

PRESENTATION OF THE MINERALOGICAL SOCIETY  
OF AMERICA AWARD TO RUSTUM ROY

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

The Mineralogical Society of America Award was established to honor a young scientist who has made a notable contribution in the broad field of mineralogy. I can think of no one more deserving of this award than this year's recipient, Dr. Rustum Roy.

Rarely can it be said that security regulations have benefited American science, yet we have an example here. Rustum came to this country in 1945 on a mission for the Government of India. He had a Master's degree in chemistry and a year and a half's experience in research for the Council of Scientific and Industrial Research of the Government of India. His mission was to study American methods of processing and utilizing mica. Various government and company security regulations in force at that time, however, prevented his gaining access to many operations and laboratories which he wanted to visit. Hence, he could not complete his job. Faced with this discouraging situation, he prevailed on his Government to permit him to remain in this country, but with his mission changed to that of a candidate for a Ph.D. degree. Thus did he happen to come to Penn State in 1946—the same year that I joined the faculty of that institution. He became the first of the students doing research with me to receive a Ph.D. degree. The second happened to be a comely, modest and very able geochemist from the University of Oregon, by the name of Della Martin. A few days after receiving her degree, she became Dr. Della Martin Roy. Rustum and Della have collaborated on many pieces of research. They also find time to raise three sons.

Rustum's first published researches were on phase equilibria in the system lithia-alumina-silica. This led to a more detailed study of the lithia aluminosilicates. In collaboration with Della, he synthesized for the first time the low temperature structures corresponding to the minerals eucryptite, spodumene and petalite, and presented a picture of the compositional and stability relationships existing among these interesting aluminosilicates.

Hydrothermal techniques used in these studies were improved upon and applied to many other mineralogical and geochemical problems. Extensive studies were made, for example, of the alumina-silica-water system, of the magnesia-alumina-silica-water system, and of the lime-

alumina-water system. Interesting and fundamental structural relationships among phases have been studied at length, as for example on "Multiple Ion Substitution in the Perovskite Lattice," or in collaboration with Dr. Keith on "Structural Relations Among Double Oxides of Trivalent Elements," or again in a series of papers now appearing on "Studies of Silica Structure Phases." In the past eight years sixty publications have appeared with Rustum as author or coauthor.

This is amazing productivity, and his type of research I believe is becoming of increasing importance in the earth sciences. As Professor of Geochemistry he is able to pass on to graduate students his knowledge, his manner of approach to problems, and his contagious enthusiasm for research.

Although Rustum hardly needs a stimulant, nevertheless I am sure that this award will serve as such to him. On behalf of the members of the Mineralogical Society of America, Mr. President, I have the privilege to present to you Dr. Rustum Roy for the Seventh Mineralogical Society of America Award.