

NEWSLETTER

CONTENTS

Vol. 1 No.2, January, 1983.

Notes for the Guidance of Contributors to the Newsletter.
Hearty Welcome to Dr. Stephen Hui as Honorary Member of the Society.
Election of the General Committee.
Symposium on Mesozoic & Cenozoic Geology Held in China.
Field Description of Pyroclastic Rocks.
An Angular Unconformity Near Lai Chi Wo, Crooked Harbour.
An Ammonite for the Society's Logo.
Geology Excursion to Sha Lo Wan on 7th November, 1982.
Treasurer's Report as of 21st January, 1983.
Report of the Membership Sub-Group.
From the Editors.
1983 Programme of Activities.



GEOLOGICAL SOCIETY OF HONG KONG

STEERING GROUP

Chairman	:	Dr. A. D. Burnett	
Secretary	:	Dr. D. R. Workman	
Treasurer	:	Mr. M. Atherton	
Membership Sub-group	:	Mr. W. W. S. Yim, Prof. C. J. Grant,	Dr. A. D. Burnett, Mr. C. S. Lee.
Programme Sub-group	:	Mrs. T. Pearson, Mr. K. W. Lai, Mr. P. A. Randall.	Dr. S. R. Hencher, Mr. K. M. Lam,
Editorial Sub-group	:	Mr. E. P. Y. Chau, Mr. J. Sekula, Mr. S. K. Yu.	Mr. C. M. Lee, Mr. B. W. Taylor,

NOTES FOR THE GUIDANCE OF CONTRIBUTORS TO THE NEWSLETTER

General : Typescripts, enquiries and all correspondence should be addressed to the Secretary, Geological Society of Hong Kong, c/o Dept. of Geography and Geology, University of Hong Kong. The Society does not assume copyright of material published in the Newsletter. Any other previous, current or expected future use of such material by the author must be stated at the time of submission.

Articles of a technical nature, as well as reports of interesting events, reviews and other topical items are welcome. Contributions must be short. 1,200 words is regarded as the normal acceptable length, although exceptions may be made at the discretion of the Society. Figures, tables and half-tone plates must be kept to a minimum and must all be on separate sheets.

Typescripts must be accurate and in their final form. Two complete copies should be sent to the Secretary. Typescripts should be double-spaced, including references, on one side of the paper only with a 2.5 cm margin on each side. A4 paper is preferred. All pages should bear the author's name and be numbered serially.

Send only photocopies of illustrations, retaining the originals until the Society asks for them. Originals should bear the author's name. Diagrams should be in black on tracing material or smooth white paper or board with a line weight and lettering suitable for reduction. A metric scale should be included, and north point (or where relevant, coordinates of latitude and longitude) on all maps.

References : The author is responsible for ensuring that the references are correct and that Journal abbreviations comply with those in the List of Serial Publications held in the Library of the Geological Society of London (Geological Society, 1978).

Offprints : The society does not provide authors with free offprints of items published in the Newsletter, but will obtain quotations on behalf of authors of technical articles who may wish to purchase offprints from the printer.

TO ALL MEMBERS

The society does not sanction the use by individuals of any form of initials after their names for the purpose of signifying membership of the society.

*Cover Photograph : Courtesy - Dr. S. R. Hencher
Dyke crosscutting folded columnar jointed volcanics,
High Island Reservoir, Hong Kong.*

HEARTY WELCOME TO DR. STEPHEN HUI AS HONORARY MEMBER OF THE SOCIETY

It is with great pleasure and honour that the Society wishes to announce that Dr. Stephen Hui, well known mining magnate and dedicated geologist and mineralogist, has accepted our invitation to become an Honorary Member of the Society.

In addition to this display of moral support, Dr. Hui has also marked his support of the Society in his words, "in order to show my enthusiasm towards the establishment of the Geological Society of Hong Kong" by subscribing an amount of \$100,000 as a donation to the Society.

With this calibre of support, coupled with our steadily growing membership and ambitious programme of activities, the Society can confidently anticipate a bright and active future while at the same time providing Hong Kong geologists with a forum and focal point for activities which we hope will soon become of regional importance.

The envisaged programme of steady growth of membership, publications and activities is, however, relatively costly to our young Society and it is in this respect that the generous donation by Dr. Hui will prove extremely useful as stabilizing influence. It is the Steering Group intention that the donation be used as a sum of capital and that use is made only of the accrued interest to meet cost not covered by Society membership subscriptions - this will leave the capital sum intact to ensure the longevity and well-being of the Society in the future.

ELECTION OF THE GENERAL COMMITTEE

For those members who have not had the inclination to study our constitution in detail or who might have found the procedure for the election of the General Committee confusing, the following may help clarify the situation.

The Society is administered by a General Committee which is an elected body comprising 9 persons. The General Committee is divided into two portions, namely five officers and four General Committee Members. Each officer holds and is responsible for a specific post, i.e. Chairman, Vice-Chairman, Secretary, Assistant Secretary (Editor) and Treasurer.

All 9 positions on the General Committee are filled annually by a simple majority postal ballot of the entire Society Membership in the following manner:-

- (i) Before the end of October of each year the General Committee appoints a small Nominations Committee who, by the end of that year gather and recommend a list of selected nominees.
- (ii) The General Committee use this list to finalize the recommended list of nominations which is circularised to the membership at large by 31st January of the next year. The membership then has a one month period in which additional nominations may be made and forwarded to the Secretary.
- (iii) The General Committee then appoint an unbiased Election Officer who actually conducts the postal ballot which is based on simple majority vote for each post and the results of the election are announced at the Annual General Meeting, held in May immediately after which the newly elected General Committee assumes duty.

SYMPOSIUM ON MESOZOIC AND CENOZOIC GEOLOGY HELD IN CHINA

GSHK Steering group member C.M. Lee attended the recent symposium in Beijing organised and sponsored by the Geological Society of China (G.S.C.) to celebrate its 60th anniversary. Here is his report.

The symposium on Mesozoic and Cenozoic Geology commenced on the 31st August 1982 and lasted 6 days. It was attended by 64 leading overseas geoscientists from countries including Australia, Canada, France, Greece, Hong Kong, Japan, Malaysia, Phillipines, Switzerland, U.K., U.S.A., West Germany and Zambia.

Prior to the symposium, Chinese State Council Vice Premier Mr. Wan Li and Minister of Geology and Mineral Resources, Mr. San Da-Guang welcomed the overseas delegates at a banquet. Professor Chen Yugi (Vice President of the Council of G.S.C.) opened the symposium and Professor Huang Jiging (President of the council of G.S.C.) delivered a report on the main achievements made in geological sciences in China over the last 60 years and what was planned in the future.

