GEOLOGICAL SOCIETY
OF
NEW ZEALAND

NEWSLETTER

No. 13 February 1963

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o. 13 February, 1963.

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SEVENTH ANNUAL GENERAL MEETING

The Seventh Annual General Meeting of the Society was held at the University of Canterbury on Thursday, 16 August 1962 at 8 p.m. There were about 80 members present, and the President, Dr R. P. Suggate, was in the chair.

The Annual Report circulated with Newsletter 12 was adopted. Dr Suggate reported that Mr J. W. Brodie had resigned from his position as representative on the Council of the Royal Society of New Zealand and had been replaced by Mr B. W. Collins. The Royal Society Council had asked the Society to nominate two members to their Sectional Committee on Geology and Geophysics, and Mr Kear and Dr Suggate had been nominated and subsequently appointed to the sectional committee.

The Financial Statement for the year ending 31 March 1962 was adopted. It showed a total income of £81, including £78 from subscriptions, and an expenditure of £60. The expenditure included the contribution of £8.10.0. to the Royal Society. The cash assets of the Society at the end of the year were £88.

The following were elected as officers for 1962-63.

President	:	Dr R. P. Suggate
Vice-President	:	Mr J. Healy
Secretary	:	Mr D. R. Gregg) N. Z. Geological Survey,
Treasurer	:	Mr Guyon Warren) P. O. Box 2110, Christchurch.
Committee	:	Dr M. Gage
		Mr J. A. Grant-Mackie
		Mr I. C. McKellar
		Dr E. I. Robertson
		Dr W. A. Watters
		Mr J. W. Brodie (Past President)
		Mr B. W. Collins (Representative on RSNZ Council)

During the General Business a vote of thanks to Dr W. A. Watters, editor of the Newsletter, was carried by acclamation.

After the conclusion of the formal business, Dr Suggate gave his Presidential Address on "The Alpine Fault". He first gave a summary of previous observations on the fault, particular attention being paid to the continuity of the fault from Milford Sound to the sea near the mouth of the Wairau River. The second part of the address dealt mainly with the dating

of the movements. Most of the 300-mile lateral shift was thought to have been accomplished during the pre-Tertiary Rangitata Orogeny, the South Island uplift of the Southern Alps being the major feature at the Alpine Fault during the Quaternary Kaikoura Orogeny.

- D. R. G.

HISTORIC ARTICLES ACT

A Bill to provide for the protection of historic articles and to control their removal from New Zealand was passed in the House of Representatives on 4 December 1962, and will come into force on 1 April 1963. An historic article is

(a) a Maori or Polynesian article manufactured in or brought to New Zealand more than 60 years ago and relating to Maori history, art or culture;

(b) any written matter relating and of importance to New Zealand which is more than 90 years old, and of which a copy is not in a recognised library;

(c) any type specimen of any animal, plant or mineral existing or formerly existing in New Zealand. Type specimen means the specimen on which is based an original published description of the animal, plant, or mineral of which the specimen serves as an example.

It will not be lawful to export historic articles except with the permission of the Minister of Internal Affairs, but this will not apply to articles temporarily within New Zealand. The Minister may refuse permission if the removal of the article would be to the serious detriment of historical or scientific study or research in New Zealand. When granting permission he may require the owner to permit the article to be photographed or a cast to be made. The decisions of the Minister will be subject to appeal before a Committee of Inquiry. The Act will bind the Crown.

- D. R. G.

TRANSACTIONS OF THE ROYAL SOCIETY OF NEW ZEALAND

As was announced in Newsletter No. 11, the Transactions of the Royal Society of New Zealand are available to members of the Geological Society of New Zealand. The Transactions are now issued in four series: Botany, Zoology, Geology and General. Each of the series began with Volume 1 in April 1961. Each paper now forms a separate number, and the collected papers are distributed at quarterly intervals. As a volume is completed in any series, title page, list of contents and cover are issued.

The Geological Society pays the Royal Society a levy of 10/- annually for each member who receives one series of the Transactions. The annual levy for each additional series is 5/-. The General Series and the Proceedings are issued without charge.

The Committee of the Geological Society prefers that members who belong to other branches of the Royal Society should continue to obtain their Transactions through these branches. Other members who require Transactions and/or Proceedings should write to the Secretary C/o N. Z. Geological Survey, P. O. Box 2110, Christchurch, specifying which series of the Transactions they require, and whether they wish to receive the Proceedings. The Committee has decided that there will be a charge for postage and packing in addition to the levy. This will initially be 5/- per year, making the total charges to members 15/- per year for one series, £1 for two series, £1.5.0. for three series. Proceedings will be distributed free to those members requesting them.

During the 1961/62 year only three papers were published in the Geology Series. These were:

Vol. 1, No. 1 "An Occurrence of an Albion Ammonite in the Motuan Stage in the Upper Awatere Valley", by Paul Vella.

Vol. 1, No. 2 "A New Species of Worthenia (Gastropoda) from the Triassic of Southland, New Zealand", by J. B. Waterhouse.

