MARTIN ALFRED PEACOCK
1898–1950

THE AMERICAN MINERALOGIST

JOURNAL OF THE MINERALOGICAL SOCIETY OF AMERICA

Vol. 36 MAY-JUNE, 1951 Nos. 5 and 6

MEMORIAL OF MARTIN ALFRED PEACOCK*

CHARLES PALACHE, *Cambridge, Massachusetts*

The death of Martin Peacock on October 30, 1950 has left a gap in the ranks of American mineralogists that cannot soon be filled. The science has lost a successful teacher and a leader in research at the height of his powers. His colleagues all across the land mourn a dear and faithful friend.

His illness ran its course within a year. After a first operation late in 1949 Peacock knew that he had not long to live. With characteristic calm he faced this unkind fate without repining; compelled to give up teaching he turned to the projects he had in hand and completed many of them or placed them in the way of completion by others. In May when he drove from Toronto to Cambridge with two of his students he seemed to the writer, in whose home he visited, to be in excellent spirits and unexpected vigor. But he took cold on the return trip so that his reserve of strength was lowered. A trip to Southern California by air later in the summer was apparently accomplished without undue fatigue. The final illness was mercifully brief.

Peacock was born in Edinburgh, Scotland, January 15, 1898. His father, Alfred Norman Peacock, was an engineer from whom he doubtless inherited some of the mechanical skill with tools and the keen sense of order in all his work and surroundings that was so characteristic. His early home was in Edinburgh but later the family moved to Glasgow and there he attended High School and entered the University of Glasgow in 1915. His work was interrupted by the incidence of the first World War; he enlisted in January 1917 and was commissioned 2nd Lieutenant in the Royal Flying Corps in May. He went to the front in September but his plane was shot down in October and he was in a German war prison camp for more than a year until the end of the war. Demobilized in 1919, he returned to Glasgow and finished his course with the B.Sc. degree in 1922. He also studied music in Glasgow and took his Licentiate in pianoforte at the Royal Academy of Music in

* Contribution from the Department of Mineralogy and Petrography, Harvard University, No. 326.

London in 1923. Although he taught it only a short time, his music was a principal recreation all his life.

After graduation Peacock took up the study of petrography at Glasgow under Professor J. W. Gregory. He received a Carnegie Research Fellowship by the aid of which, in addition to teaching, he carried on for four years a study of the igneous rocks of Iceland. This began with the collections of Iceland rocks made a century before by the Scotch geologist Sir C. S. Mackenzie and preserved in the Glasgow Museum. There followed a summer of field work in Iceland with G. W. Tyrrell and a brief visit to the Faeroe Islands. His first publications give the results of these studies and in 1925 he received the degree of Ph.D. based on one of them as a thesis. His third degree from Glasgow was the D.Sc., received in 1932.

In 1926 Peacock was named a Commonwealth Fund Fellow at Harvard University and this appointment was twice renewed. At Cambridge he continued petrographic study under Professor Larsen; developed an interest in geomorphology which had begun when he travelled amid the fiords of Iceland and the Faeroes; and began the study of crystallography with the writer. He spent the summer of 1927 with H. A. Powers in the Modoc lava field of Northern California and wrote the general physiographic description of the region.

Peacock's interest in the subject that became his life work, crystallography, began early in his Harvard residence. He quickly learned the use of the Goldschmidt goniometer, rejoicing in the graphical presentation of the measurements which his exquisite draughtsmanship made doubly effective. So intent and expert did he become in this work that before the first year was over I had turned over to him the intricate problem of the crystal form of the mineral calaverite which I had for years tried in vain to solve. His exact plots of the measurements of many crystals led to a partial solution of the involved relations. Feeling myself unable to interpret or clarify his results, I sponsored through the Department funds a sojourn to Heidelberg in the summer of 1929 for consultation with Victor Goldschmidt, who had also been working fruitlessly on calaverite. Peacock became at once a favorite of both Goldschmidt and his wife; his skill with the pencil and at the piano were alike keys to their confidence and love. The resulting joint paper on calaverite, while not solving the riddle, was yet the clearest presentation yet made of the observations on this most unusual mineral.