Over 76 papers were presented in four main sessions which covered the following subjects related to the Mesozoic and Cenozoic Eras - Stratigraphy, palaeontology, tectonic geology, minerals and ore deposits, sedimentary basins and energy resources.

Apart from pre and post symposium excursions to scenic and historic sites the following geological excursions took place after the symposium.

- i) 17 day excursion to the suture zone geology along the Yarlung Zangbo River in Xizang (Tibet);
- ii) 13 day excursion to the coal field in Liaoning Province and the Tancheng - Lujiang Rift;
- iii) 13 day excursion to view stratigraphic sections in the eastern Yangtze Gorges.

FIELD DESCRIPTION OF PYROCLASTIC ROCKS

D.R. Workman, Department of Geography and Geology, University of Hong Kong

Introduction

The pyroclastic rocks have recently been the subject of a review by a Subcommittee on Igneous Rock (SCIR) set up by the International Union of Geological Sciences (IUGS) (Schmid, 1981). Since pyroclastic rocks are widespread in Hong Kong and are among the most variable and difficult to describe of all common rocks, it may be useful to summarize SCIR's main conclusions. These deal with a descriptive classification of pyroclastic particles and rocks which is not dependent on laboratory tests and makes no assumptions about the mode of formation of the deposit other than that it consists dominantly of pyroclasts.

It should be stated at the outset that this classification shows no major divergence from common usage over the past 20 years which is based on work by Fisher (1961, 1966) and followed by Allen and Stephens (1971) and others. However, as Fisher showed (1966), there was in those days a fairly wide variety of opinion even on granulometric definition. This persists to some extent, and one of the SCIR's aims has been to harmonize conflicting views. Also, it was necessary to pay due attention to the difference between descriptive terms based on visible properties and other terms based on inferences or assumptions about mode of origin. By and large, the latter should be avoided in Hong Kong where the pyroclastic rocks have undergone much post-depositional change and where very little work has been done on the form, extent, and composition of individual extrusive units.

Nomenclature of pyroclastic rocks

The IUGS subcommission's recommendations are for a classification based mainly on granulometric properties. Pyroclasts are graded in just the same way as sedimentary fragments (epiclasts):

Grain size in mm	Pyroclast	Epiclast	$-\log_2 \phi$ (grain diameter in mm)
256	Block; bomb	Boulder	-8
64		Cobble	-6
2	Lapillus (plural : lapilli)	Pebbel	-1
1/16	Coarse ash	Sand	4
	Fine ash (= dust)	Silt; clay	

The SCIR recognizes three classes of tuff based on the above: lapilli tuff, coarse tuff and fine tuff. The word tuff on its own means undifferentiated coarse or fine tuff and does not include lapilli tuff. The prefix, if any, denotes the estimated "average" pyroclast size based on visual inspection. The SCIR recognizes that the terms pyroclastic breccia and agglomerate are firmly rooted in present-day usage, but looks forward to their replacement by the term 'block tuff' or, as appropriate, 'bomb-lapillie tuff' are of course permissible. For such poorly-sorted or polymodal rocks, the qualifiers are hyphenated and listed in ascending order of importance, e.g. lapilli-ash tuff means a tuff with more ash than lapilli.

Used in this way, tuff becomes the general term for all consolidated tephra, not just ash. The term tuff used alone should, however, refer to ash-size pyroclasts only, as noted above. The commonly used "coarse tuff" should be used only for those rocks which, if the grains were dominantly epiclastic, would be called sandstones. When tuffs are described according to the dominant type or types of pyroclast such as glass, pumice, crystal or rock fragments, the appropriate adjectives vitric, crystal or lithic are used, e.g. lithic lapilli tuff or coarse crystal tuff. Again, combinations are made in ascending order e.g. a lithic-crystal tuff has both rock and crystal fragments but more of the latter.

Terms which describe the chemical composition of the rock (e.g. 'rhyolitic') or its mode of origin (e.g. 'ash-flow') can be added where appropriate. However, this should only be done for the purposes of the description where it is justified by the information available. The same applies to many common genesis-related terms such as ignimbrite, sillar, welded tuff, hyaloclastite etc.

Mixed pyroclastic-epiclastic rocks

SCIR suggests restricting the term tuff to rocks with at least 75% pyroclasts. For practical purposes this can only mean rocks which appear to comprise predominantly pyroclastic material. Rocks with less than 75% pyroclasts are grouped as "tuffites". Tuffites are simply given the appropriate sedimentary rock name and the qualifier "tuffaceous". It would seem that the only requirement should be a detectable component of pyroclasts, but SCIR suggests a minimum limit of 25%. Note that a pyroclast falling (or propelled volcanically) onto the ground or into water is still a pyroclast but that once subjected to weathering, erosion or transportation in water it becomes an epiclast. In the SCIR's system the term tuffaceous is not used for wholly epiclastic rocks even when all the grains may be known to be of volcanic origin. This is a logical distinction but obviously not one which is always easy to make, especially in the field and in diagenetically-altered rocks. A special case is the type of pebbly mudstone resulting from the mudflows of volcanic debris known as lahars - these rocks are paraconglomerates in the sense of Pettijohn (1957) and could be called lahar-paraconglomerates. A good summary of pyroclastic deposits and epiclastic deposits of volcanic origin is given by Pettijohn, Potter and Siever (1972).

Terms For Pyroclastic Rocks And Their Derivatives

Rock groups	Rock names	Qualifiers
1. PYROCLASTIC (of dominantly volcanic origin)	Tuff (Agglomerate, pyroclastic)	Granulometric: ash (coarse, fine) lapilli, block, bomb Compositional: rhyolite - etc.; vitric, crystal, lithic Generic: ash-flow, ash-fall (or, where justified and useful, special names like ignimbrite, sillar and welded tuff)
2. PYROCLASTIC-EPICLASTIC (mixture of pyroclasts and epiclasts i.e. Tuffites)	Sedimentary rock name appropriate to grain size and composition	Tuffaceous
3. EPICLASTIC (of volcanic and/or non-volcanic origin)	Sedimentary rock name appropriate to grain size and composition	Sedimentary rock terms or special terms like lahar - where appropriate

Grain Size (mm)	Pyroclastic	Pyroclastic Epiclastic	Epiclastic
	Block tuff, bomb tuff (agglomerate, pyroclastic breccia)	Tuffaceous conglomerate or breccia	Conglomerate; Breccia
	64 mm		
2	Lapilli tuff		
	Coarse tuff	Tuffaceous sandstone	Sandstone
1/16		Tuffaceous siltstone	Siltstone
	Fine tuff		1/256 mm
		Tuffaceous mudstone etc.	Mudstone, shale
%	75	75 - 25	25
PYROCLASTS			

Reference

FISHER, R.V. 1961. Proposed classification of volcanoclastic sediments and rocks. Bull. Geol. Soc. Amer., 72, 1409-1414.

