THE PICKING TABLE

FRANKLIN OGDENSBURG MINERALOGICAL SOCIETY, INC.,

BOX 146

FRANKLIN, NEW JERSEY

VOLUME III FEBRUARY 1962 NUMBER 1

CALENDAR OF EVENTS - 1962

March 17 - First meeting of the year. 2:00 P.M. Hardyston School.
Route No. 23, Franklin, N.J.
Speaker - Henry E. Millson, American Cyanamid Co.
Topic - Luminescence.

April 7th - Field trip, 9:00 - 12:00 A.M., Buckwheat Dump, Franklin, N.J.
Joint trip with the New Jersey Audubon Society.

April 21st - Meeting. 2:00 P.M. American Legion Hall,
Route No. 23, Franklin, N.J.
Speaker - An official of the New Jersey Zinc Company.
Topic - Reduction of Franklin Ores.

May 5th and 6th - Mineral Show sponsored by the mineral clubs of
North Jersey. The CORONET, 925 Springfield Avenue,
Irvington, N.J.

May 12th - Field trip. To be announced.

May 19th - Meeting. 2:00 P.M. American Legion Hall, Franklin, N.J.
Speaker - Paul E. Desautels, U.S. National Museum.
Topic - Mineral Collections in the U. S. National Museum.

June 9th - Field Trip - to be announced.

June 16th - Meeting. 2:00 P.M. American Legion Hall, Franklin, N.J.
Speaker - Dale R. Simpson, Lehigh University.
Topic - Stability relations of Apatite and Other Calcium
Phosphate Minerals.

June 23rd - Swap Session and picnic.
Joint trip with the North Jersey Mineralogical Society.
Additional details later.

September 15th - Meeting. 2:00 P.M. Americam Legion Hall, Franklin.
Speaker - to be announced.
Topic - to be announced.

October 6th - Field trip. To be announced.
October
13th and 14th - 6th Annual Mineral Show sponsored by the
Franklin Kiwanis Club, Franklin Armory, Franklin, N.J.

October 20th - Meeting. 2:00 P.M. American Legion Hall, Franklin.
Speaker - Brian H. Mason, American Museum of Natural History.
Topic - Langban, Sweden - A European Franklin.

November 3rd.- Field trip. To be announced.

November 17th - Meeting 2:00 P.M. American Legion Hall, Franklin, N.J.
Speaker - Paul F. Kerr, Columbia University
Topic - Optical Properties of Minerals.

F.O.M.S. OFFICERS FOR THE YEAR 1962

President - William Spencer
Vice President - Neil Wintringham
Secretary and Treasurer - Frank Edwards

Trustees

Mrs. E. Packard Cook
Paul Chorney
Edward R. DeRoo
John Durkos
Richard Hauck
Ferd De P. HasBrouck
Ajax Hull (Alternate)

Editor of the Picking Table - Frank Edwards
Mimeo and Typing - Louise W. Borgstrom

Club Officers

Your officers and trustees for the year are listed above. Bill Spencer, our new President, has been an avid Franklin collector and enthusiast for many years. Neil Wintringham, Vice President, provides us with greatly needed scientific training and background. Frank Edwards served as President last year. Our trustees are the same people who served your Club so well last year.

Club Program

Your attention is directed to our club program for the year. All meetings have been scheduled for the third Saturday of the month. We have been most fortunate in obtaining an outstanding group of speakers, who will address us on a variety of interesting topics. Pre meeting activities will feature displays and sales of Franklin minerals and identification assistance.

Field trips have been scheduled for Franklin and Sussex County locations where pickings are still good and for visits to outstanding Franklin collections that are not usually accessible to the general public.

Several outside organizations have requested our participation or assistance in joint projects. The first is a field trip with the New Jersey Audubon Society on April 7th. The officials of that group wish to introduce their members to mineral collecting. If you do attend this field trip, please share your knowledge with our guests.

