

PROCEEDINGS OF THE TWENTY-SIXTH ANNUAL MEETING OF THE MINERALOGICAL ASSOCIATION OF CANADA

The twenty-sixth annual meeting of the Mineralogical Association of Canada was held on May 11-13, 1981 at the University of Calgary, Calgary, Alberta, in conjunction with the thirty-fourth annual meeting of the Geological Association of Canada and the annual meeting of the Canadian Geophysical Union.

The sixth MAC short course preceded the meeting. The course, on the topic "Fluid Inclusions: Petrologic Applications", was organized by E.D. Ghent, L.S. Hollister and M.L. Crawford. The Association sponsored several special technical sessions during the meeting. G. Donnay organized a symposium entitled "Crystallographic Advances of Geologic Import" and E.D. Ghent convened a symposium that dealt with "Advances in the Study of High Grade Metamorphic Rocks". A special session on "Modern Approaches to the Diagenesis and Geochemistry of Clastic and Carbonate Rocks" was organized by I. Hutcheon. A general session on mineralogy was organized by P. Bayliss. The seventh short course sponsored by the Association took place following the meeting. It was organized by F.J. Longstaffe and dealt with "Clays and the Resource Geologist".

The MAC Annual Luncheon was held at noon on May 11, 1981, in the Blue Room of the University Dining Centre at the University of Calgary. The Hawley Award for 1981 was presented to R.B. Ferguson of the University of Manitoba in recognition of his paper entitled "From Unit-Cell Parameters to Si/Al Distribution in K-Feldspars" published in *The Canadian Mineralogist*, Vol. 18, pages 443-458. L.J. Cabri, Co-editor of *The Canadian Mineralogist*, gave a brief address on the occasion of the journal's sixtieth year of publication. The Presidential Address was delivered immediately prior to the Annual Luncheon by D.G.W. Smith. His topic was "Microbeam Analysis in the Earth Sciences: Into the 1980s".

The Annual Business Meeting of the Mineralogical Association of Canada was held on Tuesday, May 12, 1981, at 1700 hrs. in Science Theatre 141 at the University of Calgary, with 23 members in attendance. R.A. Alcock opened the meeting by thanking the organizing committee of Calgary 1981 for their very successful efforts, and in particular Chairman F.A.

Campbell, Vice Chairman E.D. Ghent, and those responsible for the MAC short courses, symposia and special sessions. Alcock also thanked F.C. Hawthorne, D.B. Clarke and R. Béland, who had completed their terms on the executive, and welcomed the new members S.M. Barr, H.J. Greenwood, R. Ledoux, F.J. Longstaffe, and W.E. Trzcienski. It was reported that the financial and scientific affairs of the Association were in good order, and that the membership had experienced modest growth over the preceding year. A.P. Sabina presented the Treasurer's Report and referred to the audited financial statement for 1980. The Mineralogical Association of Canada had total non-inventory assets of \$134,893 at the end of 1980, including the equity in the Short Course Fund, *The Canadian Mineralogist* and the Special Publication Foundation. C.C. Bristol presented the Membership Committee Report and noted that total membership was 1974 at the end of 1980 as compared to 1822 a year earlier. In addition, 237 new membership applications had been received in the first third of 1981. R.A. Alcock reported on the state of preparation of future annual meetings. The 1982 meeting will be held in Winnipeg; the Association will sponsor a short course on Granitic Pegmatites to be organized by P. Černý. The MAC will also sponsor or cosponsor symposia on Meteorites and Terrestrial Impact Structures, Ore Deposits in Mafic-Ultramafic Suites, Metamorphism of Sulfide Deposits and Alteration Zones, and Mineralogical and Geochemical Aspects of Nuclear Waste Disposal. The Association will meet in Victoria in 1983 and in London, Ontario in 1984. Alcock stated that the site of the 1985 meeting had not been confirmed but that Fredericton was the likely choice. The minutes of the annual business meeting may be obtained from the Secretary.

J.M. Duke
Secretary



1981 HAWLEY AWARD WINNER: R. B. FERGUSON

The winner of the Hawley Award for 1981 is Robert B. Ferguson of the University of Manitoba in Winnipeg. The award is presented in recognition of his paper entitled "From Unit-Cell Parameters to Si/Al Distribution in K-Feldspars", judged to be the best contribution published in Volume 18 of *The Canadian Mineralogist*.

The alkali feldspars have always provided a difficult challenge to mineralogists. The opportunity to study these minerals by X-ray diffraction and neutron diffraction has now provided us with refined structural data for 23 potassic feldspars. These data form the basis for Ferguson's new study of the crystallographic and genetic relationships among the common potassic feldspars sanidine, microcline and orthoclase. Using crystallographic data he con-

structs new determinative curves for Si/Al ordering as a function of crystallographic parameters and uses these new curves to derive a number of important conclusions. He suggests that high sanidines exhibit some ordering of Al and Si and thus are not completely disordered, as has generally been assumed. His determinative curves also suggest that the ordered end-member of the triclinic microcline series is monoclinic orthoclase. The data also indicate that neither microcline nor orthoclase are capable of achieving complete ordering of Al and Si. These conclusions are consistent with predictions made over twenty years ago by Ferguson on the basis of bond-strength considerations. Ferguson rejects the widely accepted interpretation of phase relationships among the potassic feldspars that considers disordered high sanidine to form at

high temperatures and, with decreasing temperatures, progressively more ordered feldspars, down to the most ordered maximum microcline. He proposes a temperature-dependent series from sanidine to orthoclase. A second series from partly ordered orthoclase to largely ordered maximum microcline is formed at low temperatures in environments that vary from K-rich, Na-poor to Na-rich, K-poor.

In summary, it can be said that R.B. Ferguson describes convincing evidence that challenges many of the current ideas about potassic feldspars. He presents his case in a logical and lucid style that is a pleasure to read. The content and manner of presentation are both of exceptional quality and make R.B. Ferguson a worthy recipient of the Hawley Award.

Robert B. Ferguson studied mineralogy and geology at the University of Toronto, from which he received a Bachelor's degree in 1942, a Master's in 1943 and a Ph.D. in 1947. His doctoral research dealt with the alumino-fluoride minerals associated with cryolite at Ivigtut,

Greenland; he undertook these studies under M.A. Peacock. Upon graduation he took up his present position, that of mineralogist and crystallographer in the Department of Geology at the University of Manitoba. Ferguson's research into feldspars began in 1950-51, during a postdoctoral year at Cambridge, where he studied the structure of albite with W.H. Taylor, who had solved the first feldspar structure, that of orthoclase, two decades earlier. At Cambridge he was associated with several others whose names are now well known in feldspar mineralogy: J.V. Smith, S.W. Bailey and Helen Megaw. Among those who have worked with him on feldspars at Manitoba are several people who are well known within our own Association and elsewhere, including Bob Traill, Lowell Trembath, Norma Tweedy Bristol, Subbu Subbarao, Bob Gait and Josef Macek. The research that led to this paper and to the Hawley Award was carried out in 1979-80, during Ferguson's most recent sabbatical leave, at the University of Adelaide in Australia, where he was associated with feldspar mineralogist John B. Jones.