

Presentation of the Mineralogical Society of America Award for 1991 to Mark D. Barton

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The presentation of the recipient of an honor generally involves an extolling of accomplishments. It is not clear to me why. The honor to be bestowed today is not frivolously given, but rather the result of the deliberations and decision of a select committee chosen for the breadth of its collective wisdom. It makes little sense to belabor an audience with what amounts to a justification for the award once that select group has reached a decision, foolish as their choice may be. Could it be that the usual words of praise are intended to avoid inadvertent mistakes such as presenting the wrong person for what could even be some other award? Several years ago I attended a presentation that described, in great detail, everything the person being celebrated had done—every publication, abstract, proud moment, and even a number of unpublished thoughts; it went on so long that I left before finding out if the winner was the right guy.

Thus I feel that to extol Mark's accomplishments seems unnecessary, and if you don't know what he has done, you should be ashamed to admit it. But to be sure that we are all thinking about the same person, I will hit several highlights before going on to more important things, such as *him*, and hasten over a few Bartonian considerations, some involving students, in whom he takes great pride. He even considers his students to be an important source of inspiration and accomplishment—a heretical view in many faculty. I shall try to avoid the songwriter's syndrome, a lengthy recounting of "... then I (he) wrote ..."

Mark's early work was largely lab oriented, and when he first came to UCLA, experimental petrology and geochemistry were paramount, but he shortly moved in the direction of field-based geochemical studies. He claims his students have forced him to indulge his dilettante's interests in all sorts of things. His work has ranged from isotopes in Mn modules, to low-temperature gold deposits, to mass transfer and phase equilibria in subduction zones, to problems of granite genesis, emplacement, and related metamorphism and mineralization. The work on metasomatism and partial melting in the subduction complex of Santa Catalina island has inspired several novel ideas. Perhaps the most interesting is that mechanical mixing has surprising and profound effects on the petrology and chemistry of high-temperature rocks. Trace element partitioning and phase equilibrium behavior are strongly nonlinear as one mixes materials. This nonlinearity may yield mechanisms for producing some of the difficult-to-explain characteristics attributed to magma

source regions. His ideas in how magma advection influences metamorphism on many scales have emphasized the diachronous and relatively cool nature of the thermal structure of metamorphism associated with magmatic belts, which is rather different from other interpretations. Modest Mark considers this his one potentially significant contribution! His interest in viewing geologic systems, including ore-forming processes, as chemically and physically dynamic has strongly influenced his work.

Mark came to Chicago for a Ph.D. as a wide-eyed innocent (?) young man from VPI, and left the same way: we seem to have had no more effect on him than did our predecessors in Virginia. He was unlike any other graduate student that I had seen, for his apparent innocence was a cover for extraordinary sophistication, although he once did put a soft-glass container in a very hot oven. I am not exaggerating in saying that he was perhaps the most knowledgeable, broadest, and most capable graduate student that I had seen, at least since my post-World War II days on the faculty. I can think of one other who, in self-defense, might dispute my claim, but what the heck, he is too successful to quibble. And anyway, I had established priority for my view in a number of letters of recommendation for faculty positions. He showed equal facility and excellence in carrying out laboratory experiments, thermodynamic handling, theory, modeling, and field studies. Mark was also unusual in that he didn't simply learn from us, but was involved in the intellectual activities of the department as a colleague, with mutual learning and two-way instruction. Mark was in this sense more of a member of the faculty than a student and was given his own head in his work. He became a tutor and adviser of other students. It is gratifying to note that he has continued to shine and that other and perhaps more objective people have seen the quality and originality of his output.

I'd like to bring up a few deep thoughts—of course not original with me, but stolen (with permission) from a colleague, Stuart Tave, Professor of English Language and Literature. He has said:

Probably more dumb things happen at a University than at any other licensed institution. Only people who think they're so smart, so high off the ground, faculty and students, are capable of making such big mistakes, going so far wrong, making such fools of themselves. They are arrogant so they take chances, they think they're adventurous, chasing ideas, questions, invisible

stuff . . . , and they think, these intellectuals, that these things are the real things of life. That's risky, dangerous stuff to muck around with; you could hurt yourself trying that and usually you will. Professional athletes are always being injured. With the best bodies and the best training they are always pushing themselves to the edge and beyond what they can do. But sometimes they do incredible things that seem to defy the old-fashioned Newtonian laws of reality governing the motion of bodies. Michael Jordan's hang time is an unreal number of seconds. But a professor can stay up there in the air for fifty minutes. The best can do it for half a century. So lot of professors, and students, sprain or break something.

To the best of my knowledge, Mark has not hurt himself yet. Let us hope that he is not like the woman in a Mark Twain story; she was perfect—no faults, sins, or even bad habits. Trouble is, when she got sick she just up and died. Mark (Twain, that is) said she was like a foundering ship, but unfortunately had no ballast to throw overboard.

But I am told that he does have flaws and weaknesses. He is known for questionable taste in his choice of campsites on field trips, seemingly favoring tick-infested sagebrush and cow pie-encrusted flats during howling Nevada winds. I am told that he also favors rivers with a view, such as from a tent on top of the tailing piles of abandoned mines, alongside a poisoned trickle of water that flows from the mine. He has a high vehicular casualty rate (at least with UCLA carryalls), and he enjoys tilting with trees. Arizona cacti, beware! This is when he is not trying to run down sheep in the half-destroyed ve-

hicle. He claims his violence toward sheep is a reflex induced by having so often been mistaken for a ewe by lascivious rams. Perhaps it was traits akin to these that prompted Paul (the other Barton) to tell me that he and Martha never thought Mark could be a teacher, and all through high school and VPI Paul tried to steer him into a research-only career. This is now rather funny, for Mark attracts students like cow pies attract flies. When he went to UCLA, Gary Ernst had nine graduate students. They met over coffee with Mark, and an instantaneous transposition took place, for Mark's dynamic programs had them all following him like the Pied Piper. Gary says, "He's a chip off the old block, only better." Sorry about that, Paul, and I shall now apologize for bragging about the kid as though he were mine. Incidentally, Mark's good wife, Gail, is probably largely responsible for his steadiness. But anyway, here we all are to give Mark away to the MSA for its inspiring award.

Returning to another side of Mark to conclude all this, the best sign of professional ability is to move with grace in one's league. The great artist or athlete, having worked hard and long, makes it look easy. In addition, this Barton guy, unless he has me completely buffaloed, is gracious, modest, and self-effacing. Mistress Quickly (Henry IV, part II) says, "If he swagger, let him not come here . . . there come no swaggerers here: I have not lived all this while to have swaggering now. Shut the door, I pray you!" My sentiments also—and Mark? No swaggerer he! I compliment the Mineralogical Society of America for recognizing and awarding quality devoid of swagger and self-aggrandizement. I also thank Sorena Sorensen, Mark, Big Paul Barton, and Little Gary Ernst for putting words directly into my mouth.