

ACCEPTANCE OF THE MINERALOGICAL SOCIETY OF
AMERICA AWARD

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Mr. President, Dr. Bowen, Fellows and Members of the Mineralogical Society:

I am sure the Mineralogical Society Award has been conceived as an incentive to further research in the Mineralogical Sciences. I assure you that this purpose has been achieved. I am honored and greatly pleased by this award, but I hasten to say that I am well aware that my chances of fulfilling the requirements would have been slight indeed had I not been so fortunate as to have been associated with the Geophysical Laboratory during the past five years. Any contribution that I may have made to Mineralogy can be directly attributed to the encouragement and assistance of my co-workers at the Laboratory.

It seems appropriate to interject a few words concerning the present status of the quartz inversion studies despite the threats and warnings accompanying numerous suggestions to be brief in accepting this award. Dr. M. L. Keith and I are continuing the investigations. We have examined over 300 specimens of quartz from many types of occurrences. Quartz samples have been found which show no inversion, others with unusually strong heat effects and some with multiple inversions. Quartz from granites has, in general, different inversion characteristics from rhyolite quartz. Specimens of apparently homogeneous quartz from certain pegmatites may show several inversions and as many as three distinct quartzes could be isolated by careful hand picking under binoculars after heat treatment rendered them slightly different in color and lustre. We have synthesized quartz in special environments and by so doing altered the inversion temperature by as much as 40° C.

A manuscript is now being readied for publication bringing our results up to date and outlining plans for future studies. For obvious reasons, the quartz from granites and granites will receive high priority in the immediate future.

The complexities which are being discovered in the common rock-forming minerals have been the cause of some consternation. It seems to me that the fact that quartz can no longer be considered a constant of nature is no cause for alarm. On the contrary, the more complicated a mineral system becomes the greater its ability to store up information concerning its origin and subsequent history.



ORVILLE FRANK TUTTLE

Recipient of the Mineralogical Society of America Award