Presentation of the Neil Miner Award to William D. Romey

It is indeed a privilege to be the citationist for the presentation of the Neil Miner Award to William D. Romey. For over four decades, Bill has been an exceptional and sustaining contributor to the advancement of geoscience education and to our Association. As this most prestigious award honors the ideals, unselfish outlook on life, and inspiring personal philosophy of Neil Miner, I can think of no one who exemplifies those salient characteristics better than Bill Romey.

I first met Bill in the late 1960s, a time of wonderful exploration of Earth and of teaching and of learning. The National Science Foundation was in full gear with almost one-third of its budget supporting summer programs, "academic year" teacher institutes, and robustly supported, nationally developed curriculum projects. In the shadow of the International Geophysical Year and Sputnik, it was a time when the Nation looked both up to the heavens, into Earth, and at itself for preeminence in science and education. As unanticipated circumstances often play out, I quite unexpectedly found myself teaching earth science in a suburb of Syracuse, New York. With a biology degree and only a few intro level geology courses to fulfill science requirements under my belt, no one needed to tell me that I best take further instruction in geoscience! I heard that there was a young professor at Syracuse University who was actively involved in the Earth Science Curriculum Project (ESCP) - an NSF supported initiative that was having a huge effect on earth science instruction nationally. Bill Romey was that young professor of geology and science education, and I soon found his deep intellectual capacity, coupled with enthusiasm and curiosity, contagious. Rumor through the graduate student grapevine had it that Bill's undergraduate major was in French. This knowledge gave me much consolation. I reasoned that if this dynamic, competent, Berkeley Ph.D. geologist, who conducted field and laboratory studies of anorthosites in the Adirondacks and in Norway, could contribute so significantly to science with a French degree as a footing, certainly I shouldn't have too many concerns about working off of my biology base. (Thankfully, I didn't know then what I learned subsequently - that he graduated from Indiana University with highest honors and with minors in Russian, English, and political science; that additional information, I'm afraid, would have given me considerable pause.)

We hear a lot today about the importance of integrating research and education. Bill didn't just reference or talk about it, he practiced it. Great advances were being made in cognition and in learning theory. Bill was keenly aware of the significance that these areas held for teaching and learning. He read and reflected upon the writings of leading learning theorists and the more applied works being expounded by leading science educators. He conducted thoughtful investigations into the role of activities and guided laboratory experiences. He published his thoughts in Inquiry Techniques for Teaching Science (Prentice Hall) and Risk, Trust, Love: Learning in a Humane Environment (Charles Merrill) - it was, after all, the early 1970s. One of the most remarkable laboratory-oriented instructional publications I have ever encountered is Bill Romey's Investigations in Geology (William C. Brown). It is not just another laboratory manual! Bill selected his topics thoughtfully and developed rich activities around them, resulting in student-driven formulation of important principles that required a high degree of interpretation and problem-solving. The manual is extraordinary and timeless.

To Bill, the integration of timely, cutting-edge geoscience with first-class, up-to-date educational understandings was a natural conjunction of time, place, and purpose. He imbued his science teaching with the same habits of mind that made him an exceptional scientist, challenging himself to be as creative in the classroom as he was in his studies on recrystallization processes or chilled zone, gabbroic, magma-derived border facies. And, with Bill, creativity in this endeavor implied a willingness to depart from old textbooks and techniques that were considered good merely because they worked once upon a time.

Bill was a member of the ESCP writing conferences in the mid 1960s. In September of 1969, he assumed responsibility for directing the project. It's hard for us today to grasp the enormous influence this project had on the teaching of earth science nationally, and even internationally. The list of members on the project and Advisory Board reads like a Who's Who in geology and scientific annals: Mason Hill, Dick Jahn, J. Tuzo Wilson, even Rachel Carson, to name but a few. Numerous other distinguished geoscience professors were actively writing and working in teams and with teachers to develop first-rate instructional materials. It's significant to note that during Bill's leadership of this project, the United States Office of Education (pre-Department of Education days) estimated that 26.2% of all students nationally were receiving a full-year, secondary level course of study in earth science (a percentage that we know, all too sadly, has fallen to something less than 7%). For decades, subsequent publisher-developed programs were little more than weak parities of ESCP.