Some time in May, the New York State Geological Society will hold a field trip to Franklin. Our assistance has been requested and will be provided.

Many of our members have been interested in a Swap Session. On June 23rd, in a joint venture with the North Jersey Mineralogical Society, we will hold a picnic and Swap Session somewhere in the Franklin area. Details later.

Two mineral shows of interest to our members are scheduled for this year. On May 5th and 6th, the mineral clubs of North Jersey will sponsor their second Mineral Show at the CORONET, 925 Springfield Avenue, Irvington, N. J. Fine displays and a good dealer area will be featured. The F.O.M.S. will participate in this Show. We will provide displays of Franklin minerals and a fluorescent room.

The Franklin Kiwanis Club will hold their 6th Annual Mineral Show at the Franklin Armory, Routes #23 and #517, Franklin, N. J., on October 13th and 14th. As usual, the F.O.M.S. will cooperate fully with the Kiwanis. This show is a must for all Franklin collectors.

Dues

By amendment to our constitution, our fiscal year has been changed to the calendar year. Dues for the year 1962 are now payable. To renew your membership, please attach $2.00 to the handy form on the last page of this issue.

Financial Report

Our cash balance as of December 31st, 1961 was $971.95, and 401 persons were listed as club members.

An unusual expenditure in 1961 was $200.00, which was sent to the Borough of Franklin with the following letter.

Gentlemen:

"Earlier this year our organization held a Symposium on Franklin Mineralogy and Geology at the Franklin Armory. Our net profits from this event were $257.12. However, because we are a non profit group, our Executive Board has voted we donate $200.00 to the Borough of Franklin for use in a public project within Borough limits. The choice of that project is left to you.

There are no strings attached to our donation. Our Club believes in working with the people of Franklin. I am sure we have proved this by our actions during the two years we have been in existence. We have gladly and willingly cooperated with other groups in Franklin. We are also happy to testify that we have received equally good cooperation in return.

Our members derive considerable pleasure from collecting at Franklin and they are grateful for their welcome in the community. They reciprocate by good behavior and patronage of local merchants.

We appreciate the improvements made in the facilities at the Buckwheat Dump. Your representative there, Mr. Ray Rude, is also a big help with his pleasant and courteous treatment of all visitors.

Because we feel that all mineral collectors, and our own members in particular, are welcome and wanted in Franklin, it is our pleasure to hand you this check."

Cordially yours,
Frank Edwards,
President.

Our donation was accepted with thanks by the Mayor of Franklin, Mr. Otto Berghofer, and the Borough Council. $100.00 was assigned by them to the Franklin Neighborhood House, and $100.00 to the Franklin Sports Association.

Past Meetings

As usual, those members who attended our last three meetings in 1961, heard interesting talks by able speakers. In August, Dr. Alex Knoll, spoke on the "Field Identification of Minerals." His suggestions were practical and appreciated by all collectors.

In September, Dr. Arthur Montgomery spoke on the "Atomic Structure of Crystals." An expert in making technical subjects intelligible to the layman, Dr. Montgomery clarified this topic for our members.

In November, Dr. Edward Sampson spoke on the "Genesis of the Franklin Ores." A collector and student of Franklin minerals for many years, Dr. Sampson reviewed the various theories on the origins of this deposit. In his opinion, objections can be found to every theory formulated to date and the final word on this subject is yet to come.

New Jersey Zinc Company

Ore production was resumed at the Sterling Hill mine of the New Jersey Zinc Company on December 18th, 1961, after a shutdown of 40 months.

Donald J. Mc Kechnie, Mine Superintendent, said that the renewed operations are scheduled to be expanded until the mine is operating at capacity. He said the reactivation program would be completed within a year.

Production began when 10 of the 65 mineworkers, recalled August 28th for maintenance work, were switched to ore extraction after they reported for work on December 18th.

