

February, 1979

## CHAIRMAN'S REMARKS

L.D. Ayres

Having just taken over as chairman, I would like to make some general remarks about future activities. The Division is obviously alive and well considering the large (comparatively speaking) attendance at the annual meeting in Toronto. The free beer may have had something to do with the increased attendance, and if so, we will continue to issue beer vouchers for future meetings.

At the meeting considerable discussion centred on the future direction of the Division. A number of suggestions were made for future activities, and the executive would appreciate your comments on both specific and general aspects of these proposals and on any other matters that you would like to raise. Future activities could include:

- l. Field Trips. There is a wide range of volcanology field trip possibilities both within and outside Canada. Where possible, we will attempt to have at least one, one- to three-day volcanology field trip at each national G.A.C. meeting. In addition to these, other possibilities are:
  - (a) Longer field trips (10-14 days duration) to areas outside Canada such as Iceland, the Caribbean, Hawaii, or various parts of the conterminous United States. The proposed Canary Islands trip (April 1979) and Yellowstone trip (September 1979) fall into this category (see separate newsletter items). Most of these trips would be separate from national G.A.C. meetings, but we should continue to investigate the possibility of longer trips in conjunction with national meetings.
  - (b) Shorter local trips within Canada and bordering parts of the United States. These could be organized wherever there is sufficient interest and a suitable leader. Similar trips are currently run by universities and other organizations and would be of interest to many of you, provided that you know about them.

Regarding field trips, I invite your comments on both the general concept of longer field trips, both associated with and separate from national G.A.C. meetings, and any local field trips that you 1) know are being organized, 2) would like to see run, or 3) are willing to organize (use questionnaire at the end of the newsletter - General Remarks).

- 2. Symposia at annual meetings. Most meetings have sufficient contributed volcanology papers that they can be grouped into one or more volcanology sessions. In addition to this we should plan other special symposia, similar to Volcanic Regimes in Canada (1975, Waterloo) or the forthcoming early Precambrian Volcanology symposium at Quebec City. If you have any ideas for a symposium let's hear about them. Planning for such symposia should ideally start at least two years prior to the meeting.
- 3. Special working group meetings. These would be relatively small meetings of researchers interested in common problems, along the lines of Penrose Conferences, and would be separate from annual Division meetings. They could be held in any part of the country at any time, and could involve both field trips and discussion sessions. The objective of such meetings would be to have fairly informal, free and frank discussions by researchers tackling common problems from different viewpoints.
- 4. Special projects such as compilations of chemical data on volcanic rocks, or of unpublished volcanologic theses.
- 5. Preparation of field guides, or updating of existing field guides.
- 6. Medals or awards for contributions to volcanology, outstanding paper of the year, etc.
- 7. More frequent newsletters. Our biggest problem is one of communication. We would like to have 2 or 3 issues of the Division newsletter each year, but to do so we require contributions from members across the country. Let's keep each other informed about volcanologic activities in your area. This newsletter is a potential vehicle for discussing the activities of the Division, dispersing information about forthcoming meetings and field trips, and discussing recently completed meetings, current research activities and projects, nomenclature problems, or other volcanologic items. Let's use it to its fullest potential.

I am sure there are other things we could consider as potential Division projects, although we are obviously constrained by finances, size, and particularly the interest of the members. To be successful, any project requires both dedicated organizers and the interest of at least some of the membership.

Let's hear your ideas, beefs, and bouquets (if any). The executive will consider all proposals, and will pass these on to other members via future newsletters.

## FIELD TRIPS

## Canary Islands

## April 8-23, 1979

The trip leaves from Mirabel at 17:35 on April 8 and goes via Madrid first to LaPalma and Teneriffe for the first 3 days then on to Gran Canaria for the remaining 11 days. Twenty-two people have registered to date. Although this takes up our reserved accommodation we can probably make room for more by converting single rooms, of which

# MINUTES, ANNUAL MEETING OF VOLCANOLOGY DIVISION, G.A.C. QUEBEC CITY, MAY 24, 1979

Chairman of the meeting: Lorne D. Ayres

Secretary (in the absence of Maurice Lambert): W.R.A. Baragar

Fourteen members present, 11 members were represented by proxy.