Bill has more than 500 publications over what will soon be a half-century of scholarly contributions. Beyond duration and number, this record is remarkable because of the scope of its topics and publication venues. There are the established academic success indicators with publications in journals such as Geological Society of America Bulletin, Geochemica, Lithos, Geology, and Science; but his insights and understandings extend on into journals such as the American Biology Teacher, The Professional Geographer, and the Journal of Geography.

Of special note for those of us gathered here today, Bill has a continuous, 36-year contribution to our beloved Journal of Geologic Education. Even with the assistance of JGE's author index search engine and Georef, I gave up trying to confirm my hunch that he holds the all-time record for authorship in JGE. My count reached 130 citations when I realized that Bill would deem such bean-counting a foolish exercise - even for someone like me who operates out of Washington these days.
Acceptance of the 2006 Neil Miner Award

Thank you Bob for your overly generous comments. Bob Ridky is one of the people who is responsible in more ways than one for my standing before you today. He is one of several former secondary school earth science teachers I had the privilege of having as students when I began my teaching career at Syracuse University in the early 60s. In fact he and many others who were at Syracuse under NSF science teacher grants became as much creators of parts of the ESCP curriculum as they were observers and their lead teachers also ended up being my teachers in many ways. Our work together was highly collaborative. People like Bob Kilburn and John Merrill taught me that there should be no lines separating teachers from learners.

When I first arrived to begin teaching at Syracuse I had the good fortune to be appointed to an unusual kind of position. Here I was, a newly minted Berkeley igneous petrologist eager to unravel the mysteries of Adirondack anorthosite and charnockite together with Professor Dirk de Waard and others such as Ingvar Isachsen of the New York State Geological Survey. Yet my appointment was a dual one in the Department of Science Teaching and of Geology. The powers at Syracuse had recognized that teacher preparation should originate in subject matter disciplines rather than in traditional education-school courses, and there were 80 of us on the faculty who had dual appointments in our disciplines and the Education faculty.

The Woodrow Wilson University Fellowship that had paid for two years of my graduate studies at Berkeley had freed me from duties as a teaching assistant. Strangely, the stated intent of these fellowships was to get the Woodrow Wilson fellows quickly into university teaching more rapidly. They paid us not to teach so that we could begin teaching sooner. So much for practice! Yet my goal when I began my work at Berkeley had always been to become a teacher, although I expected to be a researcher as well. Although I had some fine examples of good teaching at Berkeley in Charles M. Gilbert and Mark Christensen I hadn’t thought at all about secondary school earth science.

My students during the first summer session when I arrived at Syracuse were almost all earth science teachers, and we turned the course as much as possible into an introductory field geology course. During the summer I lived with them in one of the dorms as well. This helped me to understand that close personal relationships between students and teachers often are prerequisites to an effective learning environment. With the beginning of the regular academic year half my load consisted of working in earth-science teaching methods courses and the other half was teaching the introductory course in geology. I turned most of the methods courses into field geology courses for the highly motivated graduate students who were there to upgrade their geology backgrounds. My science-education chairman sent me out to do classroom observations of earth science teachers in the Syracuse area, and the student teachers I was observing and their lead teachers also ended up being my teachers in many ways. Our work together was highly collaborative. People like Bob Kilburn and John Merrill taught me that there should be no lines separating teachers from learners.

By another stroke of luck, being perhaps the first dual education and geology teacher in the U.S., I was quickly pulled into the newly created Earth Science Curriculum Project (ESCP). This was a case of being at the right place at the right time. As a consultant, I reviewed existing curricula for them in 1963 and became one of the principal writers of the curriculum over three summers beginning in 1964. Through this great program I had the honor and privilege of working with many people who had either already won the Neil Miner Award or soon would receive it: Bob Heller, Chalmers Roy, Bill Matthews, Jim Skehan, John Shelton, and many others who further mentored me. In Syracuse I set up one of the first test centers for ESCP. For three years this brought me regularly and actively into local earth-science classrooms during the regular school year. The five teachers in our center became some of my best friends and colleagues. Dale Hessler and Bob Daley became members of the ESCP writing teams. Together, we learned a lot about how students learn and how to engage them in active, student-centered inquiry learning. Our ninth-grade students in the test program became as much creators of parts of the ESCP curriculum as we were, again emphasizing the importance of collaborative learning.