Mr. Mc Kechnie said that the work force would be expanded gradually during the next three weeks to enable a production of 250 tons of ore per day. He said the program would continue until some 200 men were rehired and production at a total of 1,000 tons per day.

The Sterling Hill Mine, prior to 1957, had employed 420 men. Curtailment of production brought periodic layoffs during 1957 and 1958, and the mine was completely shut down on August 1958.

New for the Picking Table

Many of our members reside out of state and benefit only through our club paper, The Picking Table. If you have any information, old or new, concerning Franklin or Franklin minerals, mineralogy, geology or research, please write to Frank Edwards, Editor, Box 146, Franklin, N. J. Such news or information will be most welcome.

Research Paper

At the 1961 Annual Meeting of the Geological Society of America, held November 2nd-4th, at Cincinnati, Ohio, Dr. Taro Takahashi read a paper on the "Thermochemical Interpretation of the Mineral Assemblage at the Sterling Hill Mine, New Jersey." Dr. Takahashi and his associate, Dr. Clifford E. Meyers, are with Alfred University, Alfred, N. Y. The complete paper will be published soon in "Geochimica et Cosmochimica Acta." (A preliminary report on this subject was presented by Dr. Takahashi at our Symposium on June 4th, 1961.)
Abstract follows:

"The unique mineral assemblage of various silicates, oxides, and carbonates at the Sterling Hill Mine, New Jersey, has been studied from the viewpoint of chemical thermodynamics. The temperature and the partial pressures of carbon dioxide, oxygen and water, under which the deposit was formed, have been deduced. Absence of wollastonite in the ore body indicates the maximum temperature of formation to be 680°C., whereas the common occurence of tephroite indicates the minimum temperature to be 530°C.; the absence of rhodochrosite and the occurrence of calcite limit the partial pressure of carbon dioxide to a maximum of approximately 1000 atmospheres."

Powellite

Several specimens recently collected by Joe Sabo and Neil Wintringham strongly indicate a new mineral for the Franklin area. Chemical tests, fluorescence, associations and environment point to Powellite, an alteration product of molybdenite. A specimen has been sent to Harvard University for verication by X-ray diffraction.

Silver in New Jersey.

While waiting for the start of our last Executive Board meeting, we were discussing the collecting at Fort Lee, where new approaches are being constructed for the upper level of the George Washington Bridge. One of the first collectors at this location was Dick Hauck. On one of his early visits, he found a crane operator on the job when he arrived. Dick, who always observes the niceties, requested permission to collect. This was readily granted and to show his appreciation, Dick gave the engineer a specimen of Native Silver from Cobalt, Canada.

Neil Wintringham was the speaker at the January meeting of the New York Mineralogical Club. That evening there was considerable excitement over a specimen obtained by a member from the Bridge location. This was a nice piece of native silver in diabase. The owner was very proud of the specimen as native silver is rare in New Jersey. However, he had not collected it personally. While at the location, he stopped to chat with a crane operator who was working on his equipment. When he was leaving, the engineer took a specimen from his pocket and asked if it was any good. When he opined it was, the engineer gave the specimen to our collector for his collection. Upon his return home, tests proved native silver and he had a real prize.

Through such circumstances do locations become confused. If Dick Hauck and Neil Wintringham had not discussed the Bridge location, a new occurrence of native silver in New Jersey would appear in the records. The associations and environment are correct; the specimen was obtained at the site; the mineral was proved. Thereafter rockhands by the hundreds would search diligently for additional specimens of native silver at Fort Lee.

Native silver in New Jersey is exceedingly rare. In our scientific literature, I can find reference only to a handful of specimens containing this mineral in microscopic amounts. Therefore it was with considerable surprise that I read the following passage in the autobiography of Edward R. Hewitt, entitled "Those Were The Days." This book was published by Duell, Sloan and Pearce in 1943 and the passage is found on pages 79 and 80.