- 1. The meeting opened with some remarks by the Chairman, who noted that the Division has sponsored major projects during the past year, including a field trip to the Canary Islands and the Volcanology Symposium being held at the current G.A.C. meeting. He congratulated the organizers of these events (Baragar, Lambert, Schau and Dimroth, respectively). He went on to observe that contact with the Council of our parent organization promises to be more direct in future by inauguration of the practise of inviting Divisional Chairmen to take part in the annual council meetings. This will presumably improve our lines of communication within the whole organization. The Canadian Geophysical Union (C.G.U.) has also invited us to participate in their meetings with the object of organizing special sessions on volcanology.
- 2. The minutes of the last meeting were adopted. Moved by Richard Lambert, seconded by Dave Fisher.
- 3. The Treasurer's Report was read by Bob Baragar, in the absence of the Secretary-Treasurer, Maurice Lambert. A copy of the report is appended to the minutes.
- 4. A question was raised by Richard Lambert regarding possible participation of the Division in C.G.U. activities, as noted by the Chairman in his opening remarks. The concensus that emerged after discussion was that we are generally more geologically than geophysically oriented and that our limited resources should, therefore, be concentrated on G.A.C. activities rather than weakening our contributions by attempting both.
- 5. The Divisional representative to the Canadian National Committee for International Union of Geodesy and Geophysics (CNC/IUGG), Bob Baragar, reported briefly on the activities of that committee which is responsible for the coordination of our international relationships with the I.U.G.G. The annual meeting of the CNC/IUGG was scheduled for the Fall this year in place of its usual April meeting because this would enable the Committee to discuss the agenda of the upcoming Canberra meeting of IUGG in December. Hence, there was little news to report. However, two items of business were put forward:
  - i) The present representative's term of office ends with the Canberra meeting and a new representative must be appointed. Maurice Lambert was suggested as the new representative and this was approved by the meeting.
  - ii) The possibility of inviting the IAVCEI (International Association of Volcanology and Chemistry of the Earth's Interior) to hold one of their assemblies in Canada was raised and discussed. This would require a good deal of work but would be an opportunity to emphasize the contributions of paleovolcanism to the science. 1985 might be a suitable year, coming as it does halfway between two assemblies of the full IUGG. The idea was favourably received by the members present and will be raised for discussion at the next CNC/IUGG meeting in the Fall.

- 6. A report on the Canary Islands field trip was given by Bob Baragar. It was considered to have been successful, and hopefully, will be the forerunner of future trips.
- 7. Election of officers. The 3-year terms for two of the council positions, Councillor West and Councillor Geophysics, ended with this meeting and the incumbents (Neil Church and Allan Jessop, respectively) were replaced by Jim Nicholls and Currie Palmer. The Executive is presently composed as follows:

Chairman: Lorne Ayres, University of Manitoba - 1978-80.

Past-Chairman: Jack Souther, G.S.C., Vancouver - 1978-80.

Vice-Chairman: Jon Scoates, Manitoba Dept. of Mines - 1978-80.

Secretary-Treasurer: Maurice Lambert, G.S.C., Ottawa - 1978-80.

Western Canada: Jim Nicholls, University of Calgary - 1979-82.

Central Canada: Erich Dimroth, University of Quebec at Chicoutimi - 1977-80.

Eastern Canada: Steve Papezik, Memorial University - 1978-81.

Geophysics Oceanography: Currie Palmer, University of Western Ontario - 1979-82.

Economic Geology: Roly Ridler, Newmont Exploration - 1978-81. Ex-officio CNC/IUGG representative: Maurice Lambert, G.S.C., 1979-83.

#### 8. New business:

Councillors:

- a. Volcanological contributions to future G.A.C. Annual Meetings might include a symposium on Cordilleran volcanism at Banff (1981) and a joint symposium with Precambrian Division in Winnipeg (1983) on Archean Basins. Both projects were favoured by the meeting. Jim Nicholls agreed to investigate the possibility of arranging for an organizing committee to undertake the Cordilleran symposium.
- b. The possibility of awarding a prize or medal for the best student paper in volcanology was raised and discussed. The costs would probably be higher than we can presently afford, unless the prize were largely token, such as a book prize. The matter was tabled.
- c. Annual compilation of volcanological research for the Canadian Geophysical Bulletin. This subject was introduced by the Chairman, who noted the increasing difficulty in getting members to contribute. Discussion among members present indicated that generally they were not favourable towards the idea. Most felt that this was a repetition of other surveys, grant applications, etc. It was agreed to poll the membership on the question in the next newsletter.
- d. Suggestions given at the meeting for future activities of the Division included: i) a successor series of articles in Geoscience Canada to the sedimentary facies series on volcanology (Ed Chown); ii) a sequel to Moorhouse's Volcanic Textures volume might be a desirable undertaking (Dave Fisher); and iii) poster sessions should replace oral symposia at every other annual meeting (Mike Easton). These were discussed, but no definite action taken.