Returning to America in 1929, Peacock, his Commonwealth Fund Fellowship at an end, accepted a temporary position at the University of British Columbia at Vancouver. He taught geology and geography, first as Lecturer, then as Assistant Professor. He took advantage of his

residence on the Canadian west coast to continue the study of fiords begun in the North Atlantic and his resulting paper, based on field trips along the coast in the summers of 1930, 1931, and 1932, was an important contribution to the subject. Its publication in 1935 in the *Bulletin of the Geological Society of America* brought to the fore his interest in the literary form of scientific publications. I find in the Department files a copy of a letter written by Peacock in 1935 to the Board of Editors of the Geological Society of America regarding *Style in References*. This was mimeographed and circulated to the Board and served as a basis for discussion. I believe it was the primary influence which led to the adoption of the present form of reference used in the publications of the society. His interest in editorial matters was not by any means ended with this first venture; he was a stickler for correct form in every paper that issued from our department while he was with us and at the end of that period was in a position to make particular use of his talent.

His appointment in Vancouver coming to an abrupt and unforeseen end in 1932 owing to the hard times of the early thirties, Peacock found himself without a job and in difficult circumstances as he could not return to the United States where openings were most likely without having a definite appointment. This stalemate was broken by an appointment as Research Fellow at Yale University. After he had been there a few months I was able to offer him a more permanent position as one of the Research Assistants collecting and organizing material for the proposed revision of Dana's *System of Mineralogy*. He threw himself into this work with enthusiasm, organizing the data into new and improved forms of presentation; restating the crystallography of many mineral species; and publishing in rapid succession a series of mineralogical papers as may be seen by consulting the bibliography for the years from 1933 to 1938.

In the summer of 1933 an urgent call upon me for help by Frau Goldschmidt to enable her ailing husband to complete pending work led the Department of Mineralogy to finance for Peacock a residence of three months in Heidelberg. Although the beloved master had died before Peacock reached Heidelberg, it was possible for him to edit and complete several papers which were under way and to bring much aid and comfort to the widow.

Peacock was at Harvard from 1932 to 1937. Work on the actual preparation of manuscript for the Dana revision began in 1936 when the grant from the Geological Society for that purpose became available. Peacock and Berman were active joint editors under the advisory direction of Professor Ford of Yale and myself. It is to Peacock's editorial skill that

the seventh edition of Dana owes much of its form, although his name does not appear on the title page as editor. After working with Berman for a year or more he was called to the chair of Mineralogy at Toronto University in 1937. He kept up active participation in the Dana work for some time but that became impracticable as his work at Toronto developed and later he and his students helped as they could; but he prepared no final manuscript.

During Peacock's residence at Harvard, *x*-ray equipment for mineral study began to be installed. With his skill at all mechanical instruments he soon became familiar with this new technique, and a visit of two weeks to the Geophysical Laboratory in Washington in 1935 served to round out his knowledge. When he went to Toronto he designed and installed a very complete laboratory for *x*-ray studies, which was in constant use by his students and himself. How he acquired the familiarity with the theory of crystal structures and their instrumental determination, which he soon evidenced, I never knew. He seemed to absorb it without instruction; but it became of the most fundamental importance to him in crystal study and was basic in his teaching of crystallography.

At Toronto, Peacock added to his teaching of elementary mineralogy the direction of research by a group of graduate students whose work was often published jointly with him. These men became loyal friends, and their thorough training is evidenced by the positions of responsibility as teachers or research workers many of them now hold. As editor of the *University of Toronto Studies, Geological Series*, from 1944 he continued the series of *Contributions to Canadian Mineralogy*. His last work during the early part of the summer of 1950 was to see through the press, with all his usual careful supervision, the latest volume of this series which constitutes Nos. 5 and 6 of Volume 35 of *The American Mineralogist*.

It was a great satisfaction to Dr. Peacock that, when he was promoted in 1946 to a full Professorship at Toronto, his title was Professor of Crystallography and Mineralogy. The writer is not aware of any other appointment in America so emphasizing the importance crystallography has come to have not only in mineralogy but in a host of related fields of science.

Peacock established four new mineral species: parawollastonite, pararammelsbergite, hedleyite, and montbrayite. He redefined fundamentally the minerals maucherite, parkerite, heazlewoodite and hauchecornite. His name will, I believe, remain longest in the memory of mineralogists for the rigor of his descriptions, the conciseness of his style of presentation, and for the emphasis which he placed upon the structural elements of the crystal in the description of a mineral species.

In 1937 Dr. Peacock was married to Katharine Louisa West of Glens Falls, New York. She and two daughters survive him.