"Cooper and Hewitt mined the ore which produced their best iron at Andover, New Jersey. This ore was hematite, mined in an open-cut mine, where the excavation had reached a very large size. One day my father was visiting the mine. The blasts were set off at twelve o'clock, so that the black powder smoke would be cleared away when the men went back to work.

As the smoke cleared, my father, who was looking down into the great mine, noticed two spots, which soon became as bright as silver. They were oblong and lens-shaped. One was about twelve feet long, the other about four feet long. They were parallel to each other. As no one had ever seen such a thing in an iron mine, there was a rush to get down and examine this unheard-of discovery.

When the bright metal was chipped out with a chisel it looked like lead, but it was lighter in color than lead and not as heavy. My father took samples of this metal with him to New York for analysis. It proved to be a mixture of sixty percent silver and forty percent lead. When the metal was all removed from the Andover mine and sold, the firm of Cooper and Hewitt netted over eight thousand dollars from this unique deposit.

I have questioned numerous geologists here and in Europe, but none had ever heard of such metal being found in a haematite iron-ore deposit. This seems to have been the only time that this has ever been observed. The eight thousand dollars was a most useful windfall just at a time when capital was very scarce with Cooper and Hewitt."

Edward R. Hewitt, the author, was the son of Abram Stevens Hewitt and grandson of Peter Cooper. Abram Stevens Hewitt and Edward Cooper were partners in the ironworks of Cooper and Hewitt, Trenton, New Jersey, which was later absorbed by the Bethlehem Steel Company. In his book, Mr. Hewitt is not prone to exaggeration, and I do not doubt that his description of this deposit is completely valid and authentic. Which again proves that you might find anything in Sussex County and New Jersey.

For any eager beavers who may wish to start a silver rush to the old Andover Mine, just a word of warning. This discovery was evidently made in the 1850's. The ore was exhausted years ago. The location is privately owned today and no collecting is permitted.

Franklin - Some year ago

Recently one of our members, Mr. W.C. Casperson, retired curator of the Paterson Museum, most kindly gave me a little book entitled "A NORTH JERSEY JAUNT." The usual credits are not shown on the title page, but I believe this book was written by a G. de La Tourette about 1880. The visit of this gay little party to Franklin is described in two short paragraphs. I enjoyed this passage so much that I had to pass it on to you.

"Passing through Hamburg, we reached Franklin Furnace about six o'clock. This place is noted for its mines of Franklinite, a mineral composed of iron, zinc and manganese, found only in one other place in the world, I have forgotten where, but think in some Belgian mine. The whole valley is one deposit of crystalline limestone, the matrix in which is found an endless variety of minerals, very curious and interesting to the mineralogists, who swarm about picking up specimens of troostite, hematite, red oxide of zinc, Fowlerite, and other curiosities which have escaped my ungeological memory. Besides Franklinite, immense beds of iron and zinc, inexhaustible in quantity, exist in the mountains to the right of the town. Owing to an extensive lawsuit in progress at the time of our visit, the mines were running on short time, and there was little work doing. We "interviewed" the foreman of a zinc mine, a Welshman, and confirmed grumbler, who was reticent and surly, until subjected to the softening influence of applejack and cigars, when he allowed us to roam undisturbed, and load ourselves with "specimens" which we did merely because it is de rigeur to do so here. This foreman complained bitterly of the collectors, amateur geologists and students, who swarmed everywhere, carrying off the ore in vast quantities. He said he didn't mind people taking a cigar box full, or a small bag;

but when they came with wheel barrows, as one enthusiast did, he felt that the time had come for action. At last he confessed his real grievance; an eastern college had commissioned him to collect specimens of the various ores, for its museum, and "them stoodents" snapped all the nicest things up before he could get them. Then the miners, too, picked out all the prettiest crystals, and sold them to anybody foolish enough to pay the prices they demanded for them. Growing tired at last of his garrulity, we said it was indeed very hard, and bolted.

