

PREFACE

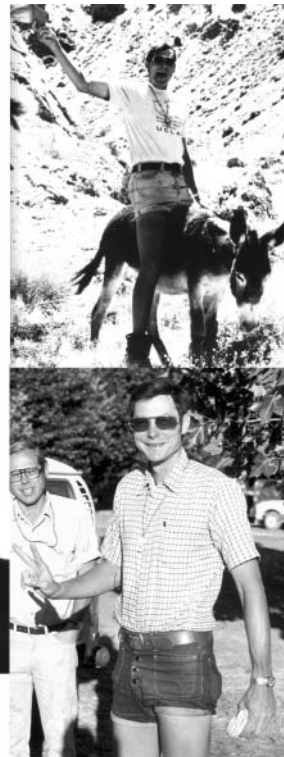
**An Ernstfest Festschrift: Mineralogy and petrology of high *P/T* terranes, *P-T*-ometry, and experimental phase relations**

This special issue of the *American Mineralogist* honors W. Gary Ernst, in recognition of his many original and influential contributions to the mineralogical sciences. Much of it derives from presentations made at the MSA-sponsored “Ernstfest,” in the single largest theme session that the Geological Society of America has ever hosted. For three days at the 2003 Annual GSA meeting in Seattle, Gary’s students, fellows, colleagues, friends and admirers gathered under the Ernst-eque rubric, “Phase Relations, High *P/T* Terrains, *P-T*-ometry, and Plate Pushing.” Fifty-eight talks and forty-four posters were presented, all of them linked to something Gary has described, opined, measured or mapped. (Remarkably, Gary stayed awake during the whole thing.) The subjects of these papers plumbed the depths and ranged the globe—and even reached out to the petrotectonics of Venus. Presenters came from and discussed every continent on Earth. This prodigious intellectual tribute was too voluminous and too diverse to be properly served by any one publication venue, so in addition to this compilation in *American Mineralogist* of papers centered on mineralogy and petrology, two other special Ernst volumes are slated to appear, one in the *International Geology Review*, and another as a *Geological Society of America Special Paper*.

This collection of articles spans a wide range of topics. It

incorporates studies of ultra-high-pressure metamorphic rocks and minerals that address several current issues: how coesite is preserved, the dating of coesite-bearing zircon, the petrogenesis of UHP garnet peridotite, and hydroxyl defects in ultra-deep mantle garnets. Other papers explore a variety of convergent-margin processes via petrologic and isotopic analyses of materials from ancient subduction zones in Europe, central America, western North America and China. Investigations of the nature and genesis of the lithospheric mantle beneath Hawai’i and of rift-zone lavas at the islands’ surface are included. Rounding out the offerings are a study of cation ordering in low-Ca actinolite, the presentation of new thermodynamic data on metal sulfates relevant to mine drainage, and a calibration of modal space for the metamorphism of mafic schist. The breadth of Gary’s impact on our science is highlighted by the wide array of subjects encompassed within this special section, which is itself only a subsample of an anthology with even greater scope.

Gary Ernst has been rightly credited both with a lifetime of cutting-edge discoveries that relate the mineralogy and petrology of metamorphic rocks to plate tectonic processes, and with a long succession of good deeds, large and small. Among many others, his contributions to our science include integrating blueschists into the legitimate ranks of metamorphic facies, and attributing



their genesis to the process of subduction; recognizing that some Alpine peridotites recorded pressures and temperatures much deeper than conventional wisdom permitted; and pointing out that far too many collisional terrains contain crustal rocks that have (or had!) coesite and diamond in them. Indeed, it seems that Gary has a special ability to transform concepts that some (or even many) initially label heretical pronouncements into conclusions that in retrospect are glaringly obvious—and to do it with a smile. Gary, whose cheerful countenance is always easy to spot at a conference, has managed for over 40 years to be “the nice man of petrology,” even while reshaping and sometimes revolutionizing long-held and widely accepted scientific tenets.

Any effort to recount, chapter and verse, Gary’s still-unfolding career is doomed to fall short of conveying the full measure of his accomplishments. We won’t even attempt to chronicle the numerous contributions, publications, awards and honors that mark his journey through academia over the last four decades and more. But the record shows that he has been both pilloried and honored—passionately, and in several languages—during a long, eventful and globe-spanning life. Yet through it all, always on display was Gary’s most priceless attribute, a gigantic stock of personal humility. For Gary, “humble” is a simple everyday truth. Although those of us lucky enough to know Charlotte—Gary’s brilliant, talented, astute and charming wife—suspect that her apt and pithy commentary at critical junctures may reinforce

Gary’s natural modesty, there’s no question that it’s real. In multigenerational Ernst group meetings, which were called “Mineral Inquisitions” (or Minink) at U.C.L.A., and the “Chain Gang” (for chain-silicate minerals) at Stanford, Gary created boot camps for not being stuck up. He did this by providing plenty of disarming questions—or fellow students who would ask them. Many of Gary’s former pupils try to capture this magic and teach new students the simple truth that one doesn’t have to be stuffy to be a good geoscientist. Often, all it takes is a quick introduction to the “Big Guy,” who makes the point definitively in person.

Ultimately, there’s little to be gained in attempting to “sum up” Gary. For one thing, his interests range across such a wide swath of the geosciences that trying to fix them, to somehow set boundary conditions, would be futile—he will inevitably be found standing outside the box. For another, his influence on those around him extends well beyond the geological realm. Down through the years, Gary has not only been called upon to officiate at the weddings of his students (he is a mail-order minister), but to counsel them in matters of family and career. His advice and encouragement is sage, sane, and—there’s no other word for it—loving. Mentor, friend, counselor, exemplar, cheerleader: Professor W. Gary Ernst, who has studied diamonds and jadeite, along with many less flashy stones, is himself a many faceted gem. We are proud to dedicate this collection of papers to him on the occasion of his retirement from Stanford University.

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