1966. Rocks composed of volcanic fragments and their classification. Earth-Sci. Rev., 1, 287-298.

PETTIJOHN, F.J., Sedimentary rocks, 2nd edition, 718 p. Harper.

PETTIJOHN, F.J., POTTER, P.E. and SIEVER, R., 1972, Sand and sandstone, 618 p., Springer-Verlag.

SCHMID, R., 1981. Descriptive nomenclature and classification of pyroclastic deposits and fragments: recommendations of the IUGS subcommission on the systematics of igneous rocks. Geology, 9, 41-43

AN ANGULAR UNCONFORMITY NEAR LAI CHI WO, CROOKED HARBOUR

W.W.S. Yim, Department of Geography and Geology, University of Hong Kong

In 1981, an angular unconformity was discovered during a field excursion arranged by the University to the Crooked Harbour area in the northeastern part of the New Territories.

This unconformity is exposed near the High Water Mark between Lai Chi Wo and Mo To Hang (Figure 1). Previously the area was mapped by Allen and Stephen (1971) as rocks belonging to the Repulse Bay Formation with sedimentary rocks (RBs) interbedded within pyroclastic rocks (RBp). Evidence for the unconformity include the following:

1. The occurrence of conglomerate dykes of a sedimentary origin in the RBs strata at locality A (Figure 1 & Plate 1). These conglomerate dykes may represent fluvial infillings of fissures formed by erosion along joints of a pre-existing rock surface.
2. A basal conglomerate horizon up to several metres thick is seen at locality B (Figure 1 & Plate 2). These conglomerates are identified as having a fluvial origin and probably represent high energy river channel deposits.
3. There is a change in both angle and direction of dip across the unconformity. At locality B, the older strata are seen to dip northwest at about 50 degrees while the young strata dip in a more northerly direction at an angle of less than 15 degrees.
4. The lithology of the strata above and below the unconformity is different. The older strata comprise a succession of thinly bedded sandstones, siltstones and mudstones. Locally the mudstones may contain pyrite seams parallel to the bedding plane, indicating that deposition may have occurred within a reducing (non oxidising) environment. Whereas, the younger strata consist essentially of a (grading to finer materials upward) sequence of conglomerates and sandstones. At locality A, the sandstone is red in colour which may be indicative of an oxidizing environment of deposition.

A preliminary petrographic examination of a number of gravel to cobble-sized clasts in the basal conglomerate of locality B show that volcanic rock and quartzite fragments are abundant. No clasts attributable to the Port Island Formation have so far been found. On this basis, the age of the unconformity is likely to be Upper Jurassic.

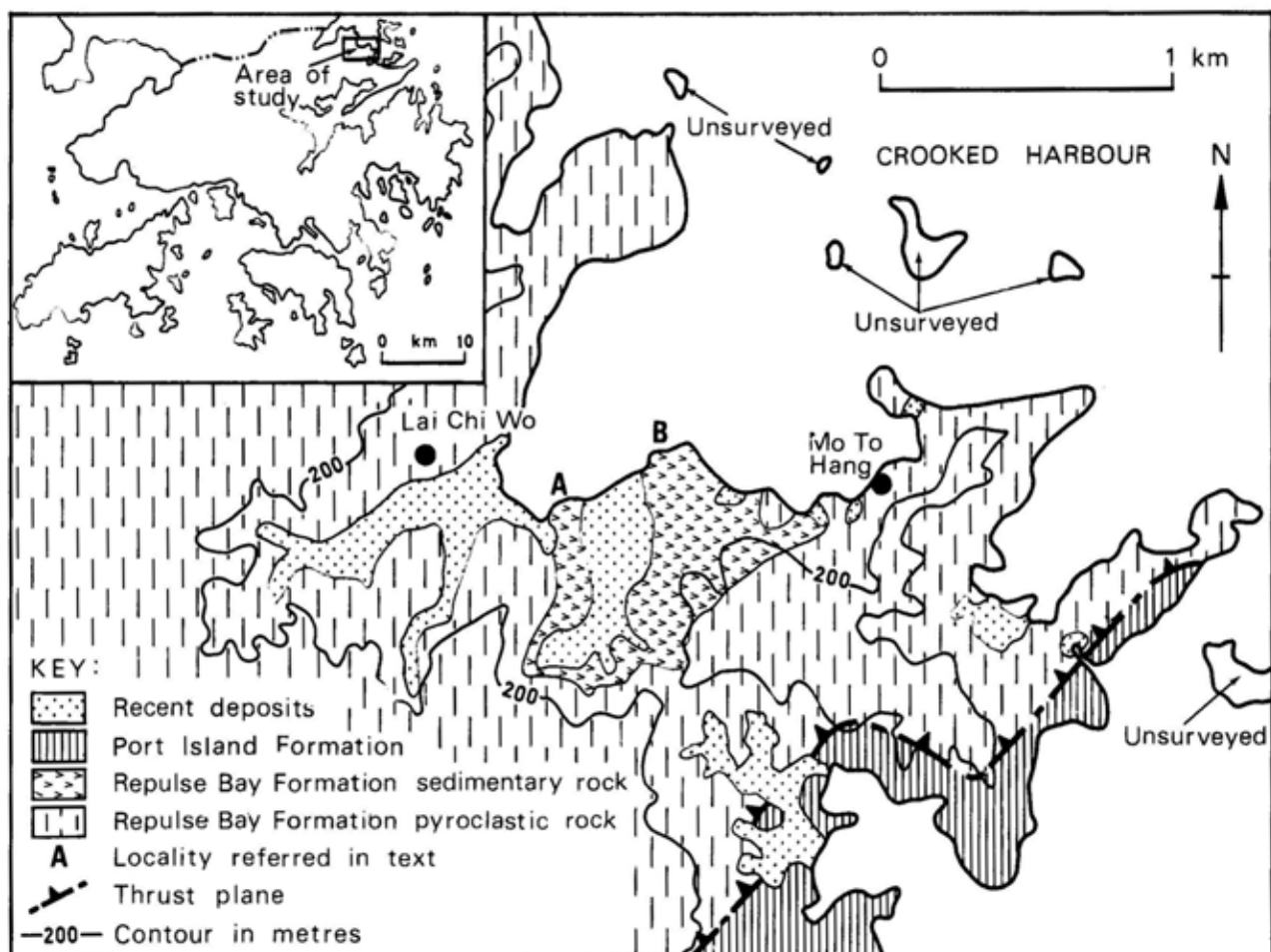


Figure 1 - Geological and locational map of the Crooked Harbour area.
Based on Allen and Stephens (1971).



Plate 1 - A conglomerate dyke of sedimentary origin showing branching. The gravel and cobble-sized clasts seen in the dyke are mainly sub-angular to sub-rounded.