All the land at Franklin Furnace is owned by a company in Boston, whose managers will not permit any liquors to be sold in the place; consequently, the hotel is managed upon temperance principles, and the bar, instead of the usual display of bottles, exhibits a varied collection of zinc and iron ores. We had no doubt that the whole region was vastly interesting to those who could appreciate its peculiar attractions; but as we were not of that number, and as the ruinous gorges and unsightly piles of ore and slag grated upon our sensitive ideas of the picturesque, we decided to push on to Sparta, a town seven miles further down the valley."

Charles Palache

At least once a week, I find it necessary to refer to my copy of Palache's "The Minerals of Franklin and Sterling Hill, Sussex County, New Jersey" (Geological Survey Professional Paper 180). Every time I do, I feel grateful to the man who prepared this valuable reference work. Some time ago, I wanted to know more of Charles Palache than his name and began to look for information. This is always scarce on any name in mineralogy. Normally, only the scientific work of an individual is published; details on his life and the man himself do not appear in print. This also applied to Charles Palache except for his Memorial, most ably written by Clifford Frondel. This Memorial was published in the American Mineralogist, March-April 1956, pages 306-314. Like myself, I am sure that many of our members would like some knowledge of Mr. Palache, so I have condensed and selected passages from the above Memorial for our Picking Table. Like all condensations, this fails to reveal the true person. If you do have access to the American Mineralogist, I strongly urge that you read the original Memorial.

"One of the great mineralogists and crystallographers of all times, Charles Palache was born July 18th, 1869 in San Francisco, the son of James Palache, a 49er turned merchant, and Helen D. Whitney.

At an early age,Charles became greatly interested in natural history. Upon graduation from Berkeley High School, he enrolled at the University of California in 1887. There he elected the four year course in mining because it offered more subjects in natural history than any other. In his senior year, his professor in Geology was Andrew C. Lawson, who was a most stimulating teacher. Under his inspiration, Charles turned to a career in mineralogy. He graduated at the head of his class and returned to assist Professor Lawson in mineralogy and to study for his doctorate, which he received in 1894. That year, he left for additional study abroad. At Heidelberg, he met and studied morphological crystallography under Victor Goldschmidt. This, too, proved to be a turning point in his life, as he enthusiastically began the study of crystals, a major interest for the rest of his life.

In December, 1895, he was appointed assistant to John E. Wolff, head of the newly organized Department of Mineralogy at Harvard University. In 1902 he was made Assistant Professor of Mineralogy; Professor in 1910 and Professor Emeritus upon his retirement in 1941. He died December 5th, 1954 at the age of eighty-six, a credit to his profession.

In his chief field of work, morphological crystallography, Palache brought himself and the Harvard Department of Mineralogy to a pre-eminent position in research on the external geometry of crystals. There is scarcely a crystallized mineral that he did not investigate. He introduced the first Goldschmidt two-circle goniometer into the United States, in 1896, and elaborated this method in a series of papers that with later amplification by his students are standard references. The present general use in America of two-circle goniometric methods in the characterization of crystallized substances derives largely from his work. His publications deal chiefly with systematics and descriptive matters, and it is through the work of his students that we see the keen and stimulating interest he had in the genetic and interpretive aspects of mineralogy. His published papers, over 150 in number, include classical studies of the morphology of calcite, azurite, the gold tellurides, the lead oxyhalides, and definitive investigations of numerous less common minerals.

The preparation of the 7th edition of Dana's System of Mineralogy was started in 1937 under Palache's leadership. He gave close attention to the problem of organization and computation of the crystallographic data, with the help of C.W. Wolfe and Peacock, and the files of Dana contain a large store of measurements and computations that came from his hand. Although he did not prepare any of the manuscript, his counsel and factual knowledge contributed greatly to the progress of the work.

