

PRESENTATION OF THE MINERALOGICAL SOCIETY OF  
AMERICA AWARD TO ORVILLE FRANK TUTTLE\*

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*Mr. President, Fellows and Members of the Mineralogical Society of America, and guests:*

This is a pleasant task.

The new award of the Mineralogical Society of America is, in my opinion, inspired. The Council which drew up the terms of the award must have had in mind the poet's query, "What are garlands and crowns to the brow that is wrinkled?" and his reply, "'Tis but as a dead flower with May-dew besprinkled." In imposing a low age limit for eligibility the Council evidently felt that there were laurels aplenty to reward long records of achievement. There was needed an award to be given for a specific accomplishment indicating great promise, and to serve as a spur to the fulfillment of that promise by one still vigorous enough to respond. There must be no wasted May-dew. Above all there must be no mildew.

And in its decision as to the character of the award how wise the Council was! A life subscription to the *American Mineralogist* is not only valuable, but unlike most awards, it is very useful, and through it the recipient will feel anew the prick of the spur bimonthly through life. How well-designed it is to serve in the dual capacity of a reward and a spur!

As the first recipient the Council has chosen Orville Frank Tuttle, and the award is made for his work on the variable inversion of quartz. When Dr. Tuttle first mentioned to me that he was thinking of investigating the  $\alpha$ - $\beta$  inversion of quartz, I thought he was a bit dotty. The inversion of quartz had been investigated backwards and forwards and sidewise, and the Bureau of Standards had fixed it at  $573.3 \pm 0.1^\circ$  C. What more was there to learn about it? But Tuttle had a hunch, and the hunch paid off. He found that the inversion temperature was variable and was related in a systematic way to the manner of occurrence of the quartz,

\* TUTTLE, DR. ORVILLE FRANK, Geophysical Laboratory, 2801 Upton St., Washington, D. C. GEOLOGY. Olean, N. Y., June 25, 16; m. 41; c. 2. B.S. Pa. State Col. 39; M.S. 40; Ph.D. (petrol), Mass. Inst. Tech., 48. Teaching fellow miner. and petrol., Mass. Inst. Tech, 40-41, 41-42, asst. Office Sci. Research & Develop., 42, physical chemist, Geophys. lab. 42-45; U. S. Naval Research Lab. Wash., D. C., 45-47; PETROLOGIST, GEOPHYS. LAB. 47-. Fel. Geol. Soc.; fel. Geophys. Union; Miner. Soc.; Geol. Soc. Wash. Phase equilibrium in silicate systems; rock forming minerals; structural petrology. (From: *American Men of Science*—Eighth Edition.)

and consequently to the conditions under which the mineral formed, especially the temperature. Conversely, then, the variable inversion of quartz serves as a geologic thermometer. His results are a matter of record—indeed must be, in order to meet the conditions of the award. Jointly with Keith he has since expanded the investigation to cover natural and synthetic quartz formed under a wide range of conditions. The synthetic quartz is, of course, grown under measured conditions and therefore serves as a control. The new results are about ready for publication.

Now as to future promise, which, I believe, is a major concern in this award. Tuttle has a flair for experiment that amounts to genius. He has a number of investigations under way, each as well chosen as his quartz investigation for its general significance in problems of mineral and rock genesis. The dew falls on a bud full of life and vigor, and ready to expand into a fine bloom.

Mr. President, I have the honor and pleasure of presenting Orville Frank Tuttle (may I say, in an aside, that if you wish to please him, call him Frank, not Orville, and conversely)—Orville Frank Tuttle for the first Mineralogical Society of America Award.