditegaskan bahwa ada satu dua peraturan yang kurang sesuai bagi pembuatan istilah geologi Malaysia. Salah satu jelaslah pembuatan istilah dengan memungut/mengutip dari bahasa tempatan di Indonesia, atau logat, seperti dari bahasa Jawa, Sunda, Kalimantan Tenggara yang telah dilakukan oleh penyusun. Selain itu pengindonesiaan yang berdasarkan bahasa Belanda juga ganjil bagi istilah di sini; istilah Malaysia umumnya meminjam dari bahasa Inggeris. Umpamanya aerial photograph = potret udara (Belanda: Portret = gambar); scale = sekala (Belanda: schaal = sekil); quartz = kwarsa (Belanda: kwarts = kuats); clay = lempung (Jawa, disini tanah-liat); slump = nendat (Sunda: neundeut=? dalam bahasa Malaysia); horst = sembul (Jawa); graben = terban (Jawa).

Bahagian kedua dan ketiga menyenaraikan istilah geologi Inggeris-Indonesia dan Indonesia-Inggeris. Pada umumnya perbezaan hanya sedikit atau tiada antara istilah yang diindonesiakan dari istilah asing yang berpangkal kepada Latin atau Yunani dengan istilah geologi dalam bahasa Malaysia. Sebaliknya istilah yang sudah diguna orang awam mempunyai corak yang lain seperti terlinat pada contoh sebagai berikut (Indonesia-Malaysia-Inggeris). Kikisan -hakistan - erosion; letusan - letupan - eruption/explosion; sesar berbalik - sesar songsang - reverse fault; pekerjaan lapangan - kerjaluar/kerja lapangan - field work; gerakantah - susutandarat - mass wastage; tegangan - tegasan - stress; regang - tegangan - tension; gamping - batukapur -limestone; bidang - satah - plane; geologi terapan - geologi gunaan - applied geology. Ada juga penulisan yang berbeza yang disebabkan oleh pengaruh bahasa Belanda dan Inggeris, seperti Kwartter - Kuater - Quaternary ; Mesozoikum - Mesozoik - Mesozoic; Fanerozoikum - Fanerozoik - Phanerozoic; Kambrium - Kambrian - Cambrian; Ordovisium - Ordovisi - Ordovician. Menarik adalah pemasukan istilah yang tidak disebut dalam edisi terdahulu tetapi sudah dipakai di Malaysia. Di antaranya terdapat pentarikan untuk dating dan projeksi sama-luas (equal-area projection).

Dipandang dari bidang pengkhususan pribadi saya ingin melihat pemisahan yang jelas antara retakan (fracture), rekah/rekahan (fissure) dan kekar (joint); antara tunjaman (plunge, yang diukur pada satah tegak) dan tukikan (pitch, yang diukur pada sebarang satah yang tidak tegak); di antara "bidang geser" yang dapat bermakna "shear plane" atau "slip plane".

Penulis sependapat dengan Drs. M.M. Purbo-Hadiwidjono bahwa pendekatan istilah geologi dan saya yakin demikian juga dalam bidang ilmiah lain - antara kedua bahasa yang serumpun itu tidaklah mungkin seratus peratus. Sebab-sebab perbezaan sudah disebut diatas. Oleh yang demikian (di Indonesia terbiasa: "oleh kerana itu") sejumlah istilah geologi Indonesia yang terus diambil alih ke dalam peristilahan Malaysia dan tidak dipakai luas perlu disemak semula.

H.D. Tjia
Ketua, Jabatan Kajibumi
Universiti Kebangsaan Malaysia

A T A L E F R O M S A B A H

Origin of the Earth and Mt. Kinabalu

The Dusun people called their God Kinoringan. At first, he and his wife Yumun lived alone in the sky. One day Kinoringan said, "I feel rather lonely. Why don't we make the world?" So he took his shield and a round rice-tray. He put the shield upside down with the tray on top of it. He then lowered them down below the clouds far below. The shield became the earth and the tray became the sky. He and his wife then stood on the earth.

"It's not very interesting, is it?" he asked. "Let's make some mountains and sea and islands."

So they took a large stone and placed it in the centre of the earth. This is the stone which people now call Mount Kinabalu. It is said that Kinoringan still lives on top of it to judge people when they die.

Kinoringan and his wife placed another large stone on the earth and this became the Mantanani Islands. They dug a hole which when filled with water became the sea. As they walked on the earth, they were so heavy that their feet sank into the ground. These holes became valleys.

After that, they decided to make some people. First of all, they made a man and a woman out of stone. But the couple was unable to talk or walk. They then made a man and woman out of wood. These could talk but they could not walk. So Kinoringan and his wife burnt them and the ashes became deserts. Finally, they made a man and woman out of an ant's nest. These could both walk and talk. It was in this way that the human race began.

From: "How the world was made" in page 5 of
Favourite Stories from Borneo by Leon
Comber. Published by Heinemann Educational
Books (Asia) Ltd. Hongkong, Singapore,
Kuala Lumpur. 1975.

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