MEMORIAL OF ARTHUR PHARAOH HONESS

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Dr. Arthur P. Honess, Professor of Mineralogy in the School of Mineral Industries at The Pennsylvania State College, died suddenly in the early morning of December 17, 1942. The previous day he had worked as usual completing the grades of students who had just finished the fall semester, and then attended the theatre that evening. The suddenness of his passing, although to be envied, was a stunning blow to his family, friends and students.

Arthur Pharaoh Honess was born August 10, 1887, in Berea, Ohio, the son of Pharaoh and Anna Riddles Honess. He displayed an interest in mineralogy at an early date in that famous sandstone-producing district. This interest undoubtedly was augmented by association with his older brother, Charles William Honess, who preceded him as a student at Oberlin and who continued the study of geology in various graduate schools, eventually adopting it as a profession.

After teaching for two years in the public schools of Indiana, Honess entered Oberlin College from which he graduated with the degree of A.B. in 1914. He then attended Princeton University from 1914 to 1917, serving as Assistant Mineralogist and receiving the degree of A.M. in 1916. At Princeton he studied under the late Dr. Alexander H. Phillips from whom he acquired an intense interest in crystallography and an affection for crystal forms which he retained permanently and passed on later to many of his students. His association with Professor Phillips was particularly happy and of major importance in guiding his career. In 1924 he received the degree of Doctor of Science from Princeton University.

Dr. Honess came to The Pennsylvania State College in 1917 as an instructor in mineralogy. This connection he continued until his death, passing through the ranks of assistant and associate to become full professor in 1931. Possibly the best criteria of the quality of his instruction are the records which his students have made in the graduate schools of other institutions and in a professional capacity. His enthusiastic interest in every phase of mineralogy was contagious and a continual inspiration to his students. His originality in presenting scientific data in the lecture room made facts unforgettable and was the source of delight to his audience. No labor was too great when expended in the assistance of an appreciative pupil, and he frequently exhausted himself in this service. His interest in students was not restricted to the classroom or laboratory but extended beyond these confines. He frequently aided students in the solution of personal problems which they would not confide to their

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regular faculty advisor. Many former pupils and associates will recall the unbounded hospitality of his home.

Dr. Honess became interested in the corrosion of crystals during his graduate study. The careful, painstaking research which he carried on in this field became the basis of one of the few publications dealing with the origin and interpretation of etch figures. "The Nature, Origin and Interpretation of the Etch Figures on Crystals" was published in 1927. He continued these investigations, using optically active solvents upon which he reported ten years later. This work in a field which has attracted but few investigators received widespread attention. In all research work he placed unusual emphasis upon the correct interpretation of observed data, a habit which he fixed in the minds of his students. His constant question was, "What does it mean?"

The first thorough petrographic study of the oil sands of Pennsylvania was carried out by Honess at a time when secondary recovery of petroleum, from sands previously considered exhausted, was being placed under scientific control. These studies made a substantial contribution to the knowledge of the mineral constituents of the rock and of the physical factors which control porosity and the behavior of the rock and its oil content when flooded. As a result of this study, methods employed in the preparation of samples for recovery tests were changed to conform with his recommendations. He also completed the first petrographic examination of the peridotite dikes of southwestern Pennsylvania and reported upon their significance. A similar interest in the bentonites of Pennsylvania resulted in an increase in data relative to their origin and geologic distribution. Honess was probably the first to observe the presence of authigenic albite in limestone in the United States, although he made no report of this observation until years later when it had been anticipated by the recorded observations of others.

The stimulation of his intellectual curiosity, his friendly concern for the troubles of others and his love for humor are missed by students and associates alike. He is survived by Mrs. Honess, a daughter Mary Ann, three brothers and one sister.

Bibliography

1. On the etching figures of beryl: *Am. Jour. Sci.*, **43,** 223–236 (1917).
2. A study of the etching figures of the hexagonal alternating type of crystals: *Am. Mineral.*, **2,** 57–62 and 71–74 (1917).
3. The association of pyrite and stilbite in New Jersey: *Am. Mineral.*, **2,** 117 (1917).
4. On the etching figures of the dihexagonal alternating type of crystals: *Am. Jour. Sci.*, **45,** 201–218 (1918).
5. The etching figures of topaz: *Am. Mineral.*, **6,** 71–77, 1 fig., 1 pl. (1921).
6. Some interesting chalcedony pseudomorphs from Big Badlands, South Dakota: *Am. Jour. Sci.*, 5th Ser., **5,** 173–174 (1923).

7. Mineralogical analysis of Hagerstown silty clay loam soil: *Soil Science,* **15,** 10–12 (1923).
8. (And Graeber, C. K.), A new occurrence of an igneous dike in southwestern Pennsylvania: *Am. Jour. Sci.*, 5th Ser., **7,** 313–315 (1924).
9. (And Graeber, C. K.), Petrography of the mica peridotite dike at Dixonville, Pennsylvania: *Am. Jour. Sci.*, 5th Ser., **12,** 484–494, 6 figs. (1926).
10. The nature, origin, and interpretation of etch figures on crystals: xiii+171 pp., 95 figs., New York, John Wiley and Sons (**1927**).
11. (And Bonine, C. A.), Bentonite in Pennsylvania: *Penna. Acad. Sci., Proc.,* **3,** 18–25 (1929).
12. (And Graeber, C. K.), Petrography of the mica peridotite dike at Dixonville, Pa.: *Pennsylvania State College, Min. and Met. Exp. Sta., Bull.* **2,** 16 pp., 7 figs. (1926).
13. The theory of crystal etching and its significance in the classification of crystals: *Pennsylvania State College, M. I. Exp. Sta., Bull.* **3,** 8 pp., 3 pls. (1929).
14. A study of the microscopic characteristics of Pennsylvania oil sands, with special reference to porosity determinations: *Pennsylvania State College, M. I. Exp. Sta., Bull.* **9,** 27–46, 13 figs. (1930).
15. (And Heyl, G. R.), Further observations on temperature-porosity relations in oil sands: *Pennsylvania State College, M. I. Exp. Sta., Bull.* **11,** 93–104 (1932).
16. (And Williams, F. J.), Dickite from Pennsylvania: *Am. Mineral.*, **20,** 462–466 (1935); *Penn. State Coll. Min. Ind. Exp. Sta., Tech. Paper* **18** (1935).
17. (And Jones, J. R.), Etch figure investigations with optically active solvents: *Bull. Geol. Soc. Am.*, **48,** 667–722 (1937).
18. (And Jeffries, C. D.), Authigenic albite from the Lowville limestone at Bellefonte, Pennsylvania: *Jour. Sed. Petrology,* **10,** 12–18 (1940).
19. (With Krynine, P. D., and Myers, W. M.), Siliceous oolites and chemical sedimentation (abstract): *Bull. Geol. Soc. Am.*, **52,** 1916–1917 (1941).