Vol. 1, No. 3 "The Upper Boundary of the Hawera Series", by R. P. Suggate.

For those members who did not subscribe to the first year of the Geology Series, these papers are available for sale at 1/6 each from The Secretary, Royal Society of New Zealand, Victoria University of Wellington, P. O. Box 196, Wellington. The scale of charges is: 1/6 up to 12 pages,

2/6 up to 24 pages, and over 24 pages on a pro rata basis.

Volume 1 of the Geology Series was completed on 31 October, 1962, with the publication of paper No. 20, making a total of 296 pages for the volume.

NEWS FROM GEOLOGICAL SURVEY BRANCHES

Dunedin Office Staff Activities

The four mile mapping project has continued to set the pace during the year and now all but a fraction of the field work is completed. We have been wading through the various editing stages with Sheet 22 (Wakatipu) and Sheet 23 (Oamaru). Both these maps will be much in demand by the public and the Wakatipu sheet is now with the printer. The Invercargill sheet comprising most of Southland was compiled very early in the four mile programme on a field base map. A modern topographic base has at last become available and the geology has been transferred to this. However it will be one of the last sheets to appear from this office.

We have made some deep inroads into relatively unknown mountainous country in the area of the Haast sheet and uncovered some interesting and as yet only partly solved problems in metamorphic geology and schist structure. Steeply dipping greenschists strike westwards across the Main Divide near Mts Castor and Pollux and link up with greenschist areas in the Waipara River. Our isograd pattern differs from that published recently by Mason. Work in the Haast sheet has given Mr Mutch the opportunity to explore and map more thoroughly the Red Mountain area inland from Martin's Bay and mineral exploration of this area is still continuing. We have had to make some modifications to the topography in the central part of the Haast sheet as there is little in the way of controlled surveys.

Glaciological studies in the central alpine region continue and we completed in November a two-week field trip in our experimental area in the Tasman Valley. A preliminary report on the Tasman Glacier project is with the editor of an American journal and the need now is for more accuracy in our glacier mass balance studies. This needs better maps for area estimates, some new drilling equipment, and a strategically

placed hut at 8,000 ft as a base of operations. These better facilities are within sight. The Dominion Physical Laboratory has kindly consented to help with the very specialised drilling gear. The Park Board is actively looking into the question of hut accommodation with the promise of financial backing from our Department, and Mr Skinner and Mr Laird of G. S. staff have recently done some good work with theodolite and subtense bar. They reoccupied some of T. N. Brodrick's early survey points set up in the 1890's and remapped parts of the glacier margin to obtain more accurate ice areas. They also obtained new levels on the much collapsed glacier surface. Portable radio equipment loaned by the Army was of immense help in this work.

Mr McKellar in the course of a field expedition in S. E. Alaska in 1961 saw what a big contribution American National Park Service are prepared to make to geological field expeditions in remote areas. Staff in Glacier Bay National Monument supplied boat transport, arranged re-supplying missions and mail service by float plane and maintained regular radio schedules. There is no doubt that national parks can provide an excellent environment for certain types of continuing geological research projects. There are all the advantages of cooperation of the ranger staff permanently stationed in the area who are themselves interested in the natural features of the park.

This situation is developing at Mt Cook where we always are well received, where the rangers spend several days each year doing photographic work for us and where our findings are often of direct interest to the visiting public. Mr McKellar and Mr Shaw, the Survey's Information Officer, recently had a very pleasant evening with the Mt Cook Park Board members explaining the general work of the Survey and the significance of the glaciological project within the Park.

At the time of writing Mr Wood is in the Lake Wakatipu area extending his work on Otago schist structure. A paper on this subject is in manuscript form.

Miss Xandra Williams is continuing her geochemical prospecting work in the Moke Creek area and in the Longwood Range, Southland. Rapid field analysis of water samples has shown much promise as a mineral prospecting technique in Central Otago.

In the coming summer there is much interesting work to do in East Otago piecing together data for the Dunedin four mile sheet, the last to be compiled from this office. In addition trips are planned to West Otago, the Red Mountain district in N. W. Otago and South Westland, to Mt Cook, and with Christchurch staff to the Landsborough Valley.

- I. C. McK.

Geological Survey, Otahuhu

The major work at Otahuhu has continued to be the 4-mile mapping project. Messrs Thompson and Schofield spent much time up to Christmas helping Mr Healy of Rotorua complete sheet 5 (Rotorua). Mr Hay is continuing his work on sheet 7 (Taranaki), where oil company activities are increasing markedly, and Mr Bowen is watching sheet 15 (Greymouth) through to publication. The others in the office are concentrating on sheet 3 (Auckland), and it is hoped that the field work for this, our last sheet, will be complete by the end of the coming summer field season.

The initial work on the iron-sand is complete. Quite apart from the economic aspects, this work has produced some most valuable detailed information on the coastal dunes, perhaps the most interesting being to have, for the first time, some reasonably conclusive proof, by way of the black-sand leads, of a Tyrrhenian high sea level at about 135 ft. Other economic work has covered copper in Northland, pumicite around Auckland, Tauranga Harbour silting problems, and road metal enquiries throughout the northern half of the North Island.

