

# GEOLOGIC PAST

## Highlighting Articles from Past Issues of *GSA Bulletin*

### “The New Geology”

Morgan J. Davis, *GSA Bulletin*, February 1970

In his 1969 address as retiring GSA president (published in 1970 in *GSA Bulletin*, v. 81, no. 2, p. 331–336), Morgan J. Davis acknowledged his good fortune to have been able to serve during “the most momentous year the geological profession has ever known.” The Apollo 11 lunar landing in July 1969 offered geologists the opportunity to study “**the first rocks ever brought, by man, back to Earth from another member of our solar system**” (p. 331 [more than 40 pound of rocks!]). Geologists also gained a greater understanding of Earth through astronaut photography, which allowed them to view “significant geological features in a context never before possible” (p. 332).



The moon landing, Davis believed, marked the beginning of a “new geology,” incorporating a variety of disciplines, including, in this case, a reinvigorated planetary geology branch. Even having said this, Davis reminded his listeners that planetary geology was not a new idea; in fact, years earlier (1926) GSA benefactor R.A.F. Penrose designed the medal that now symbolizes one of GSA’s highest honors “to show the gradual extension of the study of geology to the moon and possibly other planets” (p. 331).



Davis also addressed other great changes, “far greater than many geologists and geophysicists are yet willing to admit” (p. 331), that he believed required a rethinking of the profession and philosophy of geology. “Geology,” he wrote, “is changing whether *we* change or not.” While not negating the conventional view of what a geologist was and did and acknowledging that many “classical aspects of the profession” would not change, he cited what he perceived as an evolution of geology, noting, “Today, we have new geologists practicing new geology,” and, “It is no longer easy to pinpoint the career possibilities of the geologist” (p. 332).

Because of this shift in the profession, Davis stressed that “the first and most fundamental of our responsibilities is to assure that there are adequate numbers of well-trained geologists available to meet the needs of society” (p. 333). Davis discussed reasons for the shortage of qualified geologists and called for “all practicing geologists ... [to] encourage more widespread use of courses in earth science in secondary school,” while emphasizing, “we must then do them justice at the college level” (p. 333).

“Some of our institutions of higher learning are *still* training geologists for yesterday’s jobs with yesterday’s methods” (p. 333). Davis found this unacceptable: “So broad is the scientific background needed by the geologist of the future that college curricula in many cases must be completely rearranged and overhauled” (p. 333).

Davis saw a need for a change in curricula even for established specialties, such as petroleum geology, noting, “There are not enough qualified petroleum geologists available today to satisfy the needs of the industry” (p. 333). “Furthermore,” he wrote, “there are misconceptions about the future of the extractive industries” (p. 334). Davis argued that not only was the need for more geologists to work in the extractive industries greater than ever, in fact, the need for quality education in these areas was ever-expanding. “The geology of minerals increasingly cuts across disciplinary boundaries” requiring the “adoption and integration of new knowledge into other branches of geology” (p. 334), including chemistry, physics, biology, engineering, and computer science.

Davis then focused on two specific “offshoots” of what he called “the branching out of the profession”: oceanography and environmental geology. With regard to oceanography, Davis had “no doubt” of the inevitability that geologists would soon be extracting minerals from the sea floor, citing, among other developments, the recent first use of a small research submarine for geological observation.

With regard to environmental geology, Davis expressed encouragement in seeing a branch of the profession focusing on the application of geology to the “physical and social environment in which we live.” In his view, this new specialty “should be nurtured to the end that the geologist can be of more service to mankind” (p. 334). While supporting essential “purely scientific investigations,”

Davis pointed out the critical need for professional geologists to apply their science to the “urgent social problems” of the day, noting that “we have, or should have, the prime responsibility for upgrading the quality of our terrestrial environment in any way we can” (p. 335).

**Davis then discussed the need for quality graduate training** focusing both on research and on producing geoscientists “who can apply what they have learned ... [and] function in a pragmatic atmosphere” (p. 335).

