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Presentation of the Roebling Medal of the Mineralogical Society of America for 1983 to Hans-Peter Eugster

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Officers and members of the Society, and guests:

Today I have the privilege of introducing to you one of our outstanding members as the Roebling Medalist. I have known the man for a quarter of a century, and continue to be rewarded by his friendship, his personal generosity, his demand for truth, and by his creativity. Those of us who have had the good fortune to have Hans Eugster as our mentor have sensed from the start of our apprenticeships that we were truly colleagues in the effort to better understand rocks and minerals. This feeling of selfworth is the greatest gift one human can bestow on another, and Hans has showered it on his students in great abundance.

Those who have visited Hans' rural retreat in Maryland can also attest to his generosity as a host and to his abilities as a chef and raconteur. He has a wonderful sense of humor which has served him and his colleagues well over the years. I remember well the tenseness of the situation when he, the Swiss, was correcting and improving the english in my dissertation. His good humor made me come out of the encounter grateful for his suggestions, and more importantly, happy about myself and my work.

His generosity is given freely, not only on things mineralogical, but on food, wine, music and art. This generosity has been freely given to us even when Hans himself was going through his own physical and emotional traumas. A wonderful by-product of being an Eugster Associate is the sense that we all are part of a family, and some of my longest and truest friendships with graduates of Johns Hopkins University began during our mutual association with Hans. I don't know if Hans was a scout in his native Switzerland, but his personal qualities read like the Scout Law: his regard for the truth; his kindness to his students; his bravery under physical ordeals; and his reverence for the world, its people, and our science.

Two exceptional personal qualities which have brought Hans to this podium today are his quest for truth, or if you will, his curiosity, and his creative ways in finding that truth. When I was struggling with some apparent discrepancies during our early collaboration, I finally came to the conclusion that some of my original temperature determinations must have been in error. I reluctantly spoke about this to Hans, and the immediate retort was to find out why. Thus began my initiation into why one never takes any sort of laboratory measurement for granted. The consequent corrections led to a consistent set of measurements, and our work was on its way. I then learned the true meaning of "the truth shall set you free." During that work we had occasion to summarize the thermodynamic parameters of the system Fe–Si–O twenty years ago, and I am pleased to say that Hans is the coauthor of a recent paper refining these parameters. His quest for the truth remains vigorous.

Eugster's creative genius is the other reason we are celebrating his career today. When I was visiting the Geophysical Laboratory in quest of a possible doctoral thesis, his inventive ideas captured me in the way that N. L. Bowen's ideas must have captured an earlier generation. He had just invented his buffer method, and I was greatly taken with the simplicity of the device, and the powerful reach that its application would give mineralogy. My association with Hans and his ideas has given me countless gifts, and I remain in awe of his ability to grasp a problem ("Dave, you haven't come to grips with the problem" was a constant invocation), see the essential conflict, and propose a dozen solutions. He remains a disciple of multiple working hypotheses, and through this, continues to create new interpretations and methods for discovering the truth. I hasten to add that his mind is not only creative, but also facile and tough. Part of our original collaboration was possible because of my formal training in chemical thermodynamics which Hans had not had. For a few months, I was the teacher and he the student, but he quickly absorbed what I knew, set off on his own, and began to teach me new things and new methods. His recent work on the Cornwall Pennsylvania Magnetite deposits and his paper at this meeting on tin deposits in China demonstrate his firm grasp of thermodynamic methods, and his uncanny ability to create new applications.

His creativity rubbed off on all of his students, and through us, Hans has given the world oxygen, hydrogen, water, carbon dioxide and halogen fugacity meters, geologic thermometers, properties of minerals and other phases of geologic interest, and methods of attacking problems in all phases of petrology: igneous, metamorphic, ore deposition, and sedimentology. His early recognition that the evaporite minerals of the Green River formation were the product of a history of aqueous processes started him on a series of major contributions

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of ideas, data, and students to chemical sedimentology. His influence has been felt so pervasively that now it is commonplace to interpret sedimentary mineral assemblages to reveal the history of H_2O interactions in those rocks.

Mr. President, for these many contributions to our science—his students, his colleagues, his inventions, his ideas, his vision of a coherent science of mineralogy—I am pleased and proud to introduce Hans-Peter Eugster, the 1983 Roebling Medalist.