Plate 2 - Basal conglomerate up to several metres thick unconformably overlying the more strongly folded RBs strata.

AN AMMONITE FOR THE SOCIETY'S LOGO

W. W-S. Yim, Department of Geography and Geology, University of Hong Kong

C.M. Heanley in the early 1920s made the first important fossil find in Hong Kong. It was a Mesozoic ammonite discovered on the north coast of the Tolo Channel. The specimen was described as a part of the outer whorl and impressions of the inner whorls (Heanley 1924). Grabau (1923), an eminent palaeontologist and stratigrapher, had indentified the ammonite as *Hoplites wallichii* var. *hongkongensis* of Lower Cretaceous age. Further specimens were collected at the same site in 1924-5 and the material was submitted to Buckman, a well-known ammonite authority, for examination (Williams 1943). Buckman, decided that the fossils belonged to a new genus and gave it the name *Hongkongites hongkongensis*. He believed it was probably of Lower Liassic age.

Since no complete specimens of *Hongkongites* have been preserved or illustrated, I propose that we adopt *Megarietites* (Moore 1957), which is similar in appearance and belongs to the same superfamily *Psiloceratacaea* as our logo. I believe that this is appropriate in view of the importance of ammonite to the stratigraphy of Hong Kong.

References

- C. M. Heanley (1924). Notes on some fossiliferous rocks near Hong Kong. *Bull. Geol. Soc. China*, 3, 85-89.
- A. W. Grabau (1923). A Lower Cretaceous ammonite from Hong Kong. *Bull. Geol. Surv. China*, 5, 199-208.
- R.C. Moore (1957). *Treatise on Invertebrate Palaeontology. Plat L Mollusca 4 Cephalopoda Ammonoidea.* Geol. Soc. America and Univ. of Kansas Press.
- M. Y. Williams (1943). The stratigraphy and palaeontology of Hong Kong and the New Territories. *Trans. Roy. Soc. Canada*, 37, 93-117.

Editor's note

The ammonite logo is the only GSHK logo suggestion received to date. The Steering Committee welcomes any further proposals or comments on the proposed logo shown here



GEOLOGY EXCURSION TO SHA LO WAN ON 7TH NOVEMBER, 1982

A. Hansen

The geology excursion to Mirs Bay on Sunday, 7th November, was postponed because of rough seas in Mirs Bay. An alternative strategy of south-west Lantau, around Fan Lau was also unsuccessful as the boat could not land because of low tide. However a landfall was accomplished at Sha Lo Wan. After 3½ hours travelling on the boat, the party retired to the beach for lunch.

Despite the enticing attractions of the sand, surf and sun, a group of intrepid geologists set out to look at the contact between the Tai O Sedimentaries and the Cheung Chau Granite just west of Sha Lo Wan. Although the main party, led by Mr Nau of Hong Kong University, walked directly to the exposures, several groups decided to investigate various paths and hillsides away from the intended route. Some having explored parts of Lantau they would not otherwise have seen! The geologists and interested associates investigated the granite with its associated garnetiferous intrusions and exposures of massive Garnet and Idiocrase. Mr Nau also highlighted the location of some Topaz. The intricate weathering patterns of ferruginous joints were also observed within Tai O sedimentary rocks.

After the return to the beach and thence the ferry, circum-navigations of Lantau and West Brother island were completed although no landfall was accomplished on the latter despite several attempts. The graphitic sandstones and shales thus remained unobserved from close quarters.

The excursion was very pleasant and our thanks should go to Peter Randall for organising such a splendid trip. We look forward to seeing Ping Chau and Mirs Bay on perhaps another occasion.

TREASURER'S REPORT AS OF 21/1/83

I am pleased to report that our finances are in a very healthy state thanks to the generous donation of HK\$100,000 by Dr. Stephen S. F. Hui towards the funds of the society. This money has been placed in a deposit account for 3 months pending a decision on the best way to use the donation.

The current account of the society contains a balance of HK\$7,934 and so far 58% of members have paid their subscription for 1983.

I would like to thank the following full members for their 1983 subscription.

Addison R	Fang J.T.	Li Y.L.	Sung L.S.
Atherton M. J.	Fok C.M.	Liao C.C.	Tam C.H.
Beggs C.J.	Ho C.K.	Liu K.H.	Tam E.J.
Bennett J.D.	Hsu W.L.	Lo K.H.	Taylor B.W.
Borrie G.	Hui C.K.	Lovegrove G.W.	Tsang Y.N.
Bracegirdle D.R.	Hutchison A.	Ma K.O.	Tsui W.M.
Brand E.W.	Kan M.K.	McFeat-Smith I.	Wai C.C.
Chan P.F.	Keung H.M.	Mui H.C.	Wan H.M.
Chan P.Y.	Kuan H.C.	Nau P.S.	Wan J.S.C.
Chan S.O.	Kwong Y.K.	Ng C.Y.	Whiteside P.G.D.
Chau E.P.Y.	Lai H.W.	Ngan W.K.	Wong K.M.
Chen T.T.	Lai K.W.	Rickards D.G.E.	Wong N.K.
Cheung C.O.	Lam H.F.	Sayer D.R.	Wong W.H.
Cheung L.S.	Lam Y.S.	Sekula J.	Wong Y.C.
Cheung P.C.T.	Leach P.E.	Sham D.C.F.	Woodsford J.C.
Chiu C.K.	Lee C.S.	Shek K.F.	Yeung H.C.
Chiu W.S.	Lee C.B.	Sui W.Y.	Yim W.W.S.
Chiu K.	Lee K.W.	Smith R.C.	Yip C.N.
Choy W.M.Y.	Leung Y.M.	So Y.C.	Yip P.L.
Chu W.M.	Li F.H.	Stephens G.	Yuen S.C.
Dermont A.R.	Li S.W.	Styles K.A.	Yung C.W.
Easterbrook G.	Li W.C.	Su S.P.	

Non-resident members

Eubank R.J.
Thornton I.

Student members

Chow K.L.
Jones S.B.
Lau W.K.
Lee C.K.
Leigh S.M.
Lo W.Y.
Ng K.Y.
Tsang K.W.

REPORT OF THE MEMBERSHIP SUB-GROUP

Since the formation of the Society in July, membership has been growing steadily. On December 31st, the number of members stood at 166, including 4 Honorary members, 150 Full members, 3 Overseas members and 9 Student members.

A notice on the formation of the Society will appear in the next issue of the Convocation Newsletter which may attract former students of the University of Hong Kong to join.

We are still waiting for the acceptance of honorary memberships offered to four eminent geologists in Guangdong. There may have been some delays due to communication problems and to approval from authorities. Our contact in Guangzhou, Prof. Yukun Huang of Zhongshan University, who was a guest at our inauguration meeting in May has been asked to make enquiries on our behalf.