## VOLCANOLOGY DIVISION FINANCIAL REPORT, MAY 22, 1979

Balance as per October 20, 1979	\$1,026.29	Printing and stationery - production of Newsletters and posters	on \$	487.03
Membership dues		Annual Meeting, October 20, 1978		23.70
received, 1979	14.00	Civil Service Co-operative Credit		
Bank interest	14.15	Society Limited		543.71
	\$1,054.44		\$1	,054.44

#### FIELD TRIP REPORTS

## 1979 Yellowstone Field Trip

(L.D. Ayres)

An 8-day field trip to examine the volcanic geology of Yellowstone Park and the eastern Snake River Plain was held in early September. This trip, which was sponsored by the University of Manitoba, attracted participants from Victoria, Calgary, Yellowknife, Kenora, London, Timmins, Ottawa, and Montreal, in addition to Winnipeg. The largest contingent, a group of 9, came from Carleton University.

The total number of participants was 21. The small size of the group allowed free exchange of ideas on both the outcrops and in the bar. Although all volcanic features examined are subaerial, the perfect weather, excellent exposure, rhyolite to basalt compositional range, and wide morphologic variation including lava flows of various types, ash-flow tuff, air-fall ash, base-surge deposits, cinder cones, tuff cones, spatter cones, shield volcanoes, and strato-volcanoes plus various hot spring deposits provided abundant food for thought and speculation about the nature of both subaerial and subaqueous volcanism.

This field trip is scheduled to be repeated in September, 1982. However, if there is sufficient demand it could be repeated earlier.

## Hawaiian Field Trips (Mikkel Schau)

Delegates to the Hawaii Symposium on Intraplate Volcanism and Submarine Volcanism (July 16-22, 1979) visited sites on Oahu, Hawaii, and Maui, during five scheduled field trips. The details of the conference and field guides are available from Hawaii Volcanological Observatory or Hawaii University at Hilo.

On Oahu we explored the general history of a well-developed volcanic island in the Hawaiian Emperor Chain. It is a complex of shield volcanoes which consist of earlier tholeiitic basalts and later alkalic basalts. As the island emerged, calderas formed and minor flows and sills of trachytic composition were emplaced in the upper parts of the volcano. Extensive erosion occurred and posterosional lavas of very undersaturated composition filled stream valleys. Ultramafic inclusions are locally abundant. On the Hawaiian islands the general rule is that inclusions from undersaturated rocks came from the mantle whereas xenoliths from tholeiites represent fragments torn from differentiated stocks near the base of the volcano. At Salt Lake Crater, however, different horizons of this nephelinite tuff cone carry different types of inclusion. Xenoliths recovered on this field trip vary from plagioclase-phyric lava to garnet lherzolites, but dunite was the most abundant type.

On Hawaii the morphology of volcanoes and their products was investigated. Long lava tunnels spectacularly focused attention on facies changes along a lava flow. Pahoehoe flows form near fissure vents, whereas as flows form farther away, but pahoehoe flows fed from lava tubes form the extreme ends of some flows. The fissures traverse the landscape with little regard for the topography, so that old vents may be filled from above by a new fissure eruption. The fissures do follow general trends called rift zones, along which movement of lava can be monitored. Fault systems parallel to these rift zones have hundreds of metres relief on them, indicating that the island is slowly slipping into the deeps at the same time as lava builds it up.

On Maui the effects of erosion in tropical climes were made On west Maui, heavily vegetated needles of volcanic rocks that rise above steaming jungle and rushing streams are the eroded remnants of an earlier volcanic complex. Headward erosion by two opposing streams created the caldera of Haleakala. Subaerial flows are displayed in the caldera walls and within the caldera a fine cinder cone and flow complexes are preserved because they are young and generally above the clouds and rain.

The field trips ended with our bus guided down Haleakala on the wings of folk songs from many countries.

The trips allowed me to place a large body of literature in perspective: oceanic islands have a common style; yet each is an individual. Although much work has been done, even more is required before these islands will become well understood. For instance: the chemical composition of lavas from Mauna Loa and Kilauea cannot be related to each other, yet the island is so seismically active in a broad zone beneath these volcanoes, it is hard to believe that the magma sources are not connected.

This correspondent found a number of similarities between the Hawaiian and the Canary Islands, and a large number of differences in detail. Both island groups have similar histories, rock types, calderas of both volcanic and erosional origin, and poor beer. A Hawaiian Island has less phonolite and eutaxite is less well exposed, has poorer beaches, and is not quite as touristy as a Canarian Island.

## SYMPOSIUM ON VOLCANISM AND VOLCANIC ROCKS IN THE CORDILLERA

## Call for Titles

A symposium on Volcanism and Volcanic Rocks in the Cordillera will be organized by the Division for the 1981 Annual Meeting of the G.A.C. to be held in Calgary (not Banff) if there is sufficient interest shown by the membership.

Please indicate your interest by completing the following form and returning it to Jim Nicholls before January 15, 1980.

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ddress:	
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elephone	No.:
itle or	subject matter of presentation:

Send replies to:

Dr. J. Nicholls,

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University of Calgary,

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Or Phone: (403) 284-7127