PRESENTATION OF THE FIRST ROEBLING MEDAL OF THE MINERALOGICAL SOCIETY OF AMERICA TO CHARLES PALACHE

A. PRESENTATION—EDWARD H. KRAUS, *University of Michigan, Ann Arbor, Michigan.*

This meeting marks another milestone in the development of the Mineralogical Society of America. Since its organization in the Mineralogical Laboratory of Harvard University on December 30, 1919, the Society has made steady and continuous progress. This is shown by the large growth in membership, by the marked increase in the number of articles published annually in *The American Mineralogist*, and by our very satisfactory financial assets.

Today the Society has one hundred and seventy-two fellows and more than four hundred members. There are also three hundred additional subscribers to *The American Mineralogist*, which is one of the leading publications in our field and is to be found in all important scientific libraries the world over. During the last ten years, *The American Mineralogist* has been materially improved and expanded, due in large measure to the generous gift of $45,000 by the late Colonel Washington A. Roebling. The older members of the Society are well aware that the Roebling gift was an unconditional one, but that the donor expressed the hope that the income might be used to expand our journal. With much satisfaction we have followed its growth in size and importance since the receipt of the Roebling gift. We are especially proud of the current volume, which includes the impressive May number of four hundred and thirty-five pages, dedicated to Professor Charles Palache of Harvard University.

At the annual meeting in December 1929, the activities of the first ten years of the Society were reviewed, and the following statement was made:

> It would be very helpful if the Society had the means to establish awards, either medals or money prizes, to be given to outstanding investigators in America or abroad, or to the authors of contributions adjudged as noteworthy. To be the recipient of a medal or prize of the Mineralogical Society of America would soon be recognized as a signal honor, one that would be greatly coveted.

To this suggestion there was a very favorable response. The council discussed the proposal and agreed that in recognition of the great stimulus given to our Society and to mineralogy in America by the Roebling gift, it would be eminently fitting to make provision for a medal in honor of Colonel Roebling. Accordingly, the Roebling Medal Fund was estab-

lished, and annually additions were to be made to it from the treasury until the amount would be sufficient to make the first award. Last December the council gave instructions that the medal should be designed so that it might be awarded for the first time at the 1937 meeting. The committee was extremely fortunate in securing as the designer of the medal the well-known artist and sculptor, Dr. Avard Fairbanks, who has given us a very appropriate and artistic medal.

Colonel Washington A. Roebling, in whose honor the medal is named, was born in Saxonburg, Pennsylvania, May 26, 1837. He was the son of John A. Roebling, a civil engineer, and graduate of the Technische Hochschule at Charlottenburg, Germany. Colonel Roebling, like his father, was trained for a career as an engineer. He attended the Rensselaer Polytechnic Institute, Troy, New York, from which he was graduated in 1857. He then joined his father in the construction of noted suspension bridges, such as those over the Niagara River at Niagara Falls, over the Allegheny River at Pittsburgh, over the Ohio River at Cincinnati, and the famous Brooklyn Bridge over the East River, New York. At the outbreak of the Civil War, he enlisted as a private. He was advanced steadily in rank, and at the close of the war, retired as Colonel. During the war he was in charge of the construction of several important suspension bridges.

While at work on the Brooklyn Bridge, he became ill, and was long confined to a darkened room. Although he first became interested in minerals while a student at the Rensselaer Polytechnic Institute, it was during the period of convalescence from this illness that his interest in minerals became intensified. It continued during the remainder of his life and resulted in an unusually excellent collection numbering about 16,000 specimens. Many of the newer and rarer minerals were represented by type material. Colonel Roebling freely permitted his specimens to be used for scientific purposes, and in this way he contributed directly to the publication of many important articles. As is well-known, following his death on July 21, 1926, his collection was presented to the National Museum in Washington.

Immediately after its organization, Colonel Roebling became identified with the Mineralogical Society of America, and in 1924 served as Vice-President. He followed the development of the Society with keen interest and was much concerned that it should grow in strength and influence. To assist in attaining these ends, he made his substantial gift to the Society shortly before his death.

Today, in making the first award of the Roebling Medal, we are again expressing our great appreciation of his significant contributions to American mineralogy and to the furtherance of the objectives of our

society. We also hope that through this and subsequent awards not only may the memory of Washington A. Roebling be kept alive, but that the medal may come to signify the highest recognition of achievement American mineralogy can bestow.

With enthusiasm the council voted last December that the first recipient of the Roebling Medal should be America's foremost mineralogist, and one of the stalwarts of the Society, whose publications during a period of forty years have covered a wide range of subjects and have contributed signally and enduringly to the advancement of our science.