- D. K.

INFORMATION ON GEOLOGICAL FEATURES

At a number of times in the history of the Society members have expressed concern at the lack of accurate information on geological features available to the public. As a result of a decision of the Committee I have written to the Automobile Associations and the public relations offices of the major towns and cities offering to give them the names of members who might be prepared to provide notes on specific features in their areas. The Committee envisaged that these notes might be useful and interesting additions to booklets and route guides, and that some features might be suitable for sign-posting. Replies were received from 7 of the 15 Automobile Associations, and from 12 of the 17 public relations offices, and they have been given the names of members willing to help them.

If members feel that there are specific geological features in their own districts sufficiently obvious and interesting to warrant sign-posting, would they send details tome, or alternatively direct to an organisation who might be prepared to erect a sign?

D. R. Gregg, Secretary,
P. O. Box 2110, Christchurch.

WINDS OF CHANGE IN NEW ZEALAND SCIENCE

by B. W. Collins

The half-yearly meeting of the Council of the Royal Society of New Zealand last November (which I attended as representative of the Geological Society) was the occasion for several interesting gusts of what is to be hoped was not all hot air.

One of the main items on the agenda was a discussion on the constitution and functions of the Royal Society itself. Others were the presentation of reports of several of the Society's special sectional committees, introduced by the chairmen and other members of the committees, present by special invitation; the role of the Royal Society in international scientific relations - including the matter of affiliation with the International Union of Geological Sciences; a proposal for a "Research Year" in New Zealand; and discussion of recent Government moves in the administration of scientific research.

National Research Council

To deal with the last point first, a strongly worded resolution was passed criticising the Government's intention to introduce a National Research Council Bill without prior investigation by a competent committee of enquiry and requesting "an independent commission of investigation into the whole of science in New Zealand". Since the meeting, of course, this bill has been introduced for information, and now that the full text is available for study, it appears perhaps not as noxious as it might have been. There is, however, no indication in the proposed Act that any of the six appointed members of the Council need have any scientific training or background, and this is a point that has worried many scientists. These six members are to be appointed by the Governor-General on the recommendation of the Minister "for the time being charged with the administration of this Act" - presumably the Minister for Scientific and Industrial Research, who sponsored its presentation to Parliament. They are also not to be employees of the Government. The other six members are to be the permanent heads of the following Departments: Treasury, Works, SIR, Agriculture, Forest Service, and Industries and Commerce.

The functions of the new Council are wider than those of the now-abolished Council of Scientific and Industrial Research, and include

"the determination of priorities among research activities of Government Departments", and "the promotion of cooperation with the Governments of or organisations in other countries, or with international organisations, in scientific matters". It is not, however, an executive body, but exists merely to "advise the Minister".

Though there may well be some concern over the proposed new Research Council, Government scientists, at least, will no doubt be mollified by the recent announcement that Dr R. M. Williams, Director of DSIR's Applied Mathematics Laboratory has been appointed (with Messrs L. A. Atkinson and A. G. Rodda) to the new State Services Commission set up under the State Services Act.

Constitution of the Royal Society

Whether these changes mean a "New Deal" for science in New Zealand remains to be seen. In the meantime the Royal Society is concerning itself with setting its own house in order. For some time a special sub-committee of the Canterbury Branch has been busy considering a revision of the Royal Society Act, and has been seeking the view of all member bodies, including the Geological Society. A number of divergent opinions on future organisation of the Society have been expressed, some advocating that the Society itself should consist only of Fellows, though continuing to serve as a rallying point for specialist and regional scientific societies. Others believe membership should remain open to all members of affiliated bodies. There is, however, general agreement that more use should be made of the Fellows, a body of competent and highly qualified scientists at present without any unity or obligations but whose combined opinion should, it is felt, carry much more weight in the community and with the Government.

After much discussion at the meeting, the Canterbury committee was asked to continue its work of collating the various proposals and redrafting the Act.

International Relations

The relations of the Royal Society with the International Council of Scientific Unions (ICSU) were also discussed. New Zealand adheres to ICSU through the Royal Society, which pays an adhering fee on the basis of the total number of separate International Unions to which New Zealand national bodies belong. At present New Zealand is a member of only four out of a

total of 14 unions - Geodesy & Geophysics (member organisation, DSIR), Scientific Radio (DSIR), Geography (NZ Geographical Society), and Crystallography (National Committee approved by the Royal Society). The Society also pays the subscriptions to the two special committees of ICSU to which New Zealand belongs - Antarctic Research (SCAR) and Oceanographic Research (SCOR).

The proposals of the Geological Society for the formation of a National Committee for Geology to join the recently formed International Union of Geological Sciences were approved. The constitution of this National Committee is to be decided in consultation with the Geological Society, and will probably be based on the Royal Society's existing Sectional Committee on Geology & Geophysics. It was also decided to proceed with the formation of a National Committee on Biological Sciences and affiliation with the International Union of Biological Sciences. The Royal Society's own ICSU Committee was reconstituted and its functions defined.