**Finally, Davis called for the profession to “bring about constructive changes ...** to keep pace with the multiple metamorphoses taking place in the world” (p. 335). A professional geoscientist, Davis maintained, should not only embody core competence and integrity, but he or she must also demonstrate strong leadership qualities. He argued that earth scientists should not be exempt from their “public responsibility as citizens,” but indeed must “never become so preoccupied with our science ... that we neglect the one activity that ... will do the most to assure us unquestioned professional respect: *service*” (p. 335). He continued, “Let us take a more aggressive stance on those

issues which fall into our general area of expertise,” to ensure that those in public office have the best technical information on which to base policy decisions.

**The “New Geology”** in Davis’ mind was a profession and a discipline that would “continue to flourish and to serve society well” when supported by a strong academic base and a healthy branching out into subdisciplines in order to meet the changing needs of society. He ended his address with a quote from Tuzo Wilson, ““There has never been such a time of great opportunities for distinguished achievement in the geologic sciences!”” (p. 336).

**Current GSA President John Geissman’s article** on p. 31 argues that the same can be said today and he has issued a call to action for institutions of higher learning, emerging geoscientists, and geoscientists in general to help meet the new and growing “critical future workforce needs that are essential to the sustainability of humankind.”

**You can read Davis’ full presidential address** at <http://gsabulletin.gsapubs.org/content/81/2/331.full.pdf+html>.



## CALL FOR AWARD NOMINATIONS & APPLICATIONS

### GSA DIVISION PROFESSIONAL AWARD

**Deadline:** 15 July

**2013 Mineralogy, Geochemistry, Petrology, and Volcanology (MGPV) Division Distinguished Geologic Career Award:**

Submit (1) a cover letter (three page max.) from an MGPV Division member summarizing the nominee’s most important accomplishments in geologic approaches to mineralogy, geochemistry, petrology, and/or volcanology. Special attention should be paid to describing how the nominee’s published work demonstrates field-based multidisciplinary geologic accomplishments of a ground-breaking nature. The letter should include (1) the name, address, and contact information of the nominator as well as those from whom letters of support can be expected (they need not be members of GSA or the MGPV Division); (2) the nominee’s CV; and (3) three letters of support to J. Alex Speer, Mineralogical Society of America, 3635 Concorde Pkwy, Suite 500, Chantilly VA 20151-1110, USA; [jaspeer@minsocam.org](mailto:jaspeer@minsocam.org). Nominees need not be citizens or residents of the United States, and GSA membership is not required. For more information on this award, go to [www.geosociety.org/divisions/mgpv/documents/awardNoms.pdf](http://www.geosociety.org/divisions/mgpv/documents/awardNoms.pdf).

### GSA DIVISION STUDENT AWARD

**Deadline:** 1 August

**The Kerry Kelts Student Research Awards of the Limnogeology Division** for undergraduate or graduate student research is named in honor of Kerry Kelts, a visionary limnogeologist and inspiring teacher. This year, **one** award of US\$1,000 for research related to limnogeology, limnology, or paleolimnology is offered. To apply, send a summary of the proposed research, its significance, and how the award will be used (five-page max.) in PDF format (include your name in all PDF file titles) along with your name and a short CV (two-page max.) to the chair of the Limnogeology Division, Daniel M. Deocampo, at [deocampo@gsu.edu](mailto:deocampo@gsu.edu). Awards will be announced at the Limnogeology Division Business Meeting and Reception at the 2012 GSA Annual Meeting in November.

**Division members:** GSA hopes to increase the number of these awards in the future, and your membership dues help with this important activity. If you are interested in supporting this awards program more substantially, please send your donations, designated for the Kerry Kelts Research Awards of the Limnogeology Division, to GSA Grants, Awards & Recognition, P.O. Box 9140, Boulder, CO 80301-9140, USA.

**Questions?** Contact GSA Grants, Awards & Recognition, P.O. Box 9140, 3300 Penrose Place, Boulder, CO 80301-9140, USA, +1-303-357-1028, [awards@geosociety.org](mailto:awards@geosociety.org).