Professor C. Grant who is a member of this sub-group has been invited by the Steering Group to chair the Nominations Committee. He will be responsible for receiving nominations of members for election to the General Committee at the first AGM.

FROM THE EDITORS

In the forthcoming issues we shall be bringing to the attention of members various organisations related to geological disciplines from overseas. This will be particularly useful to these members who want to know more, or make contact with geological organisation overseas. There is no order of priority but those with regional representatives or correspondents in Hong Kong will be mentioned first. Enquiries are welcomed and any possible information will be included in the newsletter.

The Association of Engineering Geologists

The Association of Engineering Geologists was founded in 1963 from its parent organisation, the Californian Association of Engineering Geologists. It is the only professional body of engineering geologists in the United States. The Association developed to meet the professional needs of geologists applying their scientific training and experience to civil engineering practice.

The Association membership is presently spread over 42 countries including Australia, Canada, South Africa, the United Kingdom and Hong Kong. Members in the U.S.A. reside in almost every State.

The Association establishes Technical Committees whenever necessary to pursue a technical task or engineering/scientific issue which is of importance to the membership. Technical Committees have prepared codes and documents on the following subjects:-

"Building Codes and Industrial Safety," "Engineering Geology Standards," "Grouting", "Hazardous Waste Disposals", "Rock Mechanics" etc.

The Association publishes Newsletters, and Bulletins 4 times a year, and an annual Directory, which are distributed to members at no additional cost.

Further information about the Association can be obtained from the Association's regional correspondent: Edmund P.Y. CHAU, c/o Binnie & Partners, 16/F., Leighton Centre, 77 Leighton Road, Hong Kong.

REMINDER

Members are reminded that subscriptions for 1983 are due on 1st January, 1983.

Please send remittance to Mr. M. Atherton, Treasurer, Geological Society of Hong Kong, c/o Department of Civil and Structural Engineering, Hong Kong Polytechnic, Hung Hom, Kowloon.

Members	\$60.00
Non-resident members	\$30.00
Student members	\$15.00

1983 PROGRAMME OF ACTIVITIES

MARCH

Sunday 13th Field excursion to Tolo Harbour

MAY

Friday 6th Annual General Meeting and lecture "The tectonic framework and history of S.E. Asia"

Sunday 22nd* Field excursion to Tsing Yi Island.

JUNE

Wednesday 15th* Lecture/discussion "Quaternary faulting in the Hong Kong region"

JULY

Sunday 17th* Field excursion to Tai Long Wan

AUGUST

Wednesday 17th* Lecture/discussion "The stratigraphy of Hong Kong as related to the Guangdong Province"

FIELD EXCURSION TO TOLO HARBOUR

Sunday 13th March

A junk will take us to visit exposures throughout Tolo Harbour which are virtually only accessible by boat. Of particular interest are the sedimentary rocks, faulting and folding. Brief excursions onto the exposures from the junk will be made on a sampan.

The junk will leave at 10.00 a.m. from the Chinese University Ferry Pier.

Bring your own lunch and refreshments.

If you can come please return the slip at the end of this notice. The cost will be about HK\$25 payable on the day.

(四)吐露港水上遊 1983年3月13日(星期日)

觀察吐露港周圍地質現象，特別是沉積岩，斷層和摺皺等等。

集合地點：中文大學碼頭(位於沙田)

出發時間：上午十時正

費用：水上交通工具，每人約二十五元

午餐：自備飲品及食物

FIELD EXCURSION TO TOLO HARBOUR

Sunday 13th March

(吐露港水上遊)

I wish to attend.

Name

Address

Send to Peter Randall

c/o Ove Arup and Partners
16/F., 41 Lockhart Road, Hong Kong

會員組簡報 嚴維樞

去年七月成立學會以來，會員人數有穩定增長，截至十二月三十一日為止，共有會員 166 名，其中包括：

名譽會員	4 名
會員	150 名
海外會員	3 名
學生會員	9 名

地質學會成立的消息，將會刊登在下期的 CONVOCATION NEWSLETTER 這將吸引一部分香港大學舊生參加我們的學會會。

四位廣東省著名地質學家，將會接受本會邀請為名譽會員。因為要獲得有關當局的批准，我們在廣州的聯絡人，中山大學的黃玉崑教授將會為我們查詢和安排。

C. GRANT 教授應籌委會的委托，正主持着第一屆學會委員會的遴選提名工作。

編輯組

我們將會在未來的通訊裏介紹一些海外各地的地質學會或組織。相信一些想知道或聯絡某些海外組織的會員會感到興趣。介紹次序並沒有優先，但我們會由那些在香港有聯絡員的組織開始。我們歡迎詢問，而將會在這份通訊裏儘可能提供會員所需的資料。

工程地質協會

工程地質協會是由加利福尼亞州工程地質協會蛻變出來，而亦是美國在工程地質方面的唯一專業團體。該協會發展的方針是為各地在土木工程裏利用着他們的科技學識和經驗的地質學家提供一切的專業須知。

該協會的會員現時分佈在42個國家；如美國（全48州都有會員），澳洲，加拿大，南非，英國及香港。

該協會設有一些技術小組去研究或發展一些對會員執業上有影響的工程、科學或技術上的重要問題。現有小組包括有「建築條例及工業安全」、「堤壩」、「工程地質標準」、「地下水」、「灌漿」、「危險廢物處理」、「岩石力學」等。該協會每年出版四份通訊，四份公報及一份會員錄。該等刊物是全部免費寄給會員的。

關於該協會更詳細的資料可向該會的香港區聯絡人 E. P. Y. Chau, c/o Binnie & Partners, 16/F, Leighton Centre, 77 Leighton Road, Hong Kong 查詢。

用香港菊石作為香港地質學會會徽

香港大學地理地質系 嚴維樞

C. M. Heanley在1920年最先在香港的赤門海峽北岸發現了菊石化石，并對標本作了描述（Heanley 1924）。著名的古生物和地層學家 Grabau 在1923年鑑定過這個化石定名為 *Hoplites wallichi* var. *hongkongsis*，年代屬下白堊世。1924—25年又在同一地區採集了一些化石并送給著名的菊石權威 Buckman 鑑定（Williams 1943）。他確定了該化石為一新種并定名為香港菊石（*Hongkongites hongkongensis*），他認為其年代可能為下亞里斯統。

因為沒有留下完好的香港菊石標本和圖片，我提議採用 *Megarietites*（Moore 1957），一個外貌相似屬同一總科的 *Psiloceratacaea* 作為我們學會的會徽，因為香港菊石反映了它對香港地層的重要性。