Report of Geology Committee

The report of the Royal Society's Sectional Committee on Geology & Geophysics was presented to the meeting by Professor D. S. Coombs (chairman) and Dr E. I. Robertson (member), and was very well received. It is to be published in full in the Royal Society's Proceedings and will also be circulated to the Universities, appropriate Government Departments, and tabled in Parliament. The committee (other members of which besides the two mentioned are: Professor R. S. Allan, Dr H. W. Wellman, Mr D. Kear, and Dr R. P. Suggate) emphasised three main points:

(1) New Zealand is a geologically unstable region where earth movements are active proceeding and repeated volcanic activity is to be expected. It is particularly suited to fundamental research in these topics, and much of this work would have practical application.

(2) At the present time there was a suitable "climate" for active development of mineral industries. The Government should vigorously support the search for minerals and research into their exploitation, beneficiation, and utilisation.

(3) The present programme of geological and glaciological mapping, though progressing well, is hampered by lack of air photographs and base maps in some areas. Air photo coverage of the country and the NZMS 1 series of topographical maps should be completed as soon as possible.

Research Year

A proposal, originating in Auckland, that 1963 should be designated a year of scientific research in New Zealand, with special emphasis on public relations and the training of scientists, was thoroughly discussed and generally supported - but for 1964. The Standing Committee of the Royal Society was asked to investigate and report to the Annual Meeting in May next.

Retirement of Miss Wood

Besides all the possible changes in the organisation and administration of science in New Zealand that have been adumbrated in the foregoing, there is one that may have more importance than a mere change in the officers of a society usually entails. This is the retirement of the knowledgable and hard-working secretary of the Royal Society - Miss Mimie Wood - whose association with the work of the Society goes back 42 years. That she will be difficult to replace is an obvious understatement. Only those who have served on the Council can really appreciate how much she has done for the Society. She was farewelled at a very pleasant luncheon for Council members and others on the day of the half-yearly meeting at the home of the President of the Royal Society, Dr Charles Fleming. That she was honoured with the M. B. E. recently will be welcomed by all New Zealand scientists.

THE INTERNATIONAL SOIL CONFERENCE

by A. Ewart

The conference of the International Society of Soil Science was held at Massey College, Palmerston North, from 13 - 22 November, 1962. It was attended by approximately 230 delegates, of whom some 130 were from overseas, representing 33 countries. The conference was a joint meeting between Commission IV (Soil Fertility and Plant Nutrition) and Commission V (Soil Genesis, Classification, and Cartography). This is the first time that two commissions have met jointly. Good weather, efficient organisation, together with the ideal surroundings provided by Massey College, ensured the success of the Conference. An additional feature was the excellent exhibition of New Zealand soils, their uses and problems.

The papers were arranged into various sessions, depending on their subjects, and all delegates received preprints. During each session, one major

paper was presented, reviewing the field of study, and this was followed by very brief reviews by other authors of their own papers. This ensured that there was ample time for discussion of all papers, and the arrangement worked extremely well. From the geological viewpoint, the first three days were of most interest, and covered the subjects of soil processes, soil formation, weathering, and soil classification. Many of these papers were of especial interest in that they drew attention to the large number of mineral transformations that occur in the soil, and the mobility of many chemical elements during soil processes. The geologist tends to think of minerals and elements as relatively stable and immobile at room temperatures, but much of this soil work could have important applications in sediments and sedimentary processes. Another interesting aspect is the obviously chaotic state of soil classification throughout the world. This resembles the early detailed classifications used for igneous rocks when vast amounts of detail were incorporated into the classification.

INTERNATIONAL MINERALOGICAL ASSOCIATION

by D. S. Coombs

The third general meeting of the International Mineralogical Association was held in Washington from 17 - 22 April, 1962. It was preceded by an instructive and enjoyable excursion commencing at New York and visiting mineral localities in New Jersey and Pennsylvania and it was followed by an equally profitable excursion in Virginia. Symposia were held on layered intrusions and the mineralogy of sulphides, and another session was devoted to non-symposium papers. Abstracts for these appeared in Amer. Min. 47, nos 1/2, and the papers will be published in a special volume produced by the Mineralogical Society of America and at present in press.

Two business sessions were held and the various commissions continued their work, recommendations of the Commission on New Minerals and Mineral Names being of special interest. The duties of this Commission are set out as follows (see Mineralogical Magazine, 33, p. 260). "To review all proposed changes of nomenclature (new names, discredited minerals, and changes in definitions of names), before publication if possible, in order to avoid the publication of invalid or undesirable changes; to prepare annually a list of changes, vote on them, and publish the lists with indications of the Commission's approval or disapproval; and to endeavour to attain inter-

national uniformity in nomenclature as far as may be practicable."

The Commission has approved schedules of the desirable data and of the essential minimum data for acceptance of a proposed new mineral (Bull. Soc. Min. Crist., 1961, vol. 84, p. 96) and authors and editors of journals are now invited to submit to the Commission material bearing on proposed new minerals or changes in nomenclature. The Commission has allowed itself a period of 45 days to vote on the proposals, and if they are approved, the author may state the fact in his paper. Leading mineralogical journals have already accepted the system and it is hoped that other authors and editors will follow suit.

