Bernard W. Evans

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ACCEPTANCE OF THE MINERALOGICAL SOCIETY OF AMERICA AWARD FOR 1970

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Mr. President, Professor Fyfe, Ladies and Gentlemen:

In previous years I have always enjoyed presentations of the awards of the MSA, and it has been especially pleasant when the recipient was an old acquaintance or friend being rewarded for years of good work. Never did it occur to me that one year I might myself be on the platform. However, last November I was rudely shaken out of this complacency upon receiving a telegram from Professor Turner, announcing that I was to be the 1970 recipient of the MSA Award. I must admit that my immediate reaction was to wonder which of my practical joker friends was responsible, and Frank's reassurance that it was indeed his telegram left me stunned and aghast.

Whilst I am still unable to convince myself that my scientific career has really been such as to merit this award, my mind has naturally turned to thinking of all those who have guided and inspired me along my way. The department which saw the beginning of my geological career, in King's College, University of London, though small, is not undistinguished—at an early stage it was chaired by no less than Sir Charles Lyell. There, under the enthusiastic tutelage of J.H. Taylor and A.K. Wells, my interest in petrology was soon firmly established. It was thus fairly natural to proceed for my doctoral work to the vigorous department built up at the University of Oxford by Professor L.R. Wager, although I somewhat countered local tradition at that time by embarking on a study of metamorphism. Among high-grade rocks in Connemara, Western Ireland, Wager's own early tramping ground, I solved few problems but gained much in experience. This work led to a happy association wth Bernard E. Leake, from the University of Bristol, an association that still exists. Without his energetic and stimulating example I should have been much the poorer, and I continue to be greatly in his debt.

After some years of teaching in Britian, I was privileged to move to Berkeley to learn something of experimental petrology with Bill Fyfe. There my youthful petrologic fantasies became subject to the discipline of physical chemistry at his hands, and to the critical influence of Frank Turner's vast knowledge and experience. To these distinguished scien-

tists I owe most of all, and I am grateful for this opportunity of thanking them publicly. I regret that Frank was unable to come today, but I am delighted to have Bill introduce me.

One of the greatest incentives, however, has been provided not by any individual person but by the American academic system in which I have been privileged to work for the last nine years. Especially as a young man, one appreciates the freedom this system offers at all levels to develop one's own ideas and scientific inclinations independently. In this context I must mention specifically the vital and continued support afforded me by the National Science Foundation, which, more than anything else, has made it possible for me to "do my own thing".

"My thing", of course, for eight years now, has been working with an electron microprobe. This instrument which, I must confess, I took on with some misgivings, has enabled me to learn much about petrology in a unique and original fashion. Throughout my years with the probe the completely new dimension in petrology that it has created has kept me in a state of fascination comparable, I suspect, to that of the early petrographers working with the new polarizing microscope. I have derived enormous satisfaction and pleasure from seeing this fascination transmitted to several generations of graduate students and from the knowledge that this has not been unproductive. A further reward has been the stimulating contacts enjoyed with the numerous co-workers and colleagues with whom many of my studies have been shared.

This last summer I have had the good fortune to be in the Swiss Alps with Volkmar Trommsdorff, of the University of Basel, examining the beautifully recrystallized ultramafic components of the Lepontine gneiss complex. This work was begun because, as field petrologists, we were embarrassed by the feeling that we probably had as much knowledge about equilibrium mineral parageneses of ultramafic rocks in the upper mantle as in the earth's crust. We have been able to locate in the field parageneses corresponding to all those subdivisions of the petrogenetic grid first outlined by Bowen and Tuttle in their classic work on the MgO-SiO_2-H_2O system, including those parts of it amended by Hugh Greenwood, and the several additional divisions created when the system is extended to include CaO and CO_2. The pattern is complex but we are hoping that further work will enable us to draw meaningful ultramafic isograds and understanding their significance. Locally, CO_2 has been introduced from neighboring calcareous schists to produce some quite spectacular rocks, among them an equilibrium association of talc, enstatite, and magnesite, and others that, curiously enough, may eventually help us in our construction of isograds.

In reviewing the names of previous recipients of this Award, I can

only say that I am truly awed by the honor of joining their company, and by the recognition bestowed upon me by this Award. As an inspiration and a challenge for the future it is second to none. I must hope that future work will prove me to have been worthy of it; for now I can only offer my humble thanks.

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MEMORIAL OF ALFRED LEONARD ANDERSON

November 19, 1900—January 27, 1964

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At the time of his death, Alfred L. Anderson had as great, if not a greater, knowledge and grasp of the geology and economic mineral deposits of Idaho as did any other person. Of a total of 79 publications, beginning in 1925 and extending through 1963, all but eight are concerned with the geology of Idaho. Recognition of his vast knowledge and superior work in the areas of ore deposits, non-metallic mineral deposits, tectonics, geomorphology, and igneous and metamorphic petrology of Idaho probably did not reach the level it deserved during his lifetime, except by a few of his more discerning colleagues, because of Professor Anderson's somewhat retiring and non-aggressive personality. Today, the practical value of his detailed field and laboratory studies in the Idaho area are receiving more attention.

Alfred L. Anderson was born and attended public schools in Moscow, Idaho. He received a B.S. (Chemical Engineering) degree *cum laude* from the University of Idaho in 1922, a M.S. (Geology) degree from the same institution in 1923, and a Ph.D. from the University of Chicago in 1931.

From 1924 to 1926 he was Assistant Professor of Chemistry and Geology at the Idaho Technical Institute (now Idaho State University) at Pocatello. For the period 1927–28 and from 1931 to 1939 he was Assistant Professor and Professor of Geology at the University of Idaho, becoming head of the Geology Department in 1938. In 1939, he was appointed Assistant Professor of Geology at Cornell University; and from 1952 until his death in 1964, he was Professor of Geology at Cornell.

In addition to his academic status, Alfred L. Anderson served from 1923 through 1931 as Assistant Geologist and Geologist with the Idaho Bureau of Mines and Geology; and from 1932 until 1964, he was season-