Robert W. Ridky
U.S. Geological Survey
In addition to all these science-education activities I continued to pursue the elusive anorthosite problem in the Adirondacks and spent a year and a half in Norway as an NSF Science Faculty Fellow after the completion of the main ESCP curriculum in 1966. Upon my return from Norway I was appointed in 1969 to be director of ESCP in the project offices in Boulder headquartered at the University of Colorado. The ESCP money soon ran out, but we acquired further NSF funding for the Earth Science Teacher Preparation Project (ESTPP) and Environmental Studies for Urban Youth (ES), both under sponsorship of the America Geological Institute. These programs gave us the funds to work with faculty members and teaching assistants in dozens of universities. We enlisted people like Neil Miner winners John Shelton and John Carpenter to serve as consultants and sent them all over the country to help set up inquiry-based, student-centered programs in earth and environmental sciences.

At the end of three years in Boulder I moved to St. Lawrence University where one of the first students I had the pleasure of knowing was Barb Tewksbury, who became the Neil Miner award winner herself in 2003 as well as president of NAGT and later of AGI. Together, we ran a wonderful summer-long field program in Iceland based on a collaborative, student-centered model. In the 80s and 90s the late Bill Elberty and I carried interdisciplinary studies to the extreme, trying to integrate earth-science concepts as far across the curriculum as possible and unfortunately stepping on lots of academic toes. After a year of directing the St. Lawrence Program in France in the early 90s I taught for the Semester at Sea Program (formerly at the University of Pittsburgh and now at the University of Virginia). This ushered in a virtual new career for me, lecturing on cruise ships, especially around the Antarctic Peninsula. but also virtually around the world. In this capacity I work mainly with adults and find them eager to learn about the earth sciences as we give them lectures and lead them on field trips ashore. Volcanology claims more of my attention as do various other problems of natural hazards. I’m now busy writing electronic books about the geology and cultures of several parts of the world where I have had the pleasure of living and traveling. I started out as an undergraduate in French, Russian, and Political Science, but geology also captured my attention at Indiana University. I’ve made several major career changes, from linguist and Navy intelligence officer to graduate student in geology, to hard-rock researcher and science educator, to curriculum project director, to geology department chair, to geography department chair, to director of a program abroad, to shipboard lecturer and naturalist, to writer of geologically-oriented travel books. At various times in my career I have wanted to become like people who have been my heroes of the moment. While pursuing philosophical questions in the 60’s I wanted to become Jacob Bronowski. At the height of my interest in person-centered education in the 70s I wanted to grow up to be Carl Rogers. Now, as I lecture on ships and write about the wonders of this planet we live on I want to be like David Attenborough when I grow up. But “growing up” would not be a desirable thing in the long run, since we need always to be recreating ourselves and trying new things.

Recently I had the good luck to be involved in AGI’s new EarthComm curriculum project. What surprised me in this project, however, was that the important advances made by ESCP seemed to have been almost entirely forgotten. The teacher preparation materials we created in ESTPP and ES were almost completely unknown. Reinventing the wheel is always worthwhile, in that the creation of materials is perhaps a more important means of learning than merely using the materials. Someone once suggested that the worst thing we ever did at ESCP was to put our curriculum between hard covers. The paperback trial versions, always up for revision, were ESCP at its best. The vitality of the materials was sapped as soon as the curriculum was merely there to be used. Curricula should constantly be in the process of recreation if they are to retain their power.

The geosciences constitute a wonderful world for us to explore and I can’t resist the impulse to share my enthusiasm with anyone I meet. I fear that the current emphasis on testing, “correct” answers, and often ill-conceived standards discourages many students and adults. Even materials on the internet run the risk of getting “dogma-fied.” We need more attention to public education about the earth and its systems with special emphasis on uncertainty and how our knowledge evolves—the processes of science. Learning about the earth should remain a truly rewarding thing to do—fun, if you will—and we mustn’t turn people off before they have developed an intrinsic interest. When they are ready to be engaged we need to be there to help midwife their interests and to engage them in useful dialog.

In conclusion, thank you very much for honoring me with the Neil Miner award. It’s a privilege to join the distinguished company of the previous winners. There are so many worthy earth science teachers out there that I’m especially flattered to be singled out for the award. In keeping with Neil Miner’s attitudes toward teaching I think it will be appropriate for me to accept this award not just for myself but on behalf of all excellent teachers, known or unknown to NAGT members. It continues to be a pleasure for me to encourage people everywhere to pay attention to the geological and environmental wonders around us. May all of you help encourage the extension of our interest to those around us, by writing, giving talks, and helping mentor people in whom we detect an interest in our science.

Bill Romey