Peacock was a fellow of the Royal Society of Canada; a fellow of the Mineralogical Society of America and its President in 1948; a fellow of the Geological Society of America and vice president in 1949; a member of the American Geographical Society, of the American Crystallographic Association, of the Mineralogical Society of Great Britain, of the Société Français de Mineralogie, and of the Walker Mineralogical Club of the University of Toronto, in the affairs of which he took an active part.

I cannot conclude this rather personal sketch of the life of Martin Peacock without an expression of my own sense of loss in his untimely passing. His gentleness and kindly affection were those of a son. To have him come into the home and sit down at the piano to play one of his favorite Beethoven sonatas gave me unmatched happiness. I spent many congenial hours with him at the workbench, putting into shape simple instruments or pieces of furniture which his pencil had sketched in the minutest detail. The plane he had sharpened was the truest and keenest; his chisel was unerring in fitting tenon to mortice. It was a joy to see him work.

Published Papers of Martin A. Peacock

1924

The geology of Iceland: *Trans. Geol. Soc. Glasgow*, **17**, 185–203.

A contribution to the petrography of Iceland: *Trans. Geol. Soc. Glasgow*, **17**, 273–333.

1926

The vulcano-glacial palagonite formation of Iceland: *Geol. Mag.*, **63**, 385–399.

The geology of Vidney, S. W. Iceland—A record of igneous actions in glacial times: *Trans. Roy. Soc. Edinburgh*, **54**, 441–465. 4to.

Recent lines of fracture in the Faeroes in relation to the theories of fiord formation in northern basaltic plateaux: *Trans. Geol. Soc. Glasgow*, **18**, 1–26.

The petrology of Iceland: Preface and Part I. The basic tuffs.: *Trans. Roy. Soc. Edinburgh*, **55**, 51–76. 4to.

1928

The nature and origin of the amphibole asbestos of South Africa: *Am. Mineral.*, **13**, 241–286.

(with R. E. Fuller) Chlorophaeite, sideromelane and palagonite from the Columbia River Plateau: *Am. Mineral.*, **13**, 360–383.

1929

Two-circle and three-circle co-ordinate angles: *Am. Mineral.*, **14**, 332–335.

1930

The distinction between chlorophaeite and palagonite: *Geol. Mag.*, **67**, 170–178.

1931

Classification of igneous rock series: *Jour. Geol.*, **39**, 54–67.
The Modoc Lava field, Northern California: *Geographical Review*, **21**, 259–275.
Ueber Calaverit: *Neues Jahrbuch fuer Mineral. etc.* **63**-A, 1–58 (with V. Goldschmidt and C. Palache).
(Edited and translated by M. A. P.) On crystallographic classification by Victor Goldschmidt: *Am. Mineral.*, **16**, 18–33.
(Edited and translated by M. A. P.) Autonomous and singular nodes by Victor Goldschmidt: *Am. Mineral.*, **16**, 78–89.

1932

Calaverite and the law of complication: *Am. Mineral.*, **17**, 317–337.

1933

The fiord-land of British Columbia (abstract): *Proc. Fifth Pacific Science Congress*, 719–720.
(with C. Palache) Emplectite and the Zinkenite group: *Am. Mineral.*, **18**, 277–287. Abstract, idem, 116.
On Bismuthinite: *Zeit. Krist.*, **86**, 203–211.

1934

Ueber die kristallographischen elemente des Carborund: *Centralblatt fuer Min.*, A, 113–122.
A suggested form of crystallographic presentation: *Am. Jour. Sci.*, **28**, 241–254.
(edited and with introductory note by M. A. P.) Betrachtungen zur krystallographischen Systematik by V. Goldschmidt: *Beitr. Kryst. Min.*, **3**, 113–140.
(edited by M. A. P.) Ueber Stralenpunktsysteme und Flachenpunktsysteme by V. Goldschmidt: *Beitr. Kryst. Min.*, **3**, 143–221.

1935

On pectolite: *Zeit. Krist.*, **90**, 97–111.
On johannite from Joachimsthal and Colorado: *Zeit. Krist.*, **90**, 112–119.
Choice of crystallographic elements (abstract): *Am. Mineral.* **20**, 212.
Fiord-land of British Columbia: *Geol. Soc. Am. Bull.*, **46**, 633–696.
Topaz from Devil's Head, Colorado: *Am. Mineral.* **20**, 354–363.
On wollastonite and parawollastonite: *Am. Jour. Sci.*, **30**, 495–529.