Recommendations on variants on mineral names are also set out in Min. Mag., 33, (p. 262 - 263). A few samples of particular interest in New Zealand are as follows:

A. Unanimous recommendations.

analcime	(not analcite)
anatase	(not octahedrite)
feldspar	(not felspar etc.)
grossular	(not grossularite)
piemontite	(not piedmontite)
spessartine	(not spessartite)
hematite	(not oligisite - or haematite)

B. Recommendations by clear majority.

bromargyrite	rather than bromyrite
chlorargyrite	rather than cerargyrite
sphalerite	rather than blende
stilbite	rather than desmine

No clear decision was reached in a number of other cases (e.g. allanite or orthite, sphene or titanite), but such cases will be further considered in the future.

Two new commissions were established, one on ore microscopy, and the other, in keeping with the times, on cosmic mineralogy with Professor Grigoriev of Leningrad as Chairman. Dr M. Briggs of Victoria University Geology Department is nominated as New Zealand member of the latter Commission.

Since the report in G.S.N.Z. Newsletter No. 11 on I.M.A. affairs, certain recommendations of the Mineral Data Commission have been published (Cursillos y Conferencias, Instituto Mallado, Madrid, fasc. VIII, pp. 169-182,

1961) and extracts have already been circulated to New Zealand mineralogists. These deal particularly with nomenclature and symbols for crystallographic, optical and other physical properties.

Another useful I. M. A. publication is a 'World Directory of Mineralogists', 1962, with useful biographical data (17 New Zealand entries) obtainable from Miss Marjorie Hooker, U. S. Geological Survey, Washington 25, D. C. for $ 1.50.

The next meeting will be in Madras immediately prior to the International Geological Congress of 1964. I. M. A. is a live organisation. It was a privilege to attend the Washington meeting as New Zealand Representative.

NEW ZEALAND GEOLOGICAL SURVEY 1:250,000 SERIES

by R. W. Willett

The 1:250,000 mapping project of the New Zealand Geological Survey, generally referred to as "The Four Mile Project", was set in motion in 1956 at a full staff meeting in Wellington with a then suggested completion date of 1962. It may be of interest to members of the Geological Society to review the progress to date and toward ultimate completion now that the project has been under way for six years. The programme has proved to be a fairly ambitious one and has meant a considerable diminution of Geological Survey bulletin work and of bulletin publication. The full effect of the pressure exerted by the Four Mile programme is now being felt and will be so to an increasing degree through 1963and 1964. It means that the Geological Survey is unable to undertake the drawing of one mile geological maps until the 1:250,000 series cartographic work has been completely satisfied, and then we must complete the backlog of six one-mile sheets for which bulletin texts are complete before any new work can be accepted.

The project has been to give a useful coverage of New Zealand at a reasonable scale and within a reasonable time, and this objective has been my over-riding concern as Director. As the project has progressed it has clearly shown that it will form the basis of future national geological programmes simply by its highlighting areas of geological interest and points of economic significance. It is acting as a stocktaking of one hundred years of accumulated geological knowledge. In compiling these maps Survey officers have made new

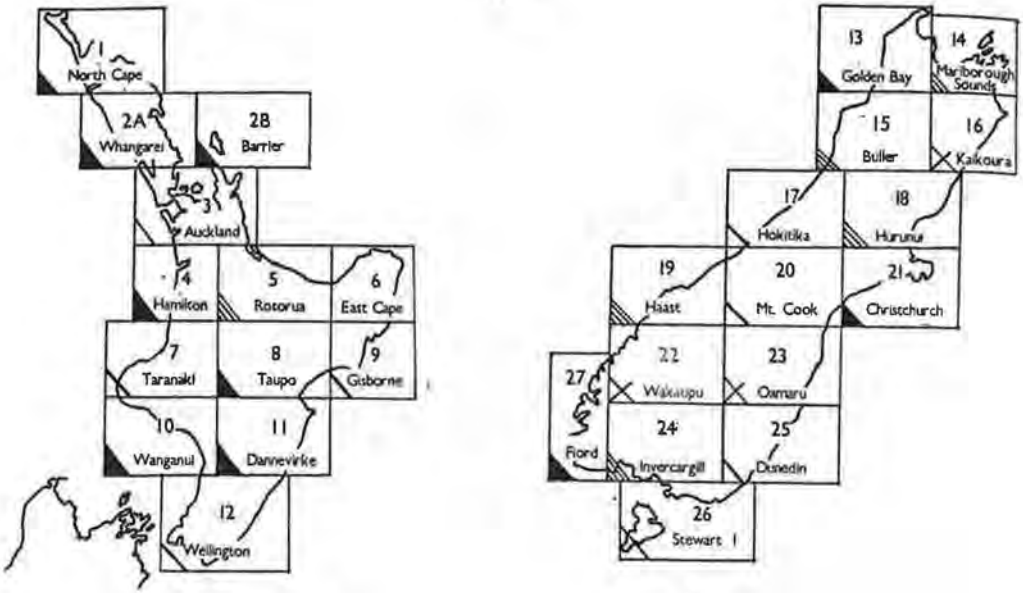
discoveries and have had to make geological and stratigraphic decisions on the basis of information available that may be revised in the future when more complete information is obtained. In order to meet this situation the initial maps have been labelled "first edition", thus giving the opportunity for a second edition where there is considerable alteration. Not until the project is complete will there be any second editions, although some of the earlier published sheets are outdated by some later stratigraphic changes.