His most lasting and important contribution to the development of the Harvard Department of Mineralogy, and a great service to mineralogy in general, was in building the Mineralogical Museum to its present position as the leading research and exhibit collection of minerals in the world. When Palache first came to Cambridge, a few days before Christmas 1895, it was to assist Wolff in arranging the mineral collection and, for a year, he lived in a small room in the University Museum where, armed with a rifle, he guarded the premises.

The collection was started in 1784 and by 1895 contained 55,000 specimens. Wolff continued as Curator until 1922, when he retired and Palache took charge both of the Department and the Museum. The collection grew rapidly by field collecting, exchange and purchase. The great private collection of A.F. Holden, comparable in quality and extent to the collections of Roebling and Bement, was acquired by gift in 1913.

Beginning in 1904, Palache gradually built a definitive collection of minerals of Franklin, N. J. and acquired together with a mass of other material, the Hancock collection and, jointly with the U. S. National Museum, the Canfield collection. His monographic study of the mineralogy of the Franklin ores, published in 1935 by the United States Geological Survey as Professional Paper 180, is a landmark in American mineralogy. The work at Franklin was part of a lengthy association with the Geological Survey that included field studies in 1901 in the Bradshaw Mountains of Arizona and mineralogical studies in 1906 and 1919-1921 in the Lake Superior copper district.

He became seriously interested in the mineralogy and paragenesis of the pegmatites of New England in 1912. In the summer of that year, he collected in the pegmatites of Maine and New Hampshire and secured the fabulous find of purple apatite at Mount Apatite near Auburn, Maine. During the next twenty years, he collected with the assistance of students and F. A. Conyer, extensive suites of material from pegmatites throughout New England. This material served as the basis of important studies by himself and his students. Pegmatite mineralogy was strongly emphasized in Palache's course on mineral paragenesis, but he was also keenly interested in other types of mineral occurrence and it is a pity that only a small part of his store of knowledge in this field was ever published.

He played an active part in the organization and later development of the Mineralogical Society of America. The Society was first organized on December 30, 1919, in a meeting in the mineralogical lecture room at Harvard. Palache became President of the Society in 1921, Honorary President in 1950, and was the first recipient of the Roebling Medal in 1937. In the words of Edward H. Kraus, the Roebling award was presented to "America's foremost mineralogist, and one of the stalwarts of the Society; whose publications during a period of 40 years, have covered a wide range of subjects and have contributed signally and enduringly to the advancement of our science."

The distinction of his career brought him many other honors. He was a member of the National Academy of Sciences, the American Academy of Arts and Science, President of the Geological Society of America, and corresponding member of the Geologiska Foreningen, Stockholm. He was an Honorary Member of many societies including the Sierra Club, the New York Academy of Science, the Mineralogical Society of Great Britain, the Royal Geological Society of Cornwall, and the Societe Geologiquede Belgique. In 1941, he was given an honorary LL.D. by the University of California. He was an associate editor for many years of the Zeitschrift fur Krystallographic and of the American Journal of Science. Charles Palache encouraged the efforts of the amateur mineralogist and was an honorary member of the Boston Mineral Club and the New York Mineralogical Society.

Charles Palache was a connoiseur of minerals. He could evaluate the worth of a specimen as representative of a locality or type of occurrence; he knew the subtleties of crystal habit, color, association and size that distinguish a fine specimen from a good one; he was a keen judge of the factors that determine aesthetic and scientific value. And, of course, he was a master at that virtually lost art, sight identification. He took a keen delight in a beautiful specimen, yet with sober deliberation he would yield any specimen to the dissecting chisel and hammer, if new knowledge could be obtained. He took painstaking care in the arrangement, cataloguing and labelling of the Collection to make it convenient for use by the investigator and the student. His lectures were enlivened by anecdotes of his personal experiences with other mineralogists or of his visits to famous mineral localities. His students and assistants soon learned of his great knowledge and love for minerals and inevitably became imbued with his interest and spirit of research."