1936

(with G. M. Yatsevitch) Cubanite from Sudbury, Ontario: *Am. Mineral.*, **21**, 55–62.
On the crystal form of sternbergite: *Am. Mineral.*, **21**, 103–108.
Cyclic permutation of crystallographic axes: *Am. Mineral.*, **21**, 136–137.
Xenoliths in the Organ batholith, New Mexico, with a morphological description of diopside crystals: *Am. Mineral.*, **21**, 312–320.
On roselite and the rule of highest pseudo-symmetry: *Am. Mineral.*, **21**, 589–603.

1937

On rosenbuschite: *Norsk Geologisk Tidsskrift*, **17**, 17–30.
On normal triclinic face symbols and the harmonic-arithmetic rule (abstract): *Am. Mineral.*, **22**, 210.
On the crystallography of axinite and the normal setting of triclinic crystals: *Am. Mineral.*, **22**, 588–620.
The normal triclinic setting—correction: *Am. Mineral.*, **22**, 987–988.

1938

The relation of leightonite to polyhalite: *Am. Mineral.*, **23,** 38–45.

(with M. C. Bandy) Ungemachite and clinoungemachite—new minerals from Chile: *Am. Mineral.*, **23,** 314–328.

Supplementary notes on axinite: *Am. Mineral.*, **23,** 522–526.

The morphology and optics of some new salts of cinchona alkaloids: *Univ. Toronto Studies, Geol. Ser.*, **41,** 49–58.

A general graphical method for determining the spacings of lattice planes: *Zeit. Krist.* (A), **100,** 93–103.

1939

Crystallography of copiapite (abstract): *Am. Mineral.*, **24,** 191.

Goldschmidtine, a newly recognized antimonide of silver: *Am. Mineral.*, **24,** 227–241.

X-rays in mineralogy; design of a serviceable apparatus: *Univ. Toronto Studies, Geol. Ser.*, **42,** 79–93.

(with C. E. Michener) On rammelsbergite from Ontario: *Univ. Toronto Studies, Geol. Ser.*, **42,** 95–112.

(with V. A. Vigfusson) Calcium diborate hexahydrite from a mortar of Portland cement and colemanite: *Univ. Toronto Studies, Geol. Ser.*, **42,** 113–121.

1940

Goldschmidtine identical with stephanite: *Am. Mineral.*, **25,** 372–373.

On maucherite (nickel-speiss, placodine, temiskamite): *Min. Mag.*, **25,** 557–572.

Les rayons X en mineralogie (abstract): *Assoc. canadienne-française Adv. Sci. Annales* **6,** 93.

On dyscrasite and antimonial silver: *Univ. Toronto Studies, Geol. Ser.*, **44,** 31–46.

(with L. G. Berry) Roentgenographic observations on ore minerals: *Univ. Toronto Studies, Geol. Ser.*, **44,** 47–69.

(with A. S. Dadson) On rammelsbergite and pararammelsbergite; distinct forms of nickel diarsenide: *Am. Mineral.*, **25,** 561–577.

1941

Definition et classification des especes cristallines (abstract): *Assoc. canadienne-française Adv. Sci. Annales*, **7,** 93.

On the identification of minerals by means of *x*-rays: *Roy. Soc. Canada, Trans.*, **35,** 105–113.

On joseite, grünlingite, oruetite: *Univ. Toronto Studies, Geol. Ser.*, **46,** 83–105. Abstract, *Am. Mineral.*, **26,** 200–201.

(with F. G. Smith) Precise measurements of the cube edge of common pyrite and nickeliferous pyrite: *Univ. Toronto Studies, Geol. Ser.*, **46,** 107–117.

(with D. A. Moddle) On a crystal of augelite from California: *Min. Mag.*, **26,** 105–115.

1942

(with S. V. Burr) A preliminary study of the alloys of palladium and bismuth: *Univ. Toronto Studies, Geol. Ser.*, **47,** 19–31.

(with E. W. Nuffield) Recrossing axial plane dispersion in goethite: *Univ. Toronto Studies, Geol. Ser.*, **47,** 53–61.

Studies of mineral sulpho-salts—VI—aikenite: *Univ. Toronto Studies, Geol. Ser.*, **47,** 63–69.

On goethite and lepidocrocite: *Roy. Soc. Canada Trans.*, **36,** 107–118.