It has been most satisfying to see how this project has grown because of the full team effort behind it; although there has been one man, or at times two, responsible for each sheet, the assistance of the entire Geological Survey staff and all unpublished information has been made available. The Geological Survey too has had opportunity to use unpublished material contained in University theses and has had the cooperation of oil search groups in areas where they have carried out new mapping and stratigraphy.

When the project was first set up it was paralleled by a similar series of topographic maps at 1:250,000 being prepared by the Department of Lands and Survey. The cartographic section of the Geological Survey works in close cooperation with that of Lands and Survey in the preparation of these maps, for the topographic base of the geology maps forms a major part of the topographic 1:250,000 series being prepared by Lands and Survey. Topographic bases are being prepared in both offices and ultimately there will be a series of geological maps and a series of topographic maps available that cover identical areas over the greater part of New Zealand. The two sheet plans of New Zealand, one for geology and one for topography, are identical except in the Southland and Fiord areas.

Although the progress of the project as indicated by published maps was in the initial years slow, it has over the last year been moving with increasing velocity and the end of 1963 will see the whole project well on the way to completion. At 31 December 1962 there are already 10 sheets published, 3 with the printer, 3 in the final stages of drawing, and 4 in the early stages of cartographic work. Every sheet is now at some stage of preparation and in fact compilation and field work have been completed for all but 2 sheets. It is anticipated that there will be six or seven sheets published in 1963 and the balance will appear in 1964, certainly no later than early 1965.

The following map showing the areas covered by the 28 sheets also shows the present state of progress, as follows:



Published:

In press:

Being drawn:

Field work and compilation in progress:

It is planned as the culminating point of this project to summarise the geology at 1:1,000,000 and this map will accompany "The Geology of New Zealand" which is at present being written by all members of the Geological Survey staff under the editorship of Dr R. P. Suggate. The publication in 1965 of this "Geology of New Zealand" will mark the centenary of the New Zealand Geological Survey.

It has been necessary to be particularly single-minded about this project in order that it can be completed. A project of this nature loses much of its value if it is left to drag on for any great length of time, consequently as Director I have made this the principal objective of the Geological Survey. In order to keep all officers familiar with progress, particularly in the early stages of the project, annual meetings of all geologists were held and agreement reached on problems that were emerging from the work. A vast number of new formation names are appearing; many of them will not be completely defined and justified in the texts of the maps and this will have to await papers or the "Geology of New Zealand" for final support. The importance and urgency of the project was readily and completely accepted by the entire staff and the enthusiasm of all those involved has been one of the major factors in carrying it to the point it has now reached, with completion in sight.

OBITUARY

J. Allan Berry

The death occurred recently of Dr J. Allan Berry of Napier following a long period of indifferent although for him not crippling ill health. Born in Napier he received his earlier schooling there. Later, he worked his passage to England and attended Guy's Hospital, supporting himself by odd jobs and from the proceeds of medical prizes and scholarships. After graduation he became a lecturer in anatomy at Guys for a number of years. On his return to Napier he was appointed Superintendent of the newly-formed Napier Public Hospital, establishing a tradition of excellence that has survived to the present. The esteem with which he was regarded by his staff is shown by the volume of correspondence from both doctors and nurses now scattered throughout New Zealand. Following his resignation as superintendent he established a private practice in Napier with his brother Harold, resigning this to answer a broadcast plea for a medical officer on Nuie Island. After his tour of duty at Nuie he served as medical superintendent at Samoa during which time he contracted amoebic dysentry, a very serious disease for a man of his age. Even after his return to New Zealand his health never recovered; nevertheless, he gave his full time to the pursuit of his geological studies. During his last trip to Australia to make further measurements of seal skulls he suffered a stroke from which he recovered, but his death followed another stroke in December 1962 at the age of 72.

His keenly inquiring mind early led him to an interest in geology. His first two papers were published in Transactions of the Royal Society of N. Z. in 1929 on such widely different subjects as: "The Volcanic Deposits of Scinde Island with Special Reference to the Pumice Bodies called Chalazodites", and "A New Species of Arctocephalus from Cape Kidnappers". When he died he had put the finishing touches to an important paper revising the Otariidae for the purpose of classifying a fossil seal skull from the Castlecliffian beds at Ohope. While at Nuie he published a paper "The Occurrence of a Leopard Seal (Hydrurga leptonyx) in the Tropics". For a number of years he continued his study of Chalazodites both in New Zealand and overseas. While on Nuie he discovered a palagonite tuff on a low marine bench in the north-west of the island. This, the first volcanic material found on the island, appears to be of particular significance because of a possible bearing on high radiation soils of unknown source present on the island.