作者註：至今只有香港菊石被提議作為香港地質學會會徽標誌。籌備委員會歡迎任何新的提議。



沙螺灣的地質考察旅行 A. Hansen

1981年11月7日，原計劃到大嶼山西部的地質旅行，因退潮船不能靠岸改到沙螺灣。除部份人到沙螺灣以西考察大澳組沉積岩與長洲花崗岩的接觸帶外，大部份由香港大學的紐栢榮先生帶領步行到達目的地，觀察花崗岩和含石榴子石、黃玉的矽卡岩露頭。回程路經大磨刀時還在船上遙望了島上的石墨礦。

（以上僅為節錄意譯）

財政小組報告

因為得到許士芬博士慷慨捐贈的十萬元，所以本會的財政現正非常穩固。在未決定怎樣利用這筆捐款前，我們暫將它放在三個月的定期存款。

在1983年1月21日本會的戶口結存有7,934元，而有58%的會員已交了他們1983年度的會費。已交會費會員名單詳列於英文版。

依上述原則，凝灰岩、粗凝灰岩及細凝灰岩，目估火山碎屑大小。已慣用的‘火山角礫岩’及‘集塊岩’名稱將為‘火山礫凝灰岩’及‘火山彈凝灰岩’所替代，允許使用諸如‘火山灰（塵）——火山塊凝灰岩’或‘火山彈——火山礫凝灰岩’複合名稱。亦可結合粒度含量優勢順序列式，如火山礫——火山灰（塵）凝灰岩是指凝灰岩所含塵多過火山礫。而‘粗凝灰岩’其粒度如同沉積岩中的砂岩。為此，‘凝灰岩’不僅是塵級粒度而是所有固結火山灰的總名稱。

含量優勢的火山碎屑若具有玻璃、浮石、晶屑或岩屑成份時，岩石名稱前可加入玻璃質、晶質或岩屑等詞，如岩屑火山礫凝灰岩或粗晶屑凝灰岩。另可接成份含量優勢順序複合使用，如岩屑晶屑凝灰岩表示所含晶屑多於岩屑。亦可根據已取得的成因類型（如火山灰流）或化學成份（如流紋質）可靠資料及描述目的適當加以修飾，如‘熔灰岩’、‘熔結凝灰岩’及‘玻璃質火山碎屑岩’等。

SCIR 建議限定‘凝灰岩’中火山碎屑含量應超過75%。而含量達25—75%者稱層凝灰岩（沉凝灰岩），它是將沉積岩名稱前面冠以凝灰質之類適當的形容詞，表明火山碎屑墮落物或火山拋出物墮落到地表或水中後立即遭受風化、侵蝕或搬運變成外力碎屑（沉積碎屑）。「凝灰質」一詞並不能應用於所有外力碎屑岩或火山成因顆粒岩石中。Pettijohn等人（1972）曾對火山堆積和火山成因的外力碎屑堆積做過扼要報導。

火山碎屑岩及其導生岩石名稱

岩石組合	火山碎屑含量%	描 述	岩石名稱	粒 度 mm				
				>64	64—2	2— $\frac{1}{16}$	$\frac{1}{16}$ — $\frac{1}{256}$	1 < $\frac{1}{256}$
火山碎屑岩	>75	粒度：粗、細火山灰（塵）、火山礫、火山塊、火山彈 組分：流紋質、玻璃質、晶屑、岩屑 名稱：火山灰流、火山灰墮落物（或特殊名稱如溶灰岩、熔結凝灰岩）	凝灰岩	火山塊凝灰岩 火山彈凝灰岩（集塊岩） （燻角礫岩）	火山礫凝灰岩	粗凝灰岩	細凝灰岩	
火山碎屑與外力碎屑（正常沉積混雜岩）	75—25	凝灰質的	沉積岩冠以粒度與組份（燻碎屑沉積岩）	凝灰質礫岩 或 凝灰質角礫岩		凝灰質砂岩	凝灰質粉砂岩	凝灰質泥岩
外力碎屑岩（正常沉積岩）含火山質或不含火山質	<25	沉積岩冠以特殊的名稱如泥流等	沉積岩冠以適當的組分與粒度	礫岩 或 角礫岩		砂岩	粉砂岩	泥岩，頁岩

沙頭角海荔枝窩一個地層角度不整合的發現

嚴維樞 香港大學地理地質系

1981年，於一次港大野外觀察過程中，發現了一個角度不整合，位於新界東北部沙頭角海地區。

露頭出露於荔枝窩與磨刀坑一帶高潮線（圖一），1971年據Allen及Stephen將此地劃入淺水灣組——火山碎屑岩（RBp）夾沉積岩（RBs），不整合的証據如下：

1. 在地點A可見：沖積成因之礫狀脈充填於RBs的地層裂隙中（圖一，照片一）
2. 在地點B可見：一層數米厚之底礫岩（圖一，照片一）
3. 在地點B可見：明顯的不整合，下伏岩層傾向北西，傾角約50°，而上覆岩層傾向較北，傾角小於15°。
4. 岩性上的不同：下伏岩層為一系列之薄層砂岩、粉砂岩及泥岩，顯示當時還原沉積環境。

對底礫岩中礫石的初步岩石鑑定，可見大量火山岩質及石英岩質的碎屑。因為赤洲組岩層至今未發現此類碎屑，該地層不整合之年代，很可能為上侏羅世。

成國土面積的百分之九十，一比二十萬比例尺的區測也完成一半面積；探明有儲量的礦產，包括能源礦產、黑色金屬、有金色屬、貴重和稀有金屬、冶金輔助原料和化工原料；建築材料，以及其他各種非金屬礦產，已有一百三十四種之多，礦種齊全，基本配套；已知資源的分佈有利於國家建設的布局。會上還宣讀賀電、賀信五十餘件。當晚舉行了鷄尾酒會。

會議第四階段，九月一日至四日舉行了中、新生代地質研討會。大會報告一天，宣讀論文共十篇，其中「珠江口盆地的構造演化與南海的形成」，「華東南中生代火山岩中的鈾礦床及美籍華裔學者許靖華教授的「白堊紀末期的生物絕滅事件」，受到高度評價。分組宣讀論文和討論三天，共宣讀論文七十一篇，其中外國學者二十三篇。地層生物組集中討論了中生界與古生界及新生界之間，中生界各系之間，新生界兩系之間的界綫問題，青藏高原的海相中生界研究也取得較大發展。構造地質組圍繞着中國東部瀕太平洋帶及西部特提斯喜馬拉雅帶的中、新生代構造特徵和演化問題進行討論，不少代表對李春昱教授主編的亞洲大地構造圖表示很大興趣，它是以板塊學說為理論基礎的。對於亞洲板塊與印度板塊之間的界綫問題，討論得最為熱烈。對於中國東部中、新生代裂隙及伸展構造的成因機制，也提出各自的看法。岩礦方面較集中於花崗岩類和火山岩類有關礦產的成礦理論，應用板塊構造理論討論構造與成礦關係，只有美國J.庫蒂納教授應用了類似地質力學的構造控礦觀點，寫出基底構造在中、新生代某些大型礦床分佈的關係，南海形成與油氣勘探，以及石油田岩——碳酸鹽岩沉積和煤盆地沉積特徵，也涉及地溫、地熱資源、鈾礦成礦條件等。