Charles Palache was born in San Francisco, California, sixty-eight years ago. He obtained his academic training at the University of California which he entered in 1887 as a student of mining. In 1891 he received the degree of Bachelor of Science. The next three years were spent in advanced study, and in 1894 he was awarded the degree of Doctor of Philosophy with petrography as the subject of specialization. During the period of graduate study, he served as a teaching fellow and assisted Professor A. C. Lawson in the conduct of the elementary course in mineralogy. After receiving the doctorate from the University of California, he attended the universities of Leipzig, Heidelberg, and Munich, where his abiding interest in crystallography and mineralogy was developed. In 1895 he was appointed to an assistantship in mineralogy at Harvard University, and the following year he was made instructor. In 1902 he was promoted to assistant professor, and in 1912 to professor of mineralogy. Moreover, since 1923 as chairman, he has had supervision of the instruction in mineralogy and petrography, and has also been curator of the Mineralogical Museum. In these various capacities he has served Harvard University most effectively for more than four decades. In addition, for eighteen years he was associated with the United States Geological Survey, as assistant geologist from 1901 to 1906, and as geologist from 1906 to 1919. As one of the editors, he is now actively participating in the preparation of the seventh edition of Dana's "System of Mineralogy."

Professor Palache's scientific contributions include about one hundred and twenty-five titles. In many of these papers the crystallography and paragenesis of minerals have been emphasized. He has described more than a dozen new minerals and several new meteorites. His various publications on the Goldschmidt two-circle method of crystal measurement have done much to introduce the method in this and other English-speaking countries. For more than thirty years, he has been an ardent student of the mineralogy of the zinc deposits of northern New Jersey, and at present is recognized as the foremost authority on the minerals of the famous Franklin Furnace District.

In recognition of Professor Palache's service to mineralogy, the large and impressive, special May number of *The American Mineralogist* containing thirty-five articles was dedicated to him by his friends and former students.

Professor Palache has been honored by many learned societies. He is a fellow of the Geological Societies of America and Belgium, of the American Academy of Arts and Sciences, and of the Mineralogical Society of America, of which he was president in 1921. He is also an honorary member of the Mineralogical Societies of Germany and Great Britain, a corresponding member of the Geological Society of Stockholm, and a member of the National Academy of Sciences. The fact that Professor Palache is now serving as president of the Geological Society of America clearly indicates his high standing as a mineralogist and geologist. It is also fitting to note that Professor Palache was for many years a close friend of Washington A. Roebling, to whom we do honor today for his unique service to American mineralogy by making the first award of the medal which bears his name.

CHARLES PALACHE: Inspiring teacher, enthusiastic collector and efficient curator of minerals, tireless investigator, distinguished contributor to the advancement of mineralogy, I have the honor, on behalf of the Mineralogical Society of America, to express the very high esteem in which you are held by the Society by presenting to you the first Roebling Medal.

OBVERSE

REVERSE

B. Response—Professor Charles Palache

As I accept from your hands this beautiful medal I find it hard to say whether pride or pleasure is my principal emotion. I may well be proud to receive this symbol of your approval of my life's work in my chosen science. Equally well may I take pleasure in the thought that the personal regard and friendship of many members of the Society goes with the award. I see among you colleagues of the present, fellow students of years gone by, pupils who have worked with me to enlarge our beloved science. I cannot assure myself that I am the one of all this fellowship who was rightly chosen to head the rôle of honor which will be constituted by the recipients of this medal through the years to come. But, since it is your will that my name should so head it, I thank you sincerely for the signal honor.

As I look upon the noble features of Colonel Roebling engraved upon this medal, my mind reverts to the delightful hours—all too few for my satisfaction—spent in his company. He always had a number of "tough nuts" for me to crack, generally some minute crystal from Franklin or Paterson, or some dealer's specimen whose label he doubted. His intense pleasure when I was able to confirm, at the time or through later tests, his own keen-eyed detection of some obscure specimen, was a rare delight.

From the very first time I saw his collection I realized the importance, not so much of his many rare and fine show specimens as of the drawers upon drawers of what he called his "Dana names," specimens for the most part of little beauty or distinction but representing authentic fragments of almost everything that had received a mineralogical name. Professor Phillips told in his memorial of Roebling how these specimens had been obtained and preserved. I had the temerity at our first meeting to tell him that whatever he did with the rest of his collection, these should go to some public museum, preferably the National Museum at Washington, so that this material, often unique, might be available in future years to all workers. Naturally, in saying this I take no credit for the ultimate gift of his whole collection to the National Museum. Still I may have sowed a seed in his mind.