Allan was a faithful and stimulating friend.

– T. L. G.-T.

Sydney George Hulme

Sydney George Hulme, technician in the Micropalaeontology Section of the N. Z. Geological Survey, was drowned while skin-diving in Wellington Harbour on 20th October, 1962. His tragic death is a heavy blow not only to the Geological Survey but also to a wider circle of people interested in marine biology in New Zealand.

He was an exceptionally gifted natural observer with an almost fanatical interest in the distribution of marine invertebrates. Like Alexander McKay, whom he resembled in many respects, Syd Hulme had little formal training and even less need of it because he had the exceptional gift of being able to see just that much further than the next man. It was his complete informality of thought and expression that made him stimulating to those around him.

His early life was spent in Auckland, where, encouraged by the Auckland Museum Shell Club and by Dr A. W. B. Powell, he built up a fine collection of identified Mollusca. After leaving school, he helped for two or three years in the printing business owned by his family, but his heart was in marine biology, and in 1956 he joined the micropalaeontology section of the Geological Survey. It soon became apparent that he was a mechanical inventor of no mean ability, and over the next two or three years he developed equipment for sample preparation. By his work the overall efficiency of the washing methods was greatly improved, and much harder and larger samples could be dealt with.

His abiding interest, however, was in the ecology of recent Foraminifera, and he was encouraged to carry out a pioneering survey of the Foraminifera in Manukau Harbour as a part-time project. When the Survey moved from Wellington to Lower Hutt, late in 1957, Hulme had bought an old boat with the aim of using it for marine research. For the next year he expended every spare minute and spare penny in making his boat seaworthy and modifying it for his purpose, and, to the concern of his friends, for he was not robust physically, he often drove himself to the point of utter exhaustion. It was typical of Syd Hulme's relentless drive towards the end in mind that he never found time to give his boat a name! When the boat was finally launched, Hulme spent nearly every weekend carrying out a programme of dredging in Wellington Harbour and occasionally outside on the edge of Cook Strait, where he brought up a bottom sample from 300 fathoms, a remarkable depth for his equipment.

Hulme's observations, too numerous to mention here, are a remarkable record of achievement by a young man of only 23 years with very modest financial resources and educational background. He has

reminded us of many facts that were familiar to the older naturalists but seem to have been forgotten by many modern workers carrying out quantitative studies of distribution.

Those who knew Syd Hulme and worked closely with him will remember him, with affection and admiration, as forthright and utterly lacking in respect for long-established ideas, acting as both an irritant and a stimulant to those around him and never sparing himself in his tense determination to know the reason why of the animals in the sea bed.

Papers by S. G. Hulme are as follows:

1958: A checklist of Mollusca taken by Wellington trawlers. Bull. Conch. Sect. Auck. Inst. Mus. 14: 3-7.

1961: A mechanized method of breaking down and washing foraminiferal rock samples. Micropal. 7: 107-113.

1961: Dredgings from Manukau Harbour, Auckland. Bull. Conch. Sect. Auck. Inst. Mus. 16: 2-5.

1961: Incisura lytteltonensis (Smith, 1894) from Cape Rodney. Bull. Conch. Sect. Auck. Inst. Mus. 17: 3-4.

In press: Recent foraminifera from Manukau Harbour, Auckland, New Zealand. N. Z. Journ. Geol. Geophys.

- N. de B. H.

NEW ZEALAND MINERAL CLUB

Congratulations and good wishes are extended to the New Zealand Mineral Club Inc., which recently celebrated its first anniversary. The Club has pleasant headquarters in upper Willis Street, Wellington, with a small library and displays of maps and mineral and rock specimens. It is hoped to add cutting, grinding and polishing equipment in the near future. Several field excursions to places of interest near Wellington have been held during the year. Club evenings are held each Wednesday at 223 Willis Street, Wellington. The address of the Secretary is C/o P. O. Box 1283, Wellington.

GEOLOGY FIELD COURSE, WAIRARAPA, 1963

A successful week's field course for beginners was held in the Wairarapa between 13 and 19 January, 1963. The course, organised by the Victoria University Regional Council of Adult Education, was led by Mr P. Vella, Victoria University of Wellington, and Mr G. C. Shaw, N. Z. Geological Survey. The programme consisted of lectures on geological principles, and field trips to Gladstone, Hautotara Bridge, Ngahape, the Wairarapa Fault at the Waiohine River, and to Castlepoint. Displays of rocks, minerals, and fossils were exhibited. About 45 people attended, and accommodation and lectures were in the Purnell Hostel of Wairarapa College, Masterton.

It is intended to hold a similar course there in January, 1964.

- G. C. S.

PERSONAL NOTES

MR J. HEALY, N. Z. Geological Survey, Rotorua, spent several weeks during December 1962 in El Salvador, Central America, inspecting steam fields and giving advice on geothermal problems. Later, he also visited Mexican steam fields, and studied developments in volcanology in Hawaii.