在緊張的研討會中，與會者還參觀遊覽了北戴河、秦皇島、山海關、姜女廟、鷹角亭及鴿子窩等渤海灣優美風光及雄偉的天下第一關。此外，配合這次大會，地質博物館舉辦了中國地質學會史的小型展覽，以及銷售為地質學會六十周年發行的紀念郵票、特種郵票和各種工藝紀念品。地質出版社還展銷了部分最新地質圖書。

第五階段是會後地質旅行，從九月五日開始大會組織者為外賓組織了三條路綫地野外考察。第一條西藏路綫，美、法、英、加和日本等十六名專家參加。他們經成都到拉薩，重點考察了亞洲板塊與印度板塊碰撞的雅魯藏布江縫合帶地質、拉孜到樟木口岸橫穿珠穆朗瑪峯東麓約四百公里長地段的前寒武系到第三系的完整地層剖面以及拉薩附近的羊八井地熱田。西藏高原特殊的地貌和各種地質構造及西藏風光深深吸引了考察者。第二條路綫是到遼寧和山東地區考察郟盧大斷裂等中國東部構造活動帶以及阜新、撫順地區晚侏羅世含煤盆地及新生代煤盆地露天礦山。第三條路綫是長江中下游地區，十多位外國專家從武漢沿長江上溯到宜昌地區參觀優美壯麗的三峽東端風光及峽東地層構造；隨後參觀中生代大冶鐵礦、花崗岩、火山岩、銅綠山銅礦及古礦場，銅礦山及德興銅礦並登上廬山遊覽。

火山碎屑岩的野外描述（節譯）

香港廣佈分類最多而描述最困難的火山屑岩。火山岩命名意見分歧，國際地質科學聯合會下屬火成岩分會（簡稱 SCIR）提出了如同沉積岩粒度分類一樣，將火山碎屑岩探照火山碎屑含量顆粒大小進行命名和分類：

粒度mm	火山碎屑	外力碎屑（正常沉積碎屑）
	火山塊、火山彈	漂礫（巨礫）
		中礫
	火山礫	石卵
	粗火山灰	砂
	細火山灰（塵）	粉砂，泥

、地應力等方面，討論了中國東部的活動構造問題，如對郟盧大斷裂的研究已取得更豐富資料和新穎的見解；地質構造與其它學科如岩石化學、數學地質、物探等學科的進一步結合問題；區域構造的演化過程及大陸板塊構造的機制問題，其中關於岡瓦納大陸與歐亞大陸板塊的邊界，中國東部地幔與地層裂隙和古構造等問題，討論熱烈。岩礦方面，比較集中地討論了中國鈾礦床礦物共生組合分類和成因，南嶺花崗岩岩漿分異的方式，江西區域變質作用類型及變質相系，“碎斑熔岩”的成因，金伯利岩與偏鹼性超基性岩、碳酸鹽的關係等問題。能源地質方面，側重論述了聚煤環境，高變質藻煤成因和生油條件，生油環境，並涉及成鹽環境的一種新模式。“黃驛斷塊盆地沙河街組的重力流沉積與含油性”及“早古生代高變質藻煤的煤岩特徵及其地質意義”引人注目。水文工程地質、岩溶地質、物化探等技術學科方面，河南商丘淺灣地下水資源評價的研究，壤中氣汞測量精度的提高，繩索取心金剛石鑽進技術的進一步完善等方面獲得好評。

八月二十八日至八月三十日為第二階段，澳大利亞、法國、英國、義大利、加拿大、日本、西德、希臘等國五十多位外國學者、香港以及旅美的台灣省地質學家陸續抵達北京，他們中有上屆國際地質科學聯合會主席、澳大利亞學者費希爾教授及夫人，上屆地科聯秘書長，加拿大學者哈奇遜博士，本屆地科聯秘書長，法國學者韋伯博士及著名的美籍華裔學者許靖華博士等。八月二十八日，中國國務院副總理萬里在人民大會堂福建廳會見了所有外賓、香港和台灣學者，進行友好談話。他指出，古代中國地質學有過卓越貢獻，但作為現代地質學起步則較晚，還是很落後。中國願意在平等互利基礎上加強交流和合作，共同促進地質學的發展。當晚，地質礦產部部長孫大光在人民大會堂設宴招待了外賓。中國地質學會為他們安排了會前的北京郊區地質旅行和名勝古跡的參觀。他們以極大興趣參觀了周口店北京猿人遺址，南口——八達嶺長城路綫地質觀察，十三陵水庫震旦紀與寒武紀分界觀察。八月三十日，外賓乘火車抵達北戴河，下榻於海濱的西山賓館。

第三階段，是八月三十一日的紀念大會，也是慶祝活動的高潮。大會在萬綠叢中的海濱俱樂部禮堂舉行，會場莊重、樸素，主席台上高懸着以“土、石、山、水環繞‘中’字”為圖案的一枚巨型金色會徽，兩邊1922—1982幾個醒目大字標明學會誕生至今的歷程。中外地質學者雲集一堂，憶昔話今，展望未來。大會由中國地質學會副理事長朱國平主持，副理事長程裕琪致開幕詞。新上任的年僅四十八歲的地質礦產部第一副部長朱訓致祝詞。

接着由理事長黃汲清教授作“略論六十年來中國地質科學的主要成就及今後努力方向”的報告。他指出：“中國地質學會於已年滿「花甲」，六十年來，中國的地質科學也像我們的國家，我們的民族一樣，歷盡艱難困苦，不斷奮鬥，不斷前進，終於獲得重要的發展；這和全體會員數十年來的辛勤勞動、刻苦鑽研是分不開的。”“今後的根本任務是集中力量進行現代化建設，中國地質科學面臨着解決能源、礦產資源、工程建設、環境保護，以及地質災害等方面一系列重大問題。同時，中國地質科學又是全球科學的一部分，因此，中國地質學者也擔負着不可抵卸的任務。”“中國地質工作將以找礦為中心，把客觀地質條件同國家建設需要更好地結合起來，為九十年代的經濟振興作好地質礦產資源準備。”

中國科學技術協會，書記處書記劉東生在會上致賀詞。二十五屆國際地質大會主席費希爾，國際地科聯秘書長韋伯，前秘書長哈奇遜等外賓相繼致詞，祝願中國地質學會長壽，繁榮昌盛，並從不同角度贊揚了中國古代和現代地質科學成就，希望加強國際交流和合作。