On sternbergite and frieseite (abstract): *Am. Mineral.*, **27,** 229.

Diffuse diffraction and disorder in maucherite (abstract): *Am. Mineral.* **27,** 229.

1943

(with R. B. Ferguson) The morphology of muscovite in relation to the crystal lattice: *Univ. Toronto Studies, Geol. Ser.*, **48,** 65–82.

X-ray crystallography (a review) R. W. James: *Am. Mineral.*, **28,** 61.

Crystallography of pyrostilpnite (abstract): *Am. Mineral.*, **28,** 175.

(with C. E. Michener) Parkerite, ($Ni_3Bi_2S_2$) from Sudbury, Ontario—redefinition of the species: *Am. Mineral.*, **28,** 343–355.

(with R. B. Ferguson) Measurement of the three principal indices of refraction in micaceous minerals by immersion on a tilting stage: *Am. Mineral.*, **28,** 563–570.

1944

On loellingite and safflorite (abstract): *Roy. Soc. Canada Proc.*, **38,** 155.

Review of 7th edition of Dana's system of mineralogy by Palache, Berman and Frondel: *Am. Mineral.*, **29,** 453–454.

1945

(with E. W. Nuffield) Studies of mineral sulpho-salts: VIII. plagionite and semseyite: *Univ. Toronto Studies, Geol. Ser.*, **49,** 17–39.

(with H. V. Warren) Hedleyite, a new bismuth telluride from British Columbia, with notes on wehrlite and some bismuth-tellurium alloys: *Univ. Toronto Studies, Geol. Ser.*, **49,** 55–69.

On potarite: *Univ. Toronto Studies, Geol. Ser.*, **49,** 71–73.

Recrossing axial plane dispersion in goethite, an error: *Univ. Toronto Studies, Geol. Ser.*, **49,** 73–75.

1946

(with C. Palache and L. G. Berry) Crystallography of copiapite: *Univ. Toronto Studies, Geol. Ser.*, **50,** 9–26.

(with R. M. Thompson) Melonite from Quebec and the crystal structure of $NiTe_2$: *Univ. Toronto Studies, Geol. Ser.*, **50,** 63–73.

Crystallography of artificial and natural smithite: *Univ. Toronto Studies, Geol. Ser.*, **50,** 81–84.

(with R. M. Thompson) Montbrayite, a new gold telluride: *Am. Mineral.*, **31,** 515–526.

1947

(with L. G. Berry) Studies of mineral sulpho-salts: XIII. polybasite and pearceite: *Min. Mag.*, **28,** 1–13.

On heazlewoodite and the artificial compound Ni_3S_2: *Univ. Toronto Studies, Geol. Ser.*, **51,** 59–69.

A morphological superlattice in copiapite: *Univ. Toronto Studies, Geol. Ser.*, **51,** 83–84.

Artificial proustite and xanthoconite: *Univ. Toronto Studies, Geol. Ser.*, **51,** 85–87.

Indexed x-ray powder spectra of the ore minerals (abstract): *Am. Mineral.*, **32,** 207.

1948

(with W. G. Henry) The crystal structures of cobaltite (CoAsS), gersdorffite (NiAsS) and ullmannite (NiSbS): *Univ. Toronto Studies, Geol. Ser.*, **52,** 71–80.

1949

Prospect of mineralogy: *Am. Mineral.*, **34,** 135–141.

The teaching of morphological crystallography: *Am. Mineral.*, **34,** 291–292.

(with S. A. Forman) Crystal structure of rickardite $Cu_{4-x}Te_2$: *Am. Mineral.*, **34,** 441–451.

Physical Methods of Organic Chemistry by Arnold Weissberger. Vol. 1, part 1, chap. 16, 983–1015 by M. A. P.: Interscience Publishers—New York. 1949.

1950

(with J. McAndrew) On parkerite and shandite and the crystal structure of $Ni_3Pb_2S_2$: *Am. Mineral.*, **35,** 425–439.

Hauchecornite: *Am. Mineral.*, **35,** 440–446.

Remarks on crystallographic nomenclature: *Am. Mineral.*, **35,** 882–888.

Studies of mineral sulpho-salts: XV. Xanthoconite and pyrostilpnite: *Min. Mag.*, **29,** 346–358.

1951

(with R. M. Thompson, J. F. Rowland and L. G. Berry) Empressite and "stuetzite": *Am. Mineral.* (in press).