DR R. G. COLEMAN, U. S. Geological Survey, Menlo Park, California, returned home early in December 1962, after completion of almost a year with the N. Z. Geological Survey, working on problems of rodingites and serpentinites in New Zealand.

MR J. B. WRIGHT, Geology Department, University of Otago, accompanied the recent D. S. I. R. - Dominion Museum expedition to the Auckland Islands.

Professor N. E. ODELL recently returned to England from West Pakistan, where he had been SEATO Professor of Geology in the University of Peshawar.

MR R. W. WILLETT, N. Z. Geological Survey, Lower Hutt, is at present overseas, and is to attend the United Nations Conference on Science and Technology at Geneva.

MR N. MODRINIAK, Geophysics Division, Wellington, spent $2\frac{1}{2}$ months overseas between June and August 1962 and visited Australia, several research institutions in Europe, and laboratories and scientific firms in the United States, studying recent developments in geophysical methods and advances in instrumentation.

Professor A. R. LILLIE, Geology Department, University of Auckland, recently returned to New Zealand after spending sabbatical leave in England and on the Continent.

CORRECTION

Antarctic Field Work, 1961 - 62. New Zealand Southern Party

Mr V. R. McGregor, Geology Department, University of Auckland has written to say that several of the place-names used in the above article (Newsletter No. 12, July 1962, pp. 11 - 13) have been changed, following decisions of the Place-names Committee. The changes are as follows:

(1) Wade Glacier is now referred to as Ramsay Glacier.

(2) The mountains between the Mill and Keltie Glaciers are no longer included in the Commonwealth Range. Part of the area is now called the Supporter's Range.

(3) The Grosvenor Range is no longer recognised. Isolated nunataks in the area previously mapped under that name are included in the Lillie and Aurora Nunataks.

PAYMENT OF SUBSCRIPTIONS

At the time of writing, about 80 members have still not paid their current subscription, even though the financial year is already two-thirds over. Inevitably a large number of accounts will have to be sent out a second time, with the further expenditure of a considerable amount of time and postage. Any consciences pricked by this may be eased by prompt payment to the Treasurer, C/o Box 2110, Christchurch.

Many members, particularly those overseas, may find it convenient to pay much and seldom, rather than the medically recommended little and often. Any amounts over and above what is due are held to the members' credit against future subscriptions.

Of the 80 members mentioned above, there are doubtless some who no longer wish to continue their membership of the Society. It would be of the greatest assistance if they would notify the Secretary of this, rather than allow themselves to be dishonourably discharged after two years' non-payment of dues.

From a recent examination paper:

> "It has been established that once a fossil genius becomes extinct it does not reappear."

NEW MEMBERS

The following new members have joined the Society since the last list was published in Newsletter No. 11 (December 1961).

Dr E. Z. Arlidge, Crop Research Division, D. S. I. R., Private Bag, CHRISTCHURCH.
Miss P. M. Black, Geology Department, University of Auckland, AUCKLAND.
Mr J. C. Braithwaite, Lime and Marble Ltd., Port Mapua, NELSON.
Mr K. R. Cairns, 177 Colombo Road, MASTERTON.
Mr R. M. Carter, Geology Department, University of Otago, DUNEDIN.
Dr F. F. Evison, Seismological Observatory, Kelburn, WELLINGTON.
Mr T. A. Gerrard, Department of Geology, University of Arizona, TUCSON, ARIZONA
Mr V. C. Hargis, 33 Waterloo Street, Howick, AUCKLAND.
Mr T. Haskell, Geology Department, Victoria University, WELLINGTON.
Mr M. R. Johnston, 4 Ngatitama Street, NELSON.
Dr D. H. Kupfer, C/o Geology Department, Victoria University, WELLINGTON.
Mr E. C. Leitch, 12 Rangiatea Road, Epsom, AUCKLAND.
Mr K. A. Liggett, 879 Ferry Road, CHRISTCHURCH, 2.
Dr R. M. Norris, Geology Department, University of California, Santa Barbara, CALI
Mr P. Ormsby, 66 Summer Street, Ponsonby, AUCKLAND.
Dr J. M. Soons, Geography Department, University of Canterbury, CHRISTCHURCH.
Miss Cecilia Travis, Geology Department, University of Otago, DUNEDIN.
Professor A. L. Washburn, Geology Department, Yale University, NEW HAVEN, CONN. U. S. A.
Mr I. Willis, 1 Stevens Street, UPPER HUTT.
Mr J. B. Wright, Geology Department, University of Otago, DUNEDIN.
Mr D. J. Young, N. Z. Geological Survey, P. O. Box 90, GREYMOUTH.

Editorial Note: It is hoped that the present much improved lay-out and production of the Newsletter will be continued in future issues. To be a vital part of the Society's activities, however, the Newsletter needs more contributions, especially reports of meetings and conferences, and reviews and interim reports of recent work. Potential contributors should note that line diagrams and sketches may now be much more easily included in the Newsletter.

Contributions should be sent either to the Editors, C/o N. Z. Geological Survey, P. O. Box 368, LOWER HUTT, or to any member of the Committee.