大會崇敬地表彰了以李四光教授為代表的老一輩地質學家，為中國的地質事業和發展奠定了堅實的基礎，同時表彰了從事地質工作五十年以上的四十位老會員，頒發了榮譽證書和一枚鑲嵌在大理石底座上的銅質會徽，其中，尹贊勳、黃汲清、李春昱、高振西、潘忠祥、王恆升、林觀得及胡希廉等九位老專家出席了大會。大會宣佈，現在中國從事地質工作的職工約一百萬人，工程技術人員約十五萬人，大專地質人員約七萬人，而參加中國地質學會的註冊會員四萬餘人，是六十年前成立時的兩千倍。經過他們的努力，中國地質調查研究程度有了很大的提高。一比一百萬比例尺區域地質調查已完

歡迎許士芬博士為本會榮譽會員

我們很高興及榮幸能夠宣佈本港的一位知名鑽業鉅子，同時也是一位熱誠的地質及礦物學者許士芬博士已接受本會的邀請為本會的榮譽會員。

除了他的精神支持外，許博士還捐贈了十萬元港幣給本會作為（引一句他回函裏的話）「我對香港地質學會成立的熱心支持」。

有了這種力量的支持，加上我們一直在穩定增加着的會員數字和豐富的活動節目，本會可以很有信心地展望一個光明而又活躍的將來。同時本會更可供給香港的地質學者們一個討論和活動的集中地——這在我們希望的不久的將來能成為地區性的重點。

我們心目中的擴大會務，出版，活動等計劃對我們這個剛成立的會是相當昂貴的，所以許博士的慷慨捐贈對本會的發展是有極度的定穩作用。現在籌委會有意將那筆捐款用作基金，而只利用所得的利息來彌補會員費之不足——這既可使那筆捐款完整，更可較長遠地確保本會他日的福利。

常務委員會之選舉

有些會員可能沒有詳細研究我們的章程，又或感到我們的常務委員會選舉程序有些混亂；我們希望以下的簡述能使他們有一個較清楚的認識。

本會將會由一個遴選出來的九人組成的常務委員會管理。而委員會將會分為兩組——五位幹事及四位常務委員。每一幹事會負責一項職務，如主席、副主席、秘書、助理秘書（編輯）及司庫。

常務委員會的九個職位是以下列的形式每年由全體會員用郵寄方式投票選舉：一

- (I) 每年的十月終前常委會將會委任一個遴選小組；而小組將會在該年年終前收集及推荐一份甄選提名單。
- (II) 常委員將這份提名單審核後，會在下一年的一月卅一日前通傳給所有的會員。會員們將會有一個月時間來考慮是否需要增加提名額而將他們的提名送到秘書處。
- (III) 常委員隨後會指派一位公正的遴選幹事來處理這郵寄式的投票，而以最簡單的方法來決定當選人——每職位由得票最多的一位當選。選舉結果將會在每年五月間舉行的週年大會上宣佈，而新選出的常務委員會也隨着接任。

中國地質學會六十週年紀念活動紀實

香港理工學院 李作明

一九八二年八月二十五日至九月四日，中國地質學界四百餘人以及五十多位來自九個國家和香港地區的地質學家雲集渤海之濱，避暑勝地的北戴河，慶祝中國地質學會成立六十周年。筆者有幸應邀參加了紀念大會及中、新生代地質國際研討會。盛會空前，分五個階段。

八月二十五日至廿九日，中國地質學會召開第三十二屆理事會第二次全體會議。接着進行學術報告會。大會，小會結合共宣讀論文 102 篇。地層古生物方面，古生代和中生代之交的華南雙殼類，周口店上新世及更新世的氣候與地層，廣西泥盆紀的生物礁與錫石—硫化物礦床的成因，燕遼地區侏羅紀被子植物的先驅等論文均研究深入見解新穎。在構造地質方面，從地球構造、大地形變、地震活動

香港地質學會 籌備委員會

主席：Dr. A. D. Burnett

秘書：Dr. D. R. Workman

司庫：Mr. M. Atherton

會員組：嚴維樞先生，Dr. A. D. Burnett

Prof. C. J. Grant，李振新先生

節目組：Mrs. T. Pearson，Dr. S. R. Hencher，

黎權偉先生，林其茂先生

Mr. P. A. Randall

編譯組：周邦彥先生，李作明先生

Mr. J. Sekula，Mr. B. W. Taylor

余成堃先生

投稿本會通訊簡則

概 則：請將所有稿件，查詢及通訊寄香港地質學會秘書收（煩香港大學地理地質系轉）。本會並不負責刊登在本通訊內文章之版權。如寄來的文章或資料有在過去曾引用過，或現時及將來可能會引用到的話，作者請於來稿時特別註明。

我們歡迎一些專門性的稿件，有趣事項的報導，書評或專題討論等。來稿以簡為主。雖然有些時候本會可作出例外，但普通稿件請以一千二百字為限。請盡量減少插圖及附表等，而所有圖表請另外分頁。

所有來稿必須清晰——英文稿用打字機打出，中文則以正楷謄寫。來稿需寄兩份。英文稿（包括援引）必須隔行，不可一紙兩面用；請用A4號紙張。中文稿則請用原稿紙。中英文稿每頁均必須有頁編號及作者姓名。

所有插圖請只寄影印本，待本會通知時始可將原版寄來，而必須註有來稿者姓名。圖表必須用黑色繪在描圖紙或滑面白紙或紙板上；所有綫條或字體之粗幼必須能縮影後仍可保持清晰，所有地圖必須附有公制比例，正北指向及如適用的話附有經緯綫座標。

援 引：來稿者須負責確定所有援引的準確性，而公報之簡寫須以現藏於倫敦地質學會圖書館內倫敦地質學會1978年出版之定期出版物目錄為準。

單行本：經本通訊刊出之稿件，本會不負責供免費單行本給作者，但可代向承印商洽商，使作者可向承印商購買單行本。

致各會員

本會並不認可會員以任何形式將姓名聯繫上本會名稱籍以宣揚與本會之關係。

封面圖片：蒙Dr. S. R. Hencher借出

香港萬宜水庫：岩脈橫切摺曲之柱狀火山岩

香港地質學會

通訊

目錄

第一卷 第二號 一九八三年一月

投稿本會通訊簡則

歡迎許士芬博士為本會榮譽會員

常務委員會之選舉

中國地質學會六十週年紀念活動紀實

火山碎屑岩的野外描述 (節譯)

沙頭角海荔枝窩一個地層角度不整合的發現 (節譯)

用香港菊石作為香港地質學會會徽

沙螺灣的地質考察旅行

財政小組簡報

會員小組簡報

編輯組

1983年度活動節目