Certainly I can take credit for influencing him unselfishly in another very different direction. I have in my file a copy of a letter that I wrote to Colonel Roebling in 1926. I had identified some minerals for him and had received in reply one of his charming notes written in his delicate, microscopic hand. The first Michigan and the first Harvard numbers of *The American Mineralogist* had then recently been published and I wrote to him thus:

I would be interested to know what you think of the plan which *The American Mineralogist* has adopted during the past year of publishing numbers of extra size financed by the aid of the institutions furnishing the material. Personally it seems to me an excellent plan. I look forward, however, to a time when the *Mineralogist* shall be sufficiently endowed to be able to publish such papers without the author or his institution having to bear the charges. I can think of no means of furthering the science of Mineralogy in this country more efficient than the establishment of a publication fund with an income sufficient to do this. I know that you have helped the Society and the *Mineralogist* in the past but would invite your earnest consideration of this suggestion for a movement to secure a permanent fund which should be ultimately not less than $50,000.

Colonel Roebling did not reply to my letter but within a few days he transferred to the Treasurer of the Society bonds representing the large gift mentioned by Dean Kraus, which was accompanied by the following brief and characteristically modest note:

This gift is unconditional. I wish, however, that the whole, or part of it, be devoted to the publication of the monthly magazine, *The American Mineralogist*, which has been conducted on too narrow a margin.

Some weeks later he wrote me with evident satisfaction but quite as a postscript to a letter devoted to other matters:

I am simply overwhelmed by congratulations from dozens of mineralogists from all parts of the country, on account of my gift.

I cannot leave Colonel Roebling's memory without another quotation as a sample of the humor which cropped out in almost every letter he wrote. In the letter to which he appended the postscript just quoted, he acknowledged the receipt of the gift from me of a specimen of pumpellyite. He wrote:

In 1890 while living at Newport, R. I., the late Dr. Pumpelly had just returned from a trip to the glaciers of Montana. My wife gave him a reception at our house. He kindly gave us an entertaining narrative of his experience. My memory still retains an introductory sentence—"The roads were impassable, not even Jackassable."

Dean Kraus has related to you the academic stages of my life, but such a statement throws little light upon the personal influences which guided me.

To Joseph LaConte I owe surely my first insight into the meaning and beauty of geological science. To A. C. Lawson, who came to Berkeley just as I was completing my undergraduate course in Mining, I owe the inspiration that came from detailed work in the field. He saved me from a mining career that I hated in anticipation and through petrography set my course towards mineralogical science. When I went to Germany, I sat first under Zirkel, who at least taught me how *not to lecture*, for he read his lectures from proof copies of his newly written Petrography,

with which his hearers were also supplied. At Munich I worked chiefly with Groth, who lectured well but gave me such scanty help with goniometric work that at the end of a winter there I hated the very word crystal. At Heidelberg I heard Rosenbusch's delightful and instructive lectures in petrography, and he was charming also in the laboratory. But it was in the dark little room where Victor Goldschmidt met his few students that I found the guiding light to my future work. From the moment that I had measured a crystal on the first crude model of his two-circle goniometer and had projected it and had seen it in essence solve itself I knew that that was what I wanted to do all my life. And do it I have almost to the exclusion of all else of importance; and still the fascination of watching the picture of the crystal lattice appear as the angles are plotted holds me in thrall.

To the non-professional collectors whom I can claim as friends I owe much of the knowledge needful to the successful museum curator. Bement, Hancock, Fiss, Canfield, Roebling, Vaux, Holden, gathering minerals in large part for the aesthetic enjoyment of their form, color or natural setting, taught me how to evaluate rightly the qualities of a perfect exhibition specimen.

I do not think many men can have lived a happier life than mine has been. Going to Harvard with my newly kindled enthusiasm for crystallography still warm, Dr. Wolff made me free of all the resources of the mineralogical collections which had recently been entrusted to his care. He helped me to buy, borrow, or collect the crystals which I loved to describe. He it was who wisely counseled our friend, Albert F. Holden, in formulating his plans for generously endowing Mineralogy at Harvard so that it might thrive. When this gift was finally received in 1922, Wolff retired and placed in my hands the responsibility and delight of carrying out Holden's intent, and I soon found that where my plans for spending outstripped our now generous income I could turn to another Holden—Guerdon—who sits here among you today, with assurance that he would supply the wherewithal free from condition or proviso. To have visions and the material means for making many of them realities; to have students, many of whom stayed to become followers and then leaders on their own account; and to be able at all times to indulge my greatest interest of studying, measuring and comparing crystals—are not these abounding gifts which make for happiness?

Last spring, as Dean Kraus has stated, my friends and former students dedicated to me a series of papers which make a seemly volume in themselves. This surprise gift, for such it was, owing to the clever management of the editor, my good friend and former colleague, Martin Peacock, overwhelmed me with pleasure and deep emotion. Now you, fellow

members of the Mineralogical Society, once more overwhelm me with the honor of this medal. I should retire quickly from the scientific scene lest I reveal my inadequacy to deserve so many distinctions. But I cannot retreat yet. Dana's "System" must be newly issued in modern dress. We, the editors, must justify the faith the Geological Society has had in us by giving us the needful aid to carry this work through. Then I will retire with a grateful heart and leave it to new and better men to carry on the torch of progress